GLYCOGENE
糖智药业

糖科学产品目录

单糖 | 糖核苷酸 | 寡糖 | 化学修饰糖 | 糖脂 | 聚糖及糖肽 | 糖酶

www.glycogene.com

V4.0

糖智药业

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糖智药业官网　糖智药业公众号

公司简介

糖智药业是一家专注于核苷、核苷酸、亚磷酰胺单体及糖科学系列产品研发与生产的高新技术企业。公司依托自主建立的化学酶法合成生物学平台，致力于向海内外客户提供修饰性核苷、核苷酸、糖及其衍生物的核心原料与技术方案，持续为核酸产业创新发展提供助力。

糖智药业由一批糖科学专家、国内酶定向进化专业团队及核酸原料药产业团队共同创办，在武汉和青岛设有研发生产基地，拥有生物合成、有机合成等多种技术平台，在青岛建有现代化GMP级生产基地。

公司特色产品主要包括：核苷及其衍生物、核苷酸(dNTP、NTP及其衍生物)、帽子类似物、亚磷酰胺单体、糖核苷酸、糖脂、糖工具酶等多个品类；糖智药业同时为客户提供定制产品服务。

公司自成立以来，坚持走科技创新发展道路，以市场需求为导向，积极进行自主研发创新，不断改进产品生产工艺，丰富产品体系，以帮助客户更好地达成目标。

企业使命

我们是人类生命健康的工程师

企业愿景

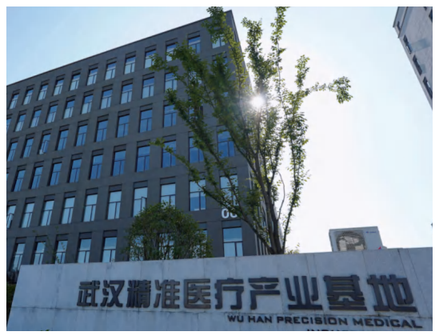
化学酶法合成生物学领航者

经营理念

以持续推出优质产品推动行业发展与进步；
以创新科技为人类开创美好未来

公司区域概况

公司总部位于以现代医疗服务业、生物医药等产业为核心产业布局的武汉精准医疗产业园3栋、11栋，青岛子公司位于即墨区鳌山卫街道办事处官场二路108号3号楼201室。

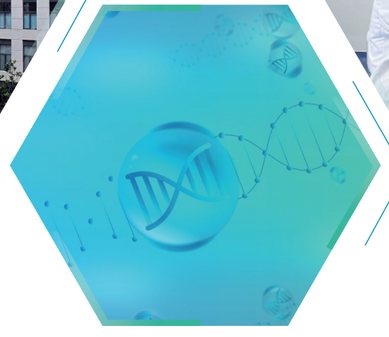


发展历程

2019年

公司注册成立

- 糖脂产品



2021年

武汉总部建成

- 血型糖产品
- mRNA原料

2022年

青岛GMP实验室建成

- ADC糖Linker
- 2-F
- 2-OMe单体

2023年

走向海外

武汉青岛同步扩建，多项产品实现规模化生产

- L-Fucose
- 2-MOE
- TBDMS

未来

持续精进
不断提升

权威资质&认证

- 行业协会理事单位
- 光谷瞪羚企业
- 国家高新技术企业
- “创客中国”生物制造-二等奖

专利证书

- 糖核苷酸分离纯化方法 ZL2020113126A1.2
- 一种阿α-半乳糖抗原活性前体及其合成方法和应用 ZL2020113126A1.2

CONTENTS

技术平台

抗体体外糖基化修饰技术 ····· 01
单克隆抗体药物偶联技术 ····· 03
蛋白表达技术服务 ····· 05

糖科学产品

单糖 ····· 09
糖核苷酸 ····· 13
- 糖核苷酸 ····· 15
- 修饰标记的糖核苷酸 ····· 22
- CeGL试剂盒——生物样品的聚糖标记 ····· 27

寡糖 ····· 29
- 二糖 ····· 30
- 麦芽寡糖 ····· 33
- 人乳寡糖 ····· 36
- 特殊寡糖 ····· 41
- 血型寡糖 ····· 45
- 糖脂寡糖 ····· 52
- 天然寡糖及糖缀合物 ····· 58

化学修饰糖 ····· 61
- 葡萄糖衍生物 ····· 62
- 氨基葡萄糖衍生物 ····· 64
- 半乳糖及氨基半乳糖衍生物 ····· 66
- 甘露糖衍生物 ····· 69
- 唾液酸衍生物 ····· 72
- 其他修饰糖类化合物 ····· 75

糖脂 ····· 81
- 鞘氨醇 ····· 86
- 单糖脂 ····· 87
- 多糖脂 ····· 89
- 硫酸化/生物素修饰糖脂 ····· 95
- 同位素标记糖脂 ····· 97

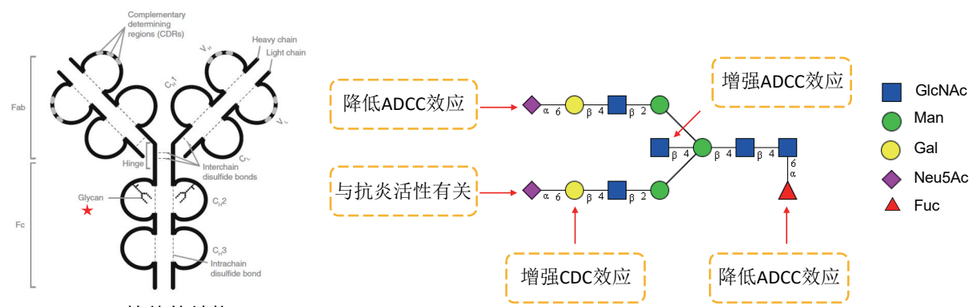
聚糖及糖肽 ····· 109
- 糖肽 ····· 111
- N糖氨基酸 ····· 114
- N糖及相关产品 ····· 117
- N糖恶唑啉 ····· 119
- O糖 ····· 120
- O糖氨基酸 ····· 121

糖工具酶 ····· 125
- 原核表达酶 ····· 127
- 真核表达酶 ····· 166

抗体体外糖基化修饰技术

背景介绍

单克隆抗体药物是近年来生物药研发的热点，其市场规模近年来成倍增长。治疗性抗体(IgG型)的翻译后修饰(PTM)，带来了结构和功能上的复杂性。在这些修饰中，抗体糖基化修饰是最常见的蛋白质翻译后修饰，它可以影响分子的稳定性以及在体内与Fc受体的相互作用。目前为止，市场上销售的单克隆抗体药物主要为IgG类型，IgG的Fc区297位天冬酰胺被糖基化，连接糖链的不同导致抗体具有不同的糖型。抗体糖型的不同会导致单抗的免疫原性、生物活性、药物动力学等的不同。

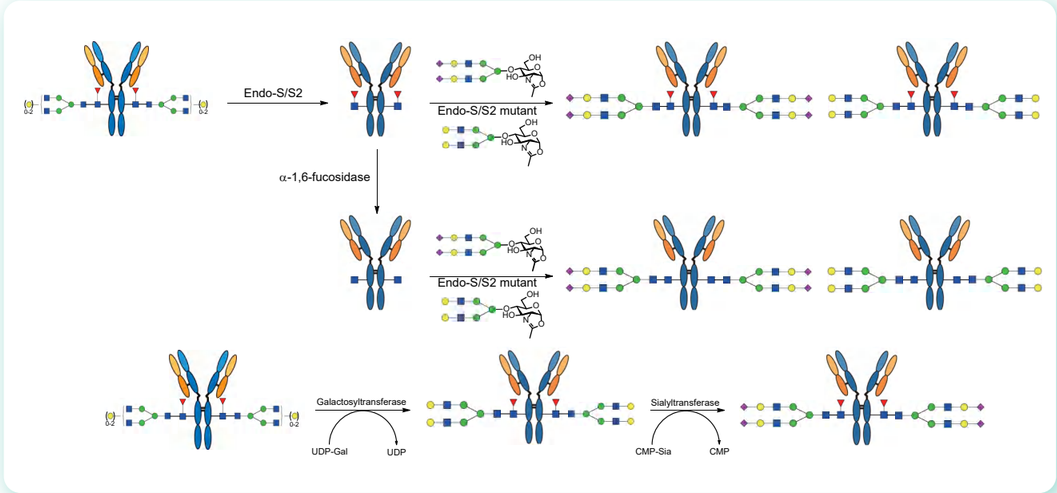


IgG抗体的结构

Cell Mol Life Sci, **2017**, 74, 837–847 ; *Sci Rep*, **2016**, 6, 36964

抗体体外糖型改造技术

目前为止，市场上销售的单克隆抗体药物主要为IgG类型，在所有IgG的重链CH2区域都有一个保守的N-糖基化位点N-297。抗体体外糖型改造技术主要有通过内切糖苷酶和糖基转移酶两种途径。内切糖苷酶途径主要利用野生型的内切糖苷酶Endo-S或者Endo-S2将抗体糖链切除只剩余最核心的N-乙酰葡糖胺，再使用内切糖苷酶突变体将各种糖恶唑啉形式的糖转移到核心糖苷上完成糖型改造。糖基转移酶途径主要利用牛或人来源的半乳糖基转移酶将半乳糖转移至抗体糖链末端，然后再利用唾液酸糖基转移酶将唾液酸转移至抗体糖链末端。



PNAS, **2017**, 114, 3485–3490

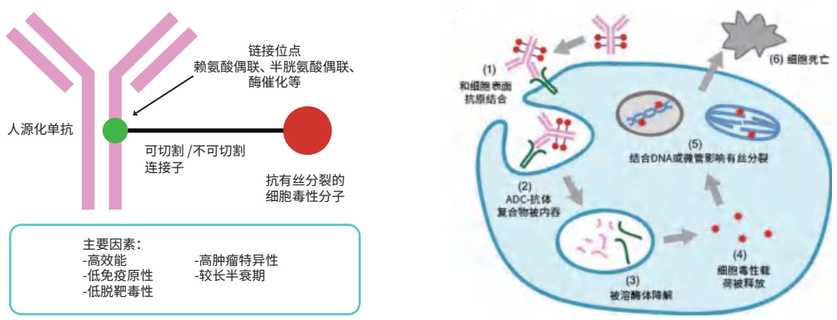
我们的产品与服务

糖苷酶	糖合成酶	活化糖基供体
Neuraminidase	Endo-S2 mutant	GDP-Fuc
Galactosidase	FucT	UDP-Gal
Endo-S	GalT	CMP-Neu5Ac
Endo-S2	SiaT	UDP-GlcNAc
Fucosidase	MGAT	定制化的各种糖型结构
定制化各种糖型的抗体IgG		

抗体药物偶联技术

背景介绍

抗体药物偶联物是通过化学键将具有生物活性的细胞毒药物连接到单克隆抗体上，单克隆抗体作为载体将细胞毒药物靶向运输到目标细胞中发挥作用的一类药物。抗体部分与肿瘤细胞表面的靶向抗原结合后，肿瘤细胞会将ADC内吞。之后ADC药物会在溶酶体中分解，释放出活性的化药毒物，破坏DNA或阻止肿瘤细胞分裂，起到杀死细胞的作用。抗体药物偶联物既具有细胞毒药物杀伤力强大的特点，又结合了重组单克隆抗体（mAb）高度的靶向性，稳定性和有利的药代动力学特征，主要表现为：治疗效力强；特异性高；免疫原性弱，不容易产生抗药性；血清中循环时间长（短于单抗）；对非靶点毒性弱等。



ADC药物基本结构　　ADC药物作用机理

Figure 1. ADC的结构和作用机制

Protein Cell, **2018**, 9, 33–46

GlycoConnect™技术

传统的偶联技术由于发生位置、偶联小分子药物个数多而不确定等问题使得所得ADCs药物具有多样性，比例不固定，治疗指数低，并且批次间可重复性差，无法进行精确计量。新一代偶联技术是将小分子药物偶联到抗体上的特定位点以克服以上的缺点。利用抗体IgG重链CH2区域N-297保守的N-糖链来介导定点偶联具有诸多优势。

糖链定点偶联技术主要使用糖苷酶和糖基转移酶来实现。其中最为成熟的是荷兰 Synaffix 公司开发的 GlycoConnect™ 技术。该技术首先使用内切糖苷酶将糖链切除只剩余最核心的N-乙酰氨基葡糖胺，再使用糖基转移酶将叠氮修饰的N-乙酰氨基半乳糖胺转移至核心糖苷上完成定点修饰，最后通过点击化学与药物毒素分子反应，实现糖链定点偶联。

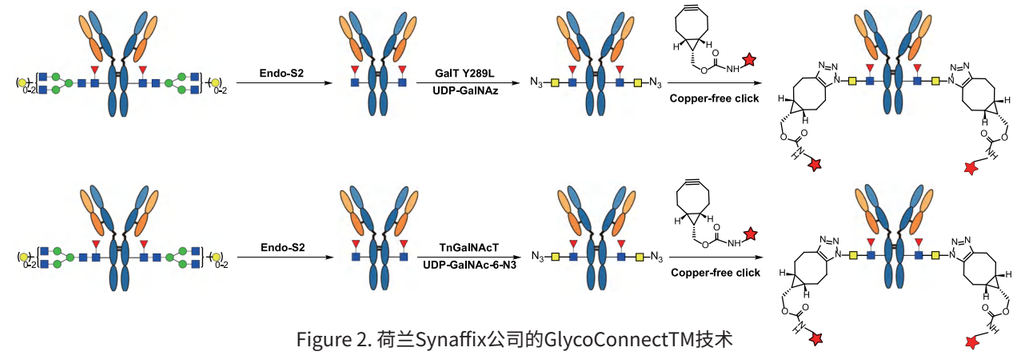


Figure 2. 荷兰Synaffix公司的GlycoConnectTM技术

Bioconjug. Chem, **2015**, 26, 2233-2242
Bioconjug. Chem, **2022**, 14, e2078466

一步酶催化法糖链定点偶联技术

美国马里兰大学帕克分校王来曦教授课题组和中国上海药物所黄蔚教授课题组开发的一步酶催化法糖链定点偶联技术也颇受关注，该技术利用野生型的内切糖苷酶Endo-S2将叠氮修饰的二糖连接子转移至野生型抗体IgG上面，之后通过点击化学与药物毒素分子反应，实现糖链定点偶联。

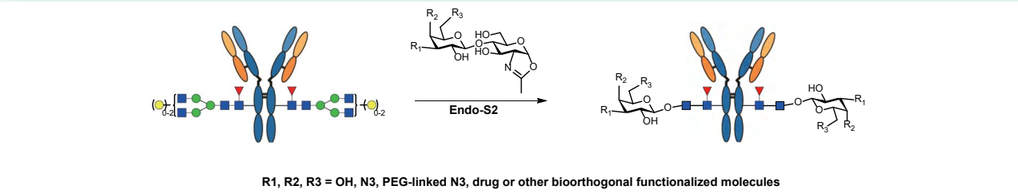


Figure 3. 一步酶催化法糖链定点偶联技术

ACS Chem Biol. **2021**, 16, 2502-2514
Bioconjugate Chem. **2022**, 33, 1179-1191
Acta Pharmaceutica Sinica B. **2022**, 12,2417-2428

我们的产品与服务

糖苷酶	糖基转移酶	糖核苷酸供体
Endo-S	SiaT	UDP-Gal-6-N3
Endo-S2	TnGalNAcT	UDP-GalNAc-6-N3
Neuraminidase	GalT	UDP-GalNAz
Galactosidase	GalT mutant	GDP-Fuc-6-N3
定制化的各种糖型结构及ADC合成		

糖智蛋白表达技术服务

- 大肠杆菌表达服务
- 杆状病毒-昆虫细胞表达服务
- 毕赤酵母表达服务
- 哺乳动物细胞表达服务

我司拥有大肠杆菌、毕赤酵母、杆状病毒载体-昆虫细胞、哺乳动物细胞等原核及真核蛋白表达技术服务平台，在重组蛋白表达纯化方面，拥有强大的研发生产团队和先进的纯化及检测设备。

现已运用原核和真核表达系统结合多种纯化方式获得了数百种高质量的重组蛋白；我们生产的蛋白已成功应用于酶促合成、疫苗研发、抗体药物开发、免疫检测、诊断试剂开发等众多领域。

服务优势

1. **体系完善**：严格的质控体系，技术娴熟的实验人员，完善的生产设施，交付周期短。
2. **经验丰富**：丰富的重组蛋白制备经验，包括包涵体蛋白、分泌蛋白、跨膜蛋白等。
3. **多规格设备**：从5L到500L各种规格发酵设备，满足客户对不同发酵体积，不同表达系统的科研、生产需求。
4. **GMP体系**：具备GMP-like生产车间，拥有齐全的生产、分离纯化、检测等设备，从原料、生产、包装运输和质量控制等方面严格按照法规要求进行管理，保障产品质量。
5. **配套服务**：可提供与发酵工艺相配套的下游工艺研发、优化、放大服务。
6. **一站式服务**：可提供从基因优化合成、蛋白表达、发酵、纯化、质控的一站式技术服务，节约客户宝贵时间和成本。
7. **项目可追踪**：定期汇报机制将保证您远程了解实验进展，项目透明化。

大肠杆菌表达服务

- 大肠杆菌表达系统具有遗传背景清楚，目的基因表达水平高，培养周期短，抗污染能力强等特点；
- 可以表达可溶性蛋白、包涵体蛋白、融合蛋白等；
- 可以实现His、GST、MBP等多种标签融合表达；
- 纯化蛋白经过SDS-PAGE、Western-blot等检测，可提供详细表达纯化条件和实验数据；
- 最快8个工作日交付。

服务项目	周期	交付结果
基因合成和表达载体构建	5-8个工作日（800-1000 bp），大于1kb序列依据基因合成的时间而定	测序报告
蛋白表达、纯化及检测	3-7个工作日	重组质粒及1mg纯化蛋白，提供技术服务报告

毕赤酵母表达服务

- 毕赤酵母在表达产物的加工、外分泌、翻译后修饰等方面具有明显的优势；
- 经济高效，培养条件要求不高，适宜工业放大；
- 交付周期5-6周。

服务项目	周期	交付结果	周期
基因克隆	基因合成和表达载体构建	基因合成测序报告	2周
酵母表达菌株筛选	质粒的提取和线性化	核酸电泳图片、Western Blot杂交图	2-3周
	电转化至适宜的酵母宿主		
	阳性菌株筛选		
蛋白表达、纯化及检测	蛋白表达、纯化及SDS-PAGE检测	重组质粒及1mg纯化蛋白，提供技术服务报告	1周

杆状病毒载体-昆虫细胞表达服务

- 具有高效的表达能力，安全，易操作；
- 属于真核表达系统，具有较大的基因组，能够容纳较大的外源基因；
- 得到的重组病毒易于筛选，并且具有完备的翻译后修饰系统；
- 表达产物活性较高；
- 交付周期6-7周。

服务项目	实验内容	交付内容	周期
基因克隆	基因合成和重组表达质粒的构建	基因合成测序报告	2周
高滴度毒液的获得	1.重组杆状病毒质粒转染昆虫细胞； 2.获得高滴度的病毒贮液。	Western Blot检测结果	2周
扩大培养及蛋白表达、纯化和检测	1.高滴度的病毒贮液再次感染昆虫细胞； 2.表达产物SDS-PAGE及Western Blot检测； 3.蛋白纯化及SDS-PAGE检测。	重组质粒、高滴度毒液及>100 μg纯化蛋白，提供技术服务报告	2-3周

哺乳动物细胞表达服务

- 表达产物在分子结构、理化性质和生物学功能方面最接近于天然蛋白质分子；
- 哺乳动物细胞能以悬浮培养或在无血清的培养基中达到高密度培养；
- 能够指导蛋白的正确折叠，具有复杂的N-糖基化和O-糖基化等多种翻译后修饰；
- 最快交付周期4-5周。

服务项目	实验内容	交付内容	周期
基因克隆	基因合成和重组表达质粒的构建	基因合成测序报告	2周
细胞瞬时转染及蛋白表达、纯化和检测	1.细胞的传代培养及转染； 2.表达产物SDS-PAGE电泳及Western Blot检测； 3.蛋白纯化及SDS-PAGE检测。	重组质粒及>100 ug纯化蛋白，提供技术服务报告	2-3周
细胞稳定转染及蛋白表达、纯化和检测	1.细胞的传代培养及转染； 2.转染后利用抗生素筛选，建立稳定表达细胞系； 3.蛋白纯化及SDS-PAGE检测。	重组质粒、稳定表达的细胞株及>100 ug纯化蛋白，提供技术服务报告	3-5个月

蛋白大规模制备

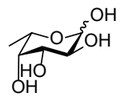
- 糖智药业具有成熟的蛋白发酵表达技术和蛋白纯化技术，拥有5L、15L、50L、100L和500L的发酵罐，可满足不同的产量要求。
- 可实现野生型和重组型菌株高密度发酵，重组菌株大规模发酵包括原核表达系统和酵母表达系统。
- 糖智还能实现大规模蛋白的纯化，纯化方法包括亲和层析、离子交换、分子筛和疏水层析等，拥有完整的AKTA纯化系统，高效控制纯化过程。
- 配套有完善的质量体系，可以实现GMP级蛋白的生产。

服务项目	原核重组表达系统	酵母表达系统
高密度发酵技术服务	5L，100L、500L各种发酵规模，产率高达150g菌泥/L	5L、15L、100L、500L等各种发酵规模，分泌和胞内表达多种表达方式
大规模蛋白纯化服务	1.提供重组蛋白（纯度≥98%）和部分纯化的重组蛋白（纯度≥70%） 2.提供百克级的纯化蛋白	1.提供重组蛋白（纯度≥95%）和部分纯化重组蛋白（纯度≥70%）
从种子建立到中试放大等全套CDMO技术服务	1.GMP条件下种子库建库 2.小试工艺研发，中试放大工艺优化 3.GMP条件下蛋白的生产，中试三批、方法学开发和验证	1.酵母工程菌株的筛选及发酵条件优化； 2.种子库建立； 3.中试生产和放大，方法学开发和验证。

单糖

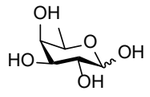
GD-0001 L-fucose

M.F.: $C_6H_{12}O_5$
M.W.: 164.16
CAS No.: 6696-41-9 / 2438-80-4
Package: mg to kg



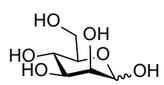
GD-0002 D-fucose

M.F.: $C_6H_{12}O_5$
M.W.: 164.16
CAS No.: 3615-37-0
Package: mg to kg



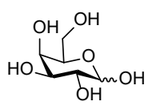
GD-0003 D-mannose

M.F.: $C_6H_{12}O_6$
M.W.: 180.16
CAS No.: 3458-28-4
Package: mg to kg



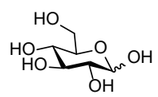
GD-0004 D-galactose

M.F.: $C_6H_{12}O_6$
M.W.: 180.16
CAS No.: 59-23-4
Package: mg to kg



GD-0005 D-glucose

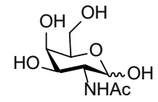
M.F.: $C_6H_{12}O_6$
M.W.: 180.16
CAS No.: 50-99-7
Package: mg to kg



单糖

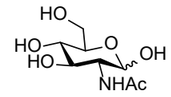
GD-0006 D-GalNAc

M.F.: $C_8H_{15}NO_6$
M.W.: 221.21
CAS No.: 1811-31-0
Package: mg to kg



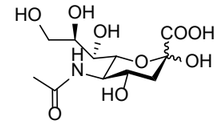
GD-0007 D-GlcNAc

M.F.: $C_8H_{15}NO_6$
M.W.: 221.21
CAS No.: 10036-64-3 / 7512-17-6
Package: mg to kg



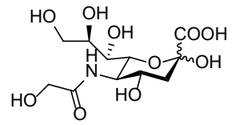
GD-0008 Neu5Ac

M.F.: $C_{11}H_{19}NO_9$
M.W.: 309.27
CAS No.: 131-48-6
Package: mg to kg



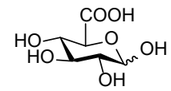
GD-0009 Neu5Gc

M.F.: $C_{11}H_{19}NO_{10}$
M.W.: 325.27
CAS No.: 1113-83-3
Package: mg to kg



GD-0010 D-GlcA

M.F.: $C_6H_{10}O_7$
M.W.: 194.14
CAS No.: 6556-12-3
Package: mg to kg



单糖

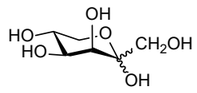
GD-0011 D-tagatose

M.F.: $C_6H_{12}O_5$

M.W.: 180.16

CAS No.: 87-81-0

Package: mg to kg



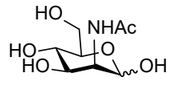
GD-0013 N-Acetyl-D-mannosamine

M.F.: $C_8H_{15}NO_6$

M.W.: 221.21

CAS No.: 7772-94-3

Package: mg to kg



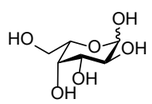
GD-0014 L-galactose

M.F.: $C_6H_{12}O_6$

M.W.: 180.16

CAS No.: 12772-65-5

Package: mg to kg



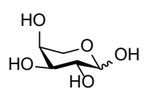
GD-0015 L-Arabinose

M.F.: $C_5H_{10}O_5$

M.W.: 150.13

CAS No.: 59-23-4

Package: mg to kg



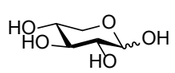
GD-0016 D-Xylose

M.F.: $C_5H_{10}O_5$

M.W.: 150.13

CAS No.: 58-86-6

Package: mg to kg



单糖

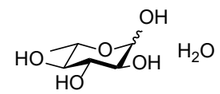
GD-0018 L-rhamnose hydrate

M.F.: $C_6H_{14}O_6$

M.W.: 182.17

CAS No.: 10030-85-0

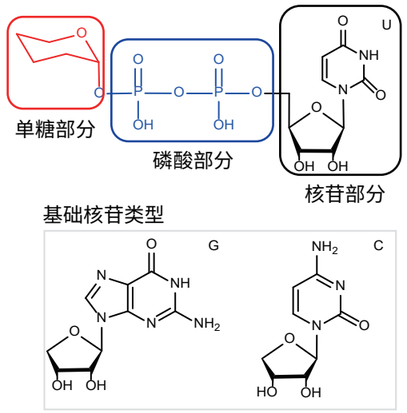
Package: mg to kg



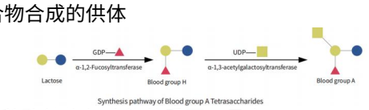
糖核苷酸

背景介绍

糖核苷酸又叫核苷二磷酸或核苷一磷酸与不同单糖异头体羟基形成的衍生物。糖核苷酸分子结构可以分为三部分：糖、二磷酸以及核苷。是糖类合成或相互转换时的活化形式，如UDP-Gal，GDP-Fuc，CMP-SA。

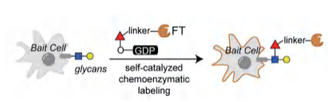


寡糖/糖缀合物合成的供体



研究糖基转移酶结构与功能的重要工具之一

目标分子标记



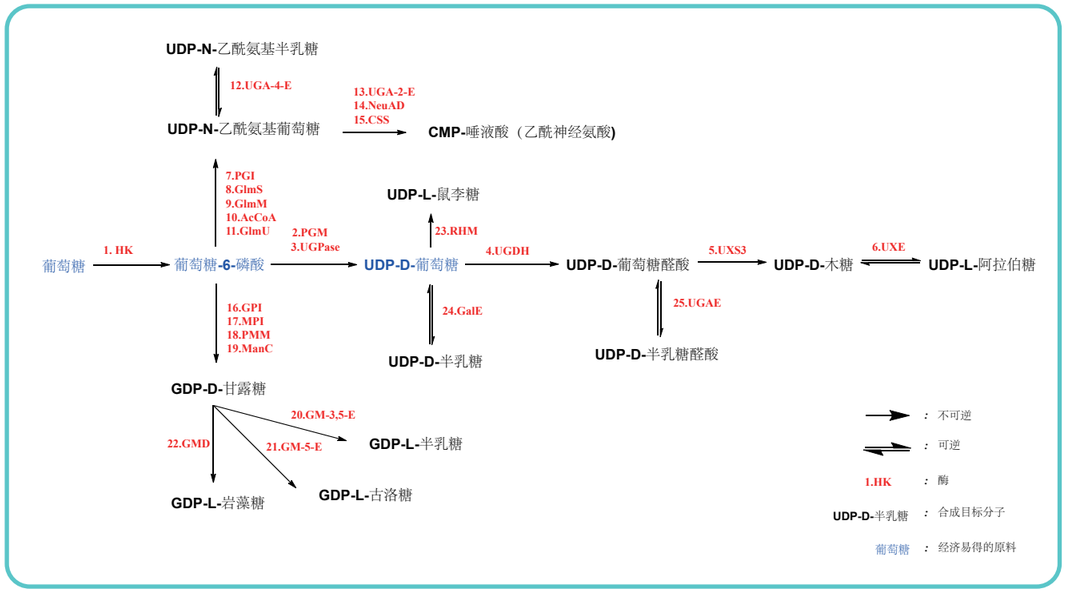
Liu et al., 2020, Cell 183, 1–17

应用领域

在抗生素代谢途径研究中的应用

抗生素在生物、医学以及药学等领域有重要的应用，此类化合物是微生物的次级代谢产物。很多抗生素有一个甚至多个糖基，在其生物活性中起重要作用，故抗生素结构中的糖的生物合成以及糖基化途径是抗生素代谢研究重点之一。

天然产物中的各种糖基在连接到抗生素前大部分都是通过D-葡萄糖1-磷酸-作为起始原料合成的。该化合物被核苷酸化后得到NDP-葡萄糖，然后再经过一系列酶的修饰得到目标 NDP- 糖，最终通过糖基转移酶与抗生素骨架连上。在整个过程中酶的底物都是糖核苷酸类化合物，所以研究糖的合成过程也需要各种中间体的糖核苷酸。



在糖基转移酶生物化学研究中的应用

作为糖基转移酶的天然底物，糖核苷酸类化合物自然是研究糖基转移酶结构与功能的重要工具之一。传统观点认为糖基转移酶催化功能仅是将活化的糖基转移到目标分子上，发现了糖基转移酶的新功能。还发现一种糖基转移酶在胸苷三磷酸（TTP）的存在下能够将抗生素上的糖基水解下来，类似于糖基化的逆反应。而且这个酶的耐受性比较好，能催化将多种糖核苷酸上的糖基连接到抗生素骨架上。基于上述两点，成功的发现了糖和抗生素骨架的置换反应，从而为抗生素换上新的糖基以及各种抗生素之间交换糖基提供了一种策略[*]。

作为探针在生物机理研究中的应用

点击化学在生物机理方面的研究发挥越来越重要的作用，此类方法主要是通过基团修饰生化分子，然后在原位通过点击化学将目标分子标记，从而进行机理研究[*]。在糖核苷酸类化合物中也有相关应用。

随着更多糖基化功能的发现与应用，各种关于糖的生物合成、糖基转移酶以及糖基化意义等的研究会越来越多。糖核苷酸作为此领域多种酶的天然底物，在生物化学和化学生物学中将发挥越来越重要的作用。

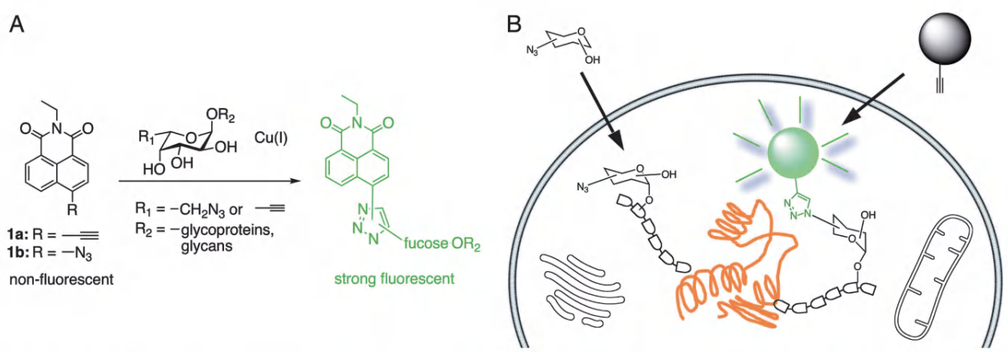


Fig. 1. General strategy for glycan labeling. (*A*) Probe structures based on 1,8-naphthalimide include an azide or alkyne at a position of the ring that will allow a fluorogenic ligation with 6-modified fucose analogs. The fluorescence adduct is generated when probes are reacted with the azido/alkynyl group of fucosides via Cu(I)-catalyzed [3 + 2] cycloaddition. (*B*) Strategy for specific fluorescent labeling of fucosylated glycans in cells. Covalent modification of the target glycan with probes **1a** or **1b** results in production of fluorescently labeled glycoproteins bearing modified fucose (azidofucose shown).

Reference:

[*] Sawa M, et al. Proceedings of the National Academy of Sciences, 2006, 103(33):12371-12376.

[*] Marchesan S, et al. Chemical Communications, 2008, 36(36):4321-4323.

糖核苷酸

SN-1001 CMP-Neu5Ac.2Na

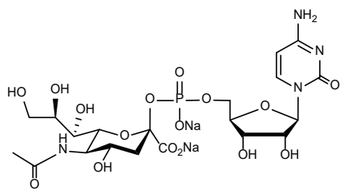
Purity: 85%

M.F.: $C_{20}H_{29}N_4Na_2O_{16}P$

M.W.: 658.42

CAS No.: 3063-71-6/1007117-62-5

Package: 50 mg, 100 mg, 200 mg, 500 mg, 1 g



SN-1002 CMP-Neu5Gc.2Na

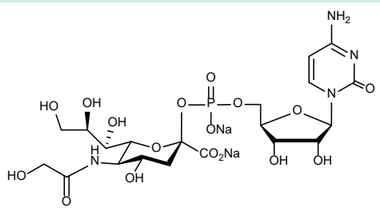
Purity: 90%

M.F.: $C_{20}H_{29}N_4Na_2O_{17}P$

M.W.: 674.42

CAS No.: 98300-80-2

Package: 50 mg, 100 mg, 200 mg, 500 mg, 1 g



糖核苷酸

SN-1003 UDP-Glc.2Na

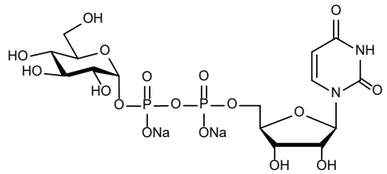
Purity: 98%

M.F.: $C_{15}H_{22}N_2Na_2O_{17}P_2$

M.W.: 610.27

CAS No.: 117756-22-6

Package: mg to kg



SN-1004 UDP-Gal.2Na

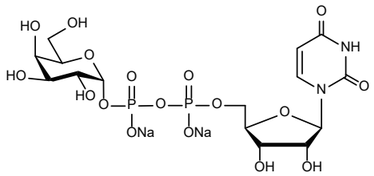
Purity: 98%

M.F.: $C_{15}H_{22}N_2Na_2O_{17}P_2$

M.W.: 610.27

CAS No.: 137868-52-1

Package: mg to kg



SN-1005 UDP-GlcNAc.2Na

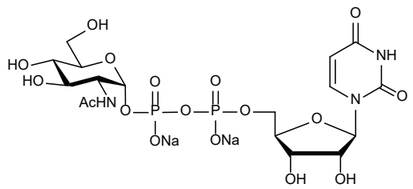
Purity: 98%

M.F.: $C_{17}H_{25}N_3Na_2O_{17}P_2$

M.W.: 651.32

CAS No.: 91183-98-1

Package: mg to kg



SN-1006 UDP-GalNAc.2Na

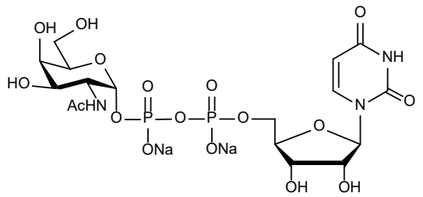
Purity: 98%

M.F.: $C_{17}H_{25}N_3Na_2O_{17}P_2$

M.W.: 651.32

CAS No.: 108320-87-2

Package: mg to kg



SN-1007 UDP-GlcA.3Na

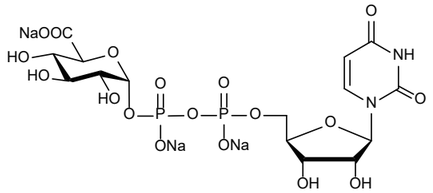
Purity: 98%

M.F.: $C_{15}H_{19}N_2Na_3O_{18}P_2$

M.W.: 646.23

CAS No.: 63700-19-6

Package: mg to kg



糖核苷酸

SN-1008 UDP-GalA.3Na

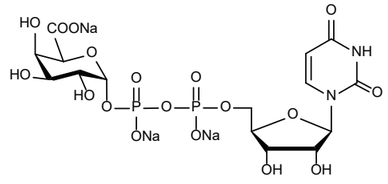
Purity: 98%

M.F.: $C_{15}H_{19}N_2Na_3O_{18}P_2$

M.W.: 646.23

CAS No.: 148407-07-2

Package: mg to kg



SN-1009 GDP-L-Fuc.2Na

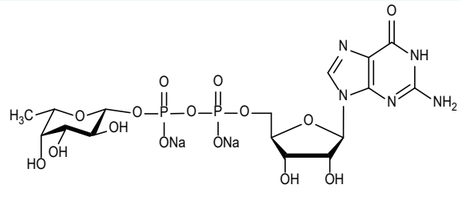
Purity: 98%

M.F.: $C_{16}H_{23}N_5Na_2O_{15}P_2$

M.W.: 633.31

CAS No.: 15839-70-0

Package: mg to kg



SN-1010 GDP-D-Man.2Na

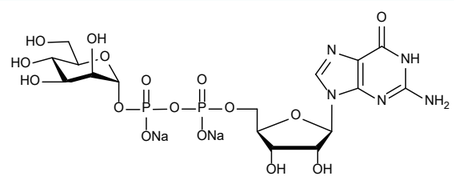
Purity: 98%

M.F.: $C_{16}H_{23}N_5Na_2O_{16}P_2$

M.W.: 649.31

CAS No.: 103301-73-1

Package: mg to kg



SN-1011 UDP-Xyl.2Na

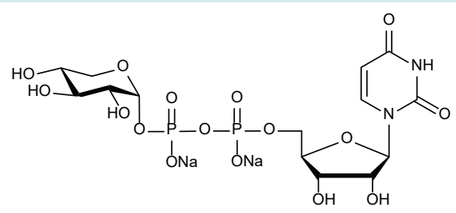
Purity: 98%

M.F.: $C_{14}H_{21}N_2NaO_{16}P_2$

M.W.: 558.26

CAS No.: 108320-89-4

Package: mg to kg



SN-1012 UDP-β-L-Rhamnose.2Na

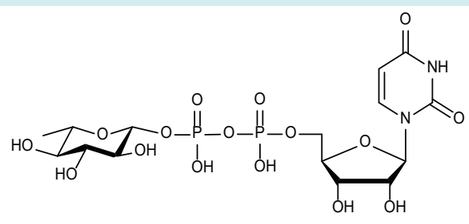
Purity: 95%

M.F.: $C_{15}H_{24}N_2O_{16}P_2$

M.W.: 550.30

CAS No.: 1955-26-6

Package: mg to kg



糖核苷酸

SN-1013 UDP-β-L-Ara.2Na

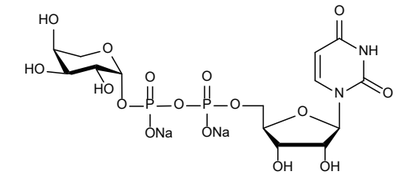
Purity: 95%

M.F.: $C_{14}H_{20}N_2Na_2O_{16}P_2$

M.W.: 580.24

CAS No.: 15839-78-8

Package: 10 mg, 20 mg, 50 mg, 1 g



SN-1014 GDP-6-deoxy-β-d-talose.2Na

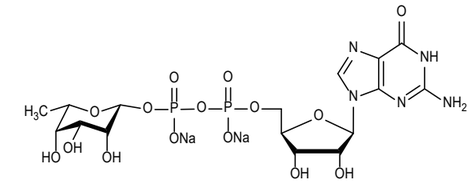
Purity: 98%

M.F.: $C_{16}H_{23}N_5Na_2O_{15}P_2$

M.W.: 633.31

CAS No.: N/A

Package: 100 mg, 200 mg, 500 mg, 1 g



SN-1015 UDP-GlcNAz.2Na

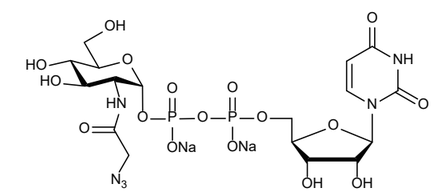
Purity: 98%

M.F.: $C_{17}H_{24}N_6Na_2O_{17}P_2$

M.W.: 692.33

CAS No.: 1611490-64-2

Package: mg to kg



SN-1016 UDP-GalNAz.2Na

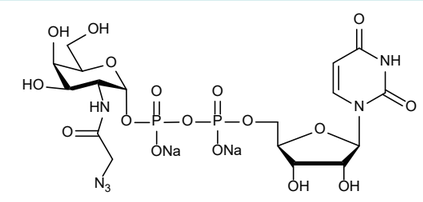
Purity: 98%

M.F.: $C_{17}H_{24}N_6Na_2O_{17}P_2$

M.W.: 692.33

CAS No.: 653600-61-4

Package: mg to kg



SN-1017 UDP-6-azido-6-deoxy-D-Glc.2Na

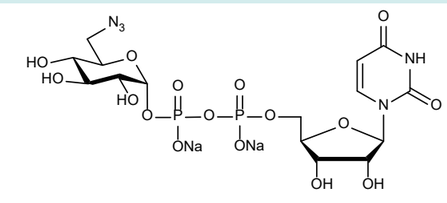
Purity: 95%；98%

M.F.: $C_{15}H_{21}N_5Na_2O_{16}P_2$

M.W.: 635.28

CAS No.: 537039-67-1

Package: 10 mg, 50 mg, 100 mg, 200 mg, 500 mg, 1 g



糖核苷酸

SN-1018 UDP-6-azido-6-deoxy-D-Gal.2Na

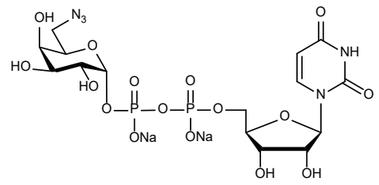
Purity: 95%；98%

M.F.: $C_{15}H_{21}N_5Na_2O_{16}P_2$

M.W.: 635.28

CAS No.: 868208-96-2

Package: 10 mg, 50 mg, 100 mg, 200 mg, 500 mg, 1 g



SN-1019 UDP-GlcNTFA.2Na

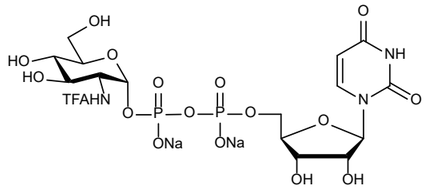
Purity: 95%；98%

M.F.: $C_{17}H_{22}F_3N_3Na_2O_{17}P_2$

M.W.: 705.02

CAS No.: 1355005-47-8

Package: mg to kg



SN-1020 UDP-GalNTFA.2Na

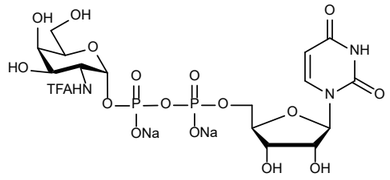
Purity: 95%；98%

M.F.: $C_{17}H_{22}F_3N_3Na_2O_{17}P_2$

M.W.: 705.29

CAS No.: N/A

Package: mg to kg



SN-1021 UDP-2-deoxy-Glucose.2Na

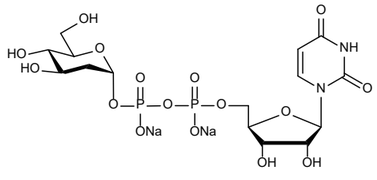
Purity: 95%；98%

M.F.: $C_{15}H_{22}N_2Na_2O_{16}P_2$

M.W.: 594.27

CAS No.: N/A

Package: 10 mg, 50 mg, 100 mg, 200 mg, 500 mg, 1 g



SN-1022 UDP-2-F-Glc.2Na

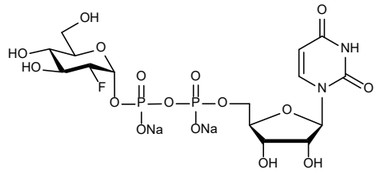
Purity: 95%；98%

M.F.: $C_{15}H_{21}FN_2Na_2O_{16}P_2$

M.W.: 612.26

CAS No.: N/A

Package: 10 mg, 20 mg, 50 mg, 100 mg



糖核苷酸

SN-1023 GDP-6-N_3-Fuc.2Na

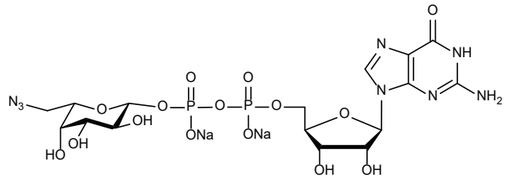
Purity: 98%

M.F.: $C_{16}H_{22}N_8Na_2O_{15}P_2$

M.W.: 674.32

CAS No.: N/A

Package: mg to kg



SN-1024 GDP-6-Al-Fuc.2Na

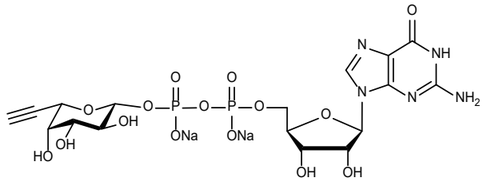
Purity: 98%

M.F.: $C_{17}H_{21}N_5Na_2O_{15}P_2$

M.W.: 643.30

CAS No.: N/A

Package: mg to kg



SN-1025 ADP-D-Glucose.2Na

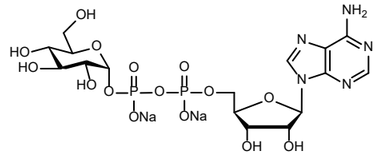
Purity: 95%；98%

M.F.: $C_{16}H_{23}N_5Na_2O_{15}P_2$

M.W.: 633.31

CAS No.: N/A

Package: 10 mg, 50 mg, 100 mg, 200 mg, 500 mg, 1 g



SN-1026 ADP-D-Man.2Na

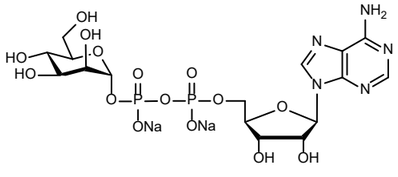
Purity: 95%；98%

M.F.: $C_{16}H_{23}N_5Na_2O_{15}P_2$

M.W.: 633.31

CAS No.: N/A

Package: 10 mg, 50 mg, 100 mg, 200 mg, 500 mg, 1 g



SN-1027 dTDP-a-D-Glucose.2Na

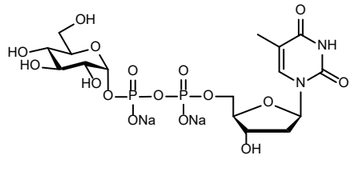
Purity: 95%；98%

M.F.: $C_{16}H_{24}N_2Na_2O_{16}P_2$

M.W.: 608.29

CAS No.: 2196-62-5

Package: 10 mg, 50 mg, 100 mg, 200 mg, 500 mg, 1 g



糖核苷酸

SN-1028	UDP-GlcA ammonium salt

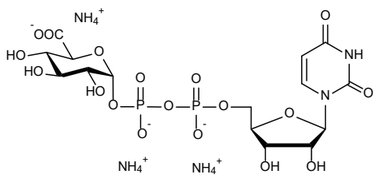
Purity: 98%

M.F.: $C_{15}H_{31}N_5O_{18}P_2$

M.W.: 631.38

CAS No.: 43195-60-4

Package: mg to kg



SN-1029	UDP-GalNH$_2$.2Na

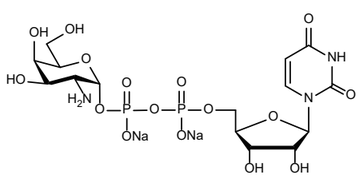
Purity: 98%

M.F.: $C_{15}H_{23}N_3Na_2O_{16}P_2$

M.W.: 609.28

CAS No.: N/A

Package: mg to kg



SN-1030	UDP-GlcNH$_2$.2Na

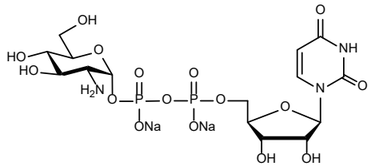
Purity: 98%

M.F.: $C_{15}H_{23}N_3Na_2O_{16}P_2$

M.W.: 609.28

CAS No.: N/A

Package: mg to kg



SN-1031	UDP-GalNAc-6-N$_3$.2NH$_4$+

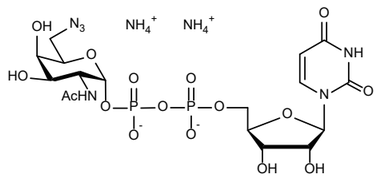
Purity: 98%

M.F.: $C_{17}H_{32}N_8O_{16}P_2$

M.W.: 666.43

CAS No.: N/A

Package: mg to kg



SN-1032	UDP-GalNAc-6-N$_3$.2Na

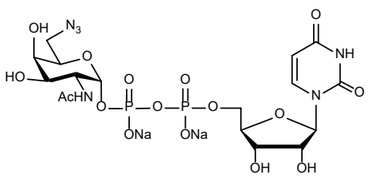
Purity: 98%

M.F.: $C_{17}H_{24}N_6Na_2O_{16}P_2$

M.W.: 676.33

CAS No.: N/A

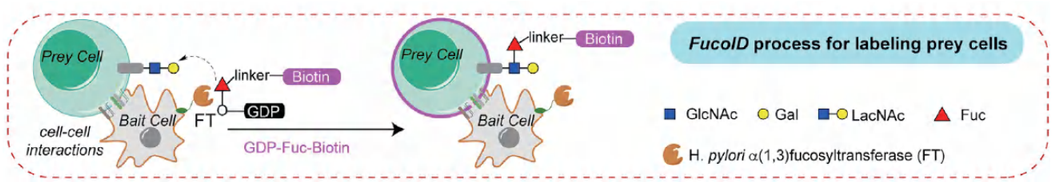
Package: mg to kg

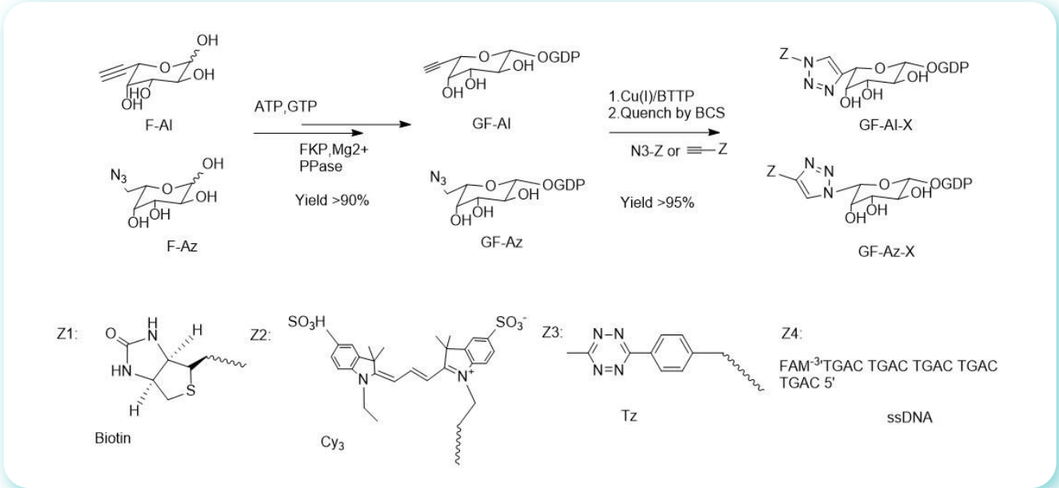


糖类生物样本的化学酶法标记

细胞膜是细胞协调其与周围环境的交流和相互作用的界面，包括细胞、抗体和蛋白质。病变细胞的细胞膜经常显示修饰的碳水化合物和聚糖，这可以改变与周围环境的相互作用。因此，标记细胞表面聚糖的方法对于理解正常生理和疾病状态都很重要。对表面聚糖的进一步了解是重新设计细胞表面以诱导或干预细胞相互作用以进行治疗目的的基础步骤。

化学酶聚糖标记（CeGL）是一种直接标记聚糖的方法，新手和专家用户都可以使用，不依赖于先进的生物信息学、遗传或代谢工具。CeGL将糖基转移酶与非自然核苷酸糖供体结合，配备双正交化学标签，直接标记特定的聚糖受体底物。这可以在生物样本中原位完成，或者在已经固定的样本中完成，因为宿主细胞的遗传和代谢并不驱动外源性标记过程。

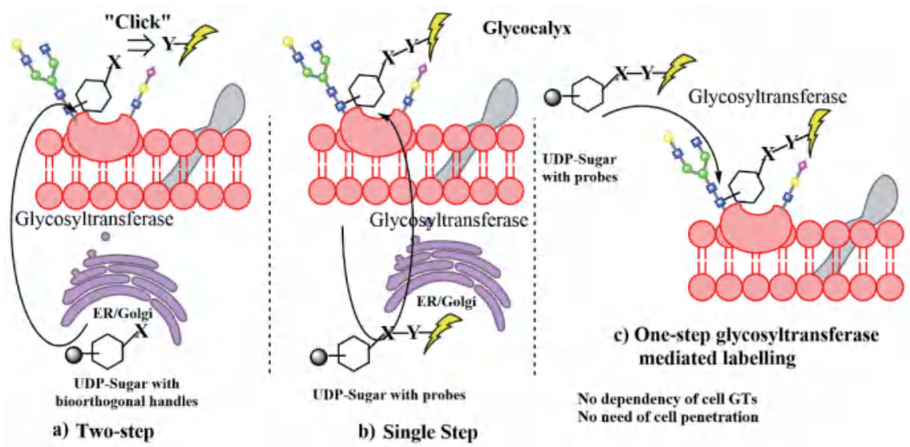




Reference:

Liu, Z., et al., Detecting Tumor Antigen-Specific T Cells via Interaction-Dependent Fucosyl-Biotinylation. Cell, 2020. 183(4): p. 1117-1133 e19.

糖类生物样本的化学酶法标记



One step and two step labelling of cell surface

a) 在细胞表面的聚糖上安装一个生物正交的化学基团，然后用一个互补的探针共价标记，所选择的生物正交反应的生物相容性和探针的深层组织穿透性较差。

b) 化学酶促糖聚糖标记(CeGL)可以直接掺入预先标记的单糖，从而消除了第二步共价反应。

c) 糖基转移酶介导的标记(图2c)，在不需要细胞糖基化机制(ER/高尔基体)的情况下，通过单步定量标记，这意味着没有细胞穿透，用户对标记程序有更高的控制。

糖智药业提供不同标记的糖核苷酸供科研工作者使用。

Reference:

Lopez Aguilar, A., et al., Tools for Studying Glycans: Recent Advances in Chemoenzymatic Glycan Labeling. ACS Chem Biol, 2017. 12(3): p. 611-621.

修饰唾液酸核苷糖

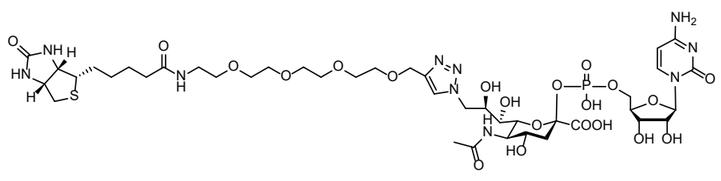
SN-2001 9-Azido CMP-Neu5Ac/Biotin-PEG4-Alkyne

M.F.: $C_{41}H_{65}N_{10}O_{21}PS$

M.W.: 1097.05

CAS No.: N/A

Package: mg to kg



修饰唾液酸核苷糖

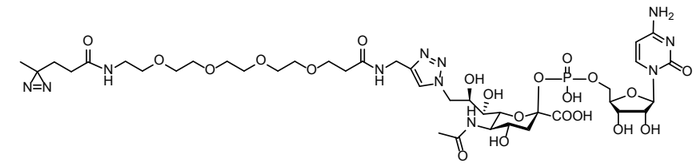
SN-2002 9-Azido CMP-Neu5Ac/Diazirine-PEG4-Alkyne

M.F.: $C_{39}H_{62}N_{11}O_{21}P$

M.W.: 1051.95

CAS No.: N/A

Package: mg to kg



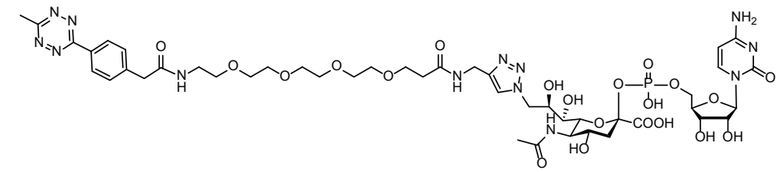
SN-2003 9-Azido CMP-Neu5Ac/tetrazine-PEG4-Alkyne

M.F.: $C_{45}H_{64}N_{13}O_{21}P$

M.W.: 1154.05

CAS No.: N/A

Package: mg to kg



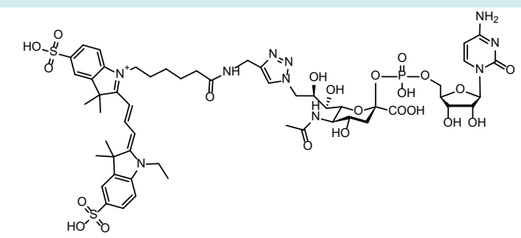
SN-2004 9-Azido CMP-Neu5Ac/Cy3

M.F.: $C_{54}H_{72}N_{10}O_{22}PS_2^+$

M.W.: 1308.31

CAS No.: N/A

Package: mg to kg



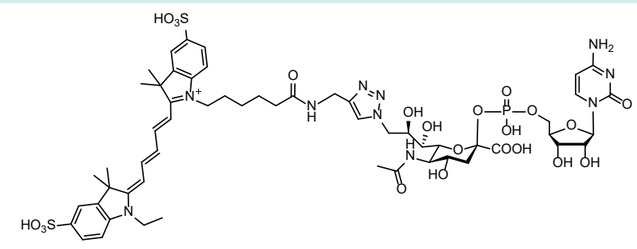
SN-2005 9-Azido CMP-Neu5Ac/Cy5

M.F.: $C_{56}H_{74}N_{10}O_{22}PS_2^+$

M.W.: 1334.35

CAS No.: N/A

Package: mg to kg



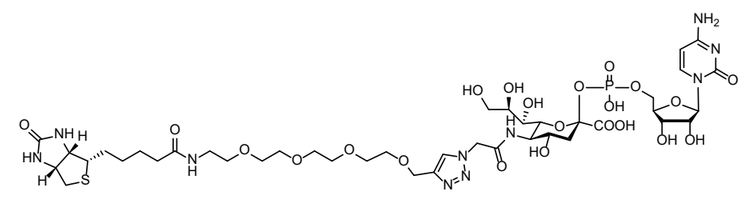
SN-2101 CMP-Neu5Az/Biotin-PEG4-Alkyne

M.F.: $C_{41}H_{65}N_{10}O_{22}PS$

M.W.: 1113.05

CAS No.: N/A

Package: mg to kg



修饰唾液酸核苷糖

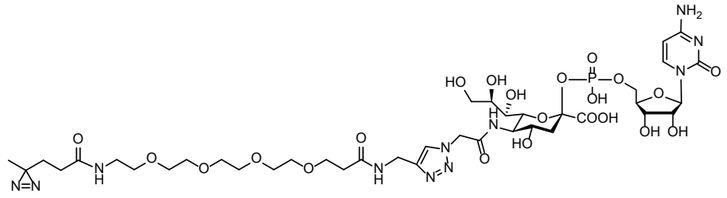
SN-2102 CMP-Neu5Az/Diazirine-PEG4-Alkyne

M.F.: $C_{39}H_{62}N_{11}O_{22}P$

M.W.: 1067.95

CAS No.: N/A

Package: mg to kg



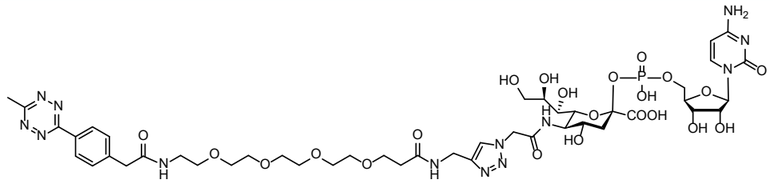
SN-2103 CMP-Neu5Az/tetrazine-PEG4-Alkyne

M.F.: $C_{45}H_{64}N_{13}O_{22}P$

M.W.: 1170.05

CAS No.: N/A

Package: mg to kg



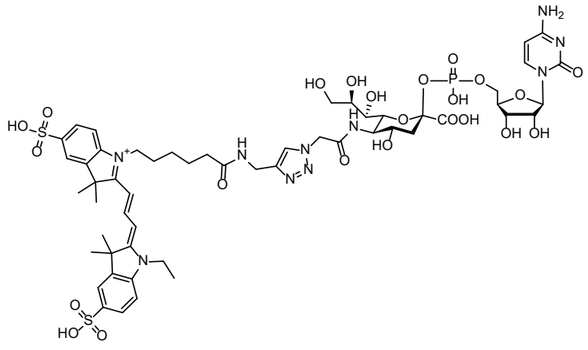
SN-2104 CMP-Neu5Az/Cy3

M.F.: $C_{54}H_{72}N_{10}O_{23}PS_2^+$

M.W.: 1324.31

CAS No.: N/A

Package: mg to kg



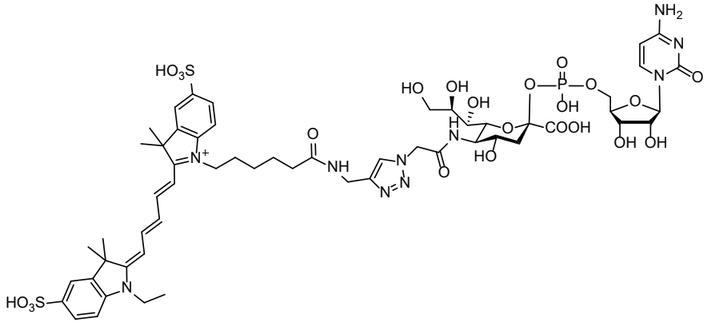
SN-2105 CMP-Neu5Az/Cy5

M.F.: $C_{56}H_{74}N_{10}O_{23}PS_2^+$

M.W.: 1350.35

CAS No.: N/A

Package: mg to kg



修饰岩藻糖核苷糖

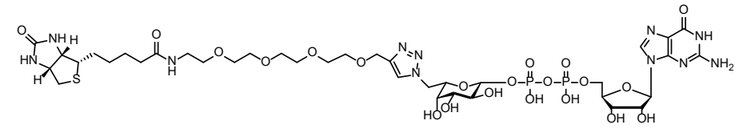
SN-2201 6-Azido GDP-Fuc/Biotin-PEG4-Alkyne

M.F.: $C_{37}H_{59}N_{11}O_{21}P_2S$

M.W.: 1087.94

CAS No.: N/A

Package: mg to kg



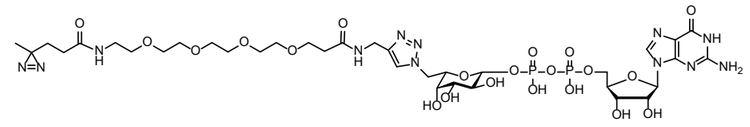
SN-2202 6-Azido GDP-Fuc/Diazirine-PEG4-Alkyne

M.F.: $C_{35}H_{56}N_{12}O_{21}P_2$

M.W.: 1042.84

CAS No.: N/A

Package: mg to kg



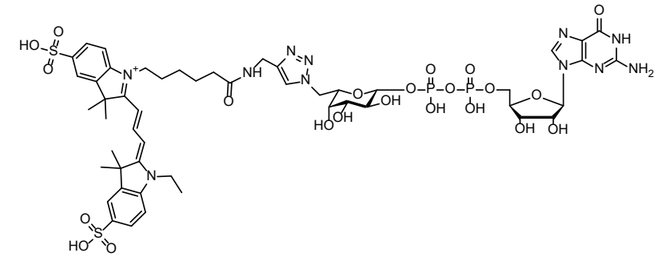
SN-2203 6-Azido GDP-Fuc/Cy3

M.F.: $C_{50}H_{66}N_{11}O_{22}P_2S_2^+$

M.W.: 1299.20

CAS No.: N/A

Package: mg to kg



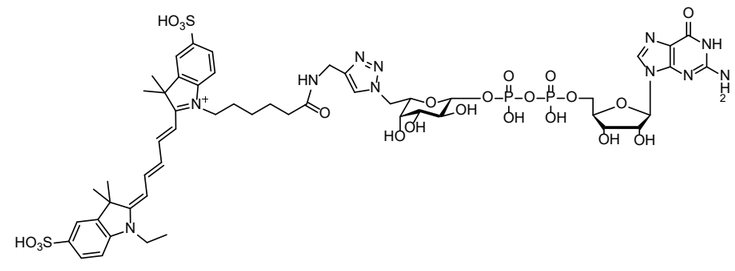
SN-2204 6-Azido GDP-Fuc/Cy5

M.F.: $C_{52}H_{68}N_{11}O_{22}P_2S_2^+$

M.W.: 1325.24

CAS No.: N/A

Package: mg to kg

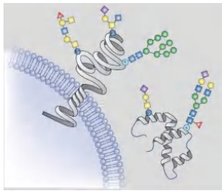


CeGL试剂盒——生物样品的聚糖标记

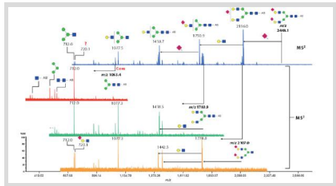
基因和代谢聚糖标记的最新发展表明，重组细菌和哺乳动物细胞的细胞表面的潜在影响，但这些方法通常需要专门的专业知识和定制的碳水化合物合成。由于聚糖对跨学科的广泛影响，迫切需要允许新用户标记细胞表面聚糖的工具。目的在于将稳定、负担得起和多样化的聚糖标记试剂盒供应商业化，以推动健康方面的进步。因此，糖智利用本公司优势平台，开发一款CeGL试剂盒。

CeGL配对合适的糖基转移酶和非自然糖标签。

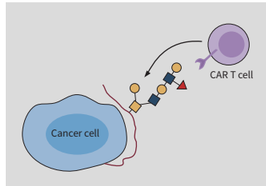
CeGL试剂盒的健康相关应用包括:



蛋白质糖组学



糖聚糖鉴定



免疫调节和CAR-T

文献方法

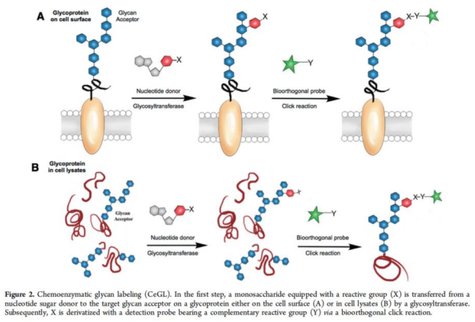
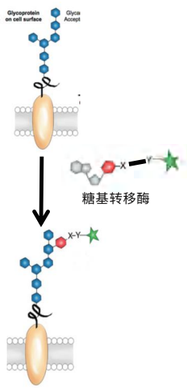
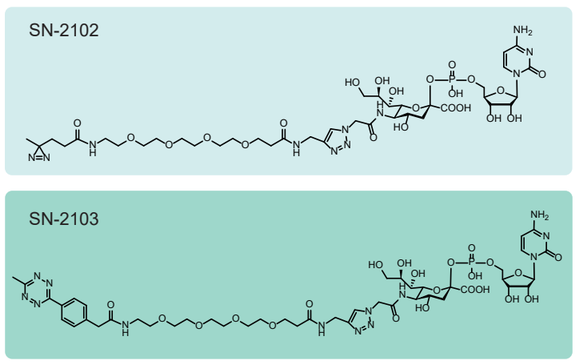


Figure 2. Chemoenzymatic glycan labeling (CeGL). In the first step, a monosaccharide equipped with a reactive group (X) is transferred from a nucleotide sugar donor to the target glycan acceptor on a glycoprotein either on the cell surface (A) or in cell lysates (B) by a glycosyltransferase. Subsequently, X is derivatized with a detection probe bearing a complementary reactive group (Y) *via* a bioorthogonal click reaction.

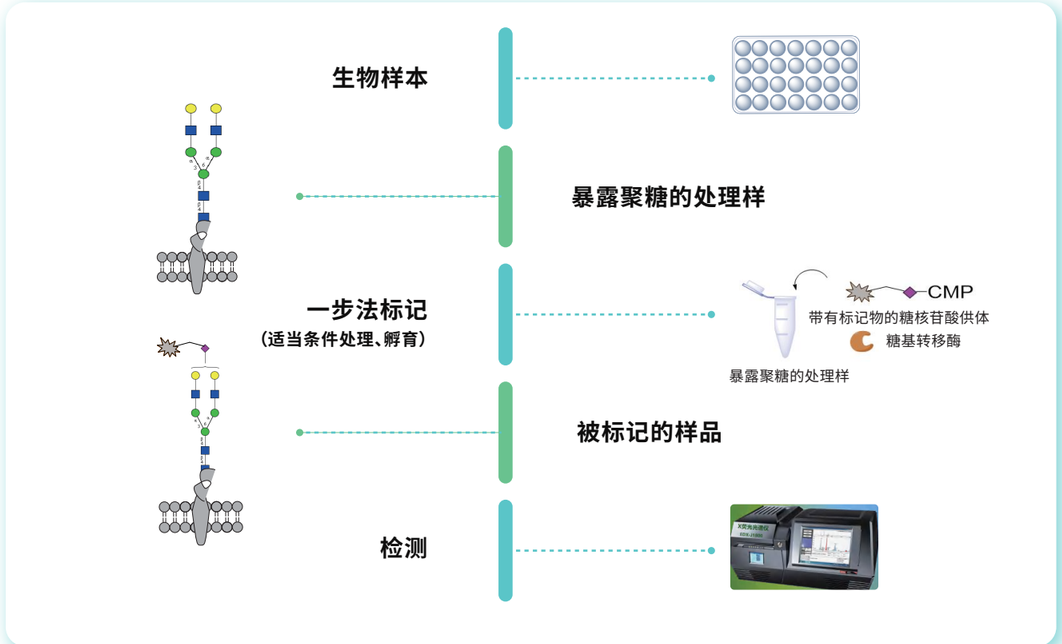
优化

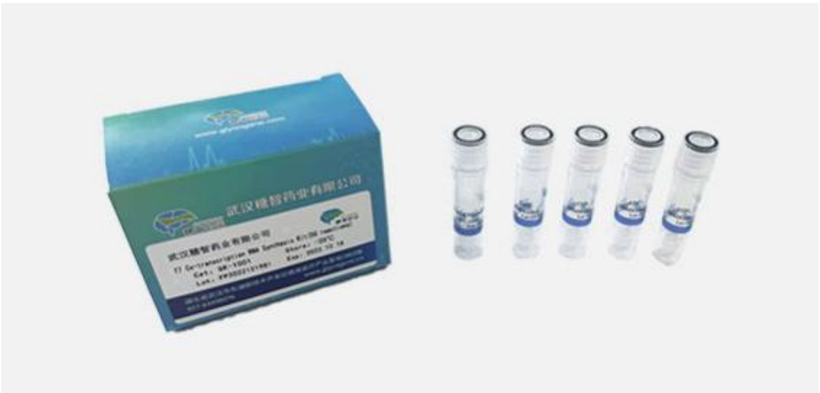
我们的方法





CeGL试剂盒——生物样品的聚糖标记





寡糖

背景介绍

寡糖通常由2~10个糖单位通过糖苷键连接而成的碳水化合物，最常见的低聚糖是二糖，亦称双糖，是两个单糖通过糖苷键结合而成的。

天然寡糖的来源与功能：天然存在的低聚糖很少，大多数低聚糖是由多糖水解或酶法合成获得。

应用领域

功能性低聚糖（人乳寡糖为代表）在大健康领域和市场下的研究与应用越来越火热。

很多低聚糖在细胞生命中与蛋白、脂质等组成特异性抗原，参与生命活动，发挥重要的功能。近200多种具有生物活性的寡糖，参与肿瘤免疫途径（细胞粘附、免疫认知、胚胎发生、肿瘤发生、感染…）。该系列包括大量且多样的生物活性低聚糖，如人类血型决定簇（ABH，Lewis，P）和主要糖脂的碳水化合物部分（神经节苷脂，球苷）等[*]。

糖智药业具有化学、酶、合成生物学等多平台，在功能性寡糖合成和分离上具有丰富经验，提供毫克级到公斤级糖产品。

参考文献：

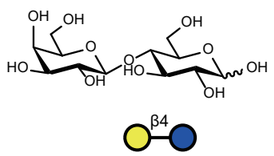
[*]P. Kosma. Anticarbohydrate Antibodies(9).

[*]M. Speir1, et al. Scientific Reports, 2017, 7(1):14273.

二糖

GO-0001 Lactose（Galb1, 4Glc）

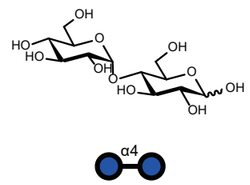
M.F.: $C_{12}H_{22}O_{11}$
M.W.: 342.30
CAS No.: 63-42-3
Package: g to kg



二糖

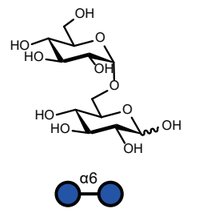
GO-0002 Maltose（Glca1, 4Glc）

M.F.: $C_{12}H_{24}O_{12}$
M.W.: 360.31
CAS No.: 6363-53-7
Package: g to kg



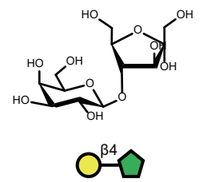
GO-0003 Isomaltose（Glca1, 6Glc）

M.F.: $C_{12}H_{22}O_{11}$
M.W.: 342.30
CAS No.: 499-40-1
Package: g to kg



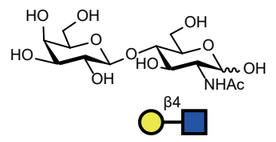
GO-0004 Lactulose（Galb1, 4Fru）

M.F.: $C_{12}H_{22}O_{11}$
M.W.: 342.30
CAS No.: 4618-18-2
Package: g to kg



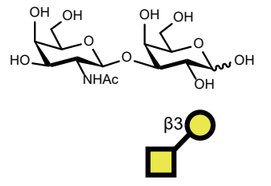
GO-0005 LacNAc(Galb1, 4GlcNAc)

M.F.: $C_{14}H_{25}NO_{11}$
M.W.: 383.35
CAS No.: 32181-59-2
Package: mg to kg



GO-0006 GalNAcb1, 3Gal

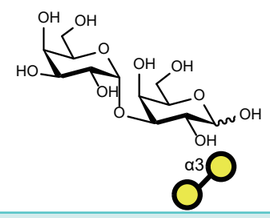
M.F.: $C_{14}H_{25}NO_{11}$
M.W.: 383.35
CAS No.: N/A
Package: mg to g



二糖

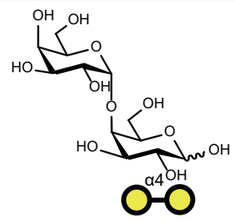
GO-0007 Gala1, 3Gal

M.F.: $C_{12}H_{22}O_{11}$
M.W.: 342.30
CAS No.: 13168-24-6
Package: mg to g



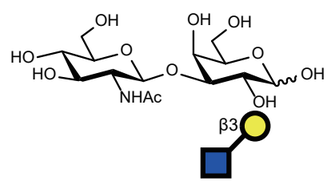
GO-0008 Gala1, 4Gal

M.F.: $C_{12}H_{22}O_{11}$
M.W.: 342.30
CAS No.: 80446-85-1
Package: mg to g



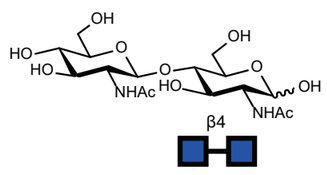
GO-0009 GlcNAcb1, 3Gal

M.F.: $C_{14}H_{25}NO_{11}$
M.W.: 383.35
CAS No.: N/A
Package: mg to g



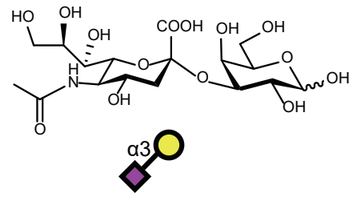
GO-0010 GlcNAcb1, 4GlcNAc

M.F.: $C_{16}H_{28}N_2O_{11}$
M.W.: 424.40
CAS No.: 35061-50-8
Package: mg to g



GO-0011 Neu5Aca2, 3Gal

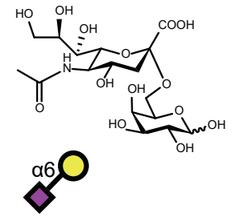
M.F.: $C_{17}H_{29}NO_{14}$
M.W.: 471.41
CAS No.: N/A
Package: mg to g



二糖

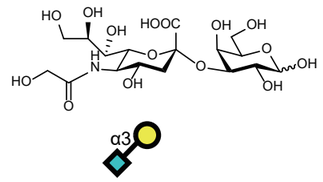
GO-0012 Neu5Aca2, 6Gal

M.F.: $C_{17}H_{29}NO_{14}$
M.W.: 471.41
CAS No.: N/A
Package: mg to g



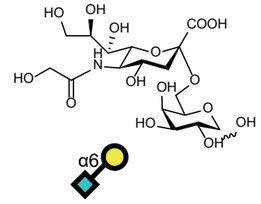
GO-0013 Neu5Gca2, 3Gal

M.F.: $C_{17}H_{29}NO_{15}$
M.W.: 487.41
CAS No.: N/A
Package: mg to g



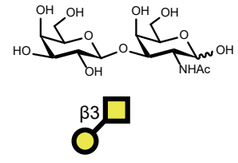
GO-0014 Neu5Gca2, 6Gal

M.F.: $C_{17}H_{29}NO_{15}$
M.W.: 487.41
CAS NO.: N/A
Package: mg to g



GO-0015 Galacto-N-biose(Galb1,3GalNAc)

M.F.: $C_{14}H_{25}NO_{11}$
M.W.: 383.35
CAS No.: 20972-29-6
Package: mg to g



麦芽寡糖

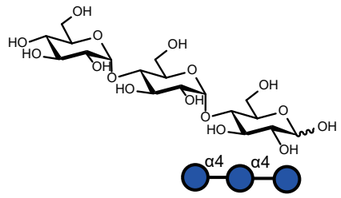
GO-0101 Maltotriose（Glca1, 4Glca1, 4Glc）

M.F.: $C_{18}H_{32}O_{16}$

M.W.: 504.44

CAS No.: 1109-28-0

Package: g to kg



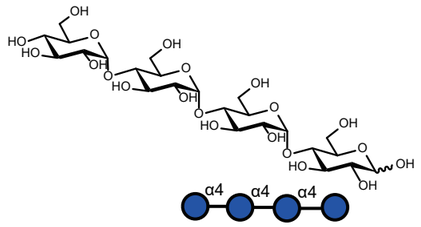
GO-0103 Maltotetraose（(Glca1, 4)$_3$Glc）

M.F.: $C_{24}H_{42}O_{21}$

M.W.: 666.58

CAS No.: 34612-38-9

Package: mg to g



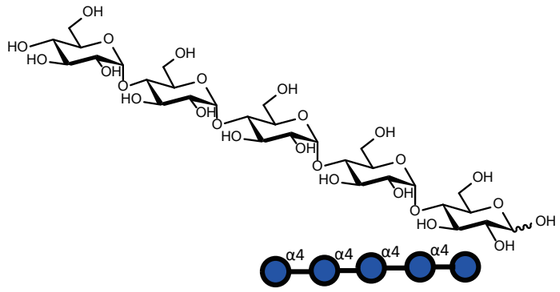
GO-0108 maltopentaose（(Glca1, 4)$_4$Glc）

M.F.: $C_{30}H_{52}O_{26}$

M.W.: 828.72

CAS No.: 34620-76-3

Package: mg to g



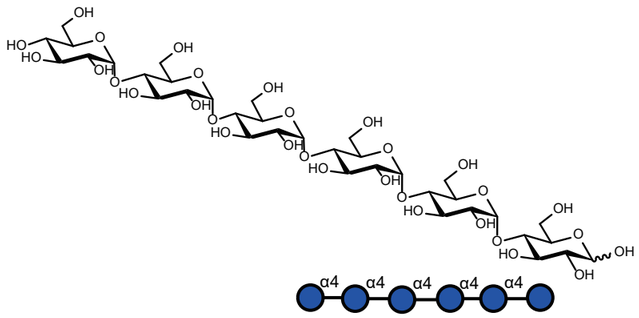
GO-0104 Maltohexaose（(Glca1, 4)$_5$Glc）

M.F.: $C_{36}H_{62}NO_{31}$

M.W.: 990.86

CAS No.: 34620-77-4

Package: g to kg



麦芽寡糖

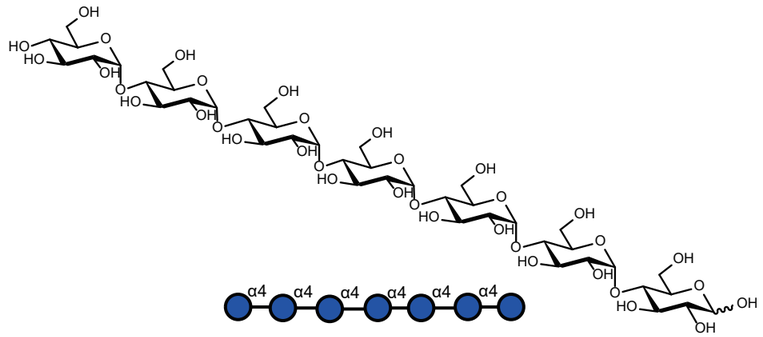
GO-0105 Maltoheptaose（(Glca1, 4)$_6$Glc）

M.F.: $C_{42}H_{72}O_{36}$

M.W.: 1153.00

CAS No.: 34620-78-5

Package: g to kg



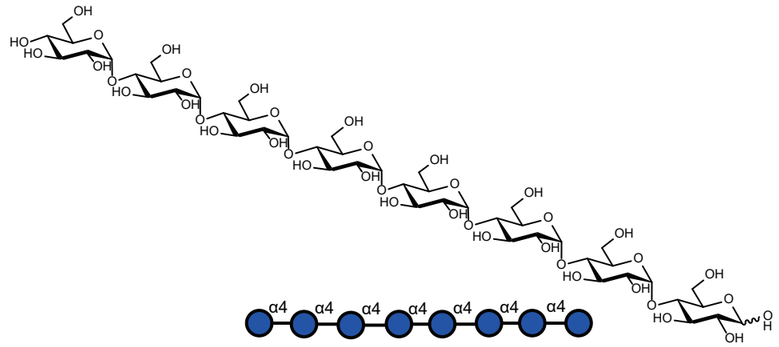
GO-0107 Maltooctaose（(Glca1, 4)$_7$Glc）

M.F.: $C_{48}H_{82}O_{41}$

M.W.: 1315.14

CAS No.: 6156-84-9

Package: g to kg



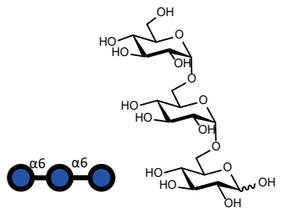
GO-0102 Isomaltotriose（Glca1, 6Glca1, 6Glc）

M.F.: $C_{18}H_{32}O_{16}$

M.W.: 504.44

CAS No.: 3371-50-4

Package: mg to g



麦芽寡糖

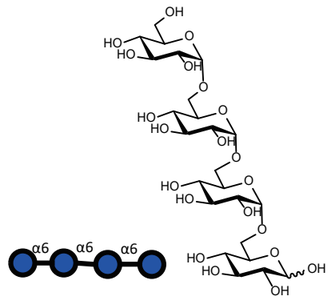
GO-0109 Isomaltotetrose（Glca1, 6Glca1, 6Glc1, 6Glc）

M.F.: $C_{24}H_{42}O_{21}$

M.W.: 666.58

CAS No.: 35997-20-7

Package: mg to g



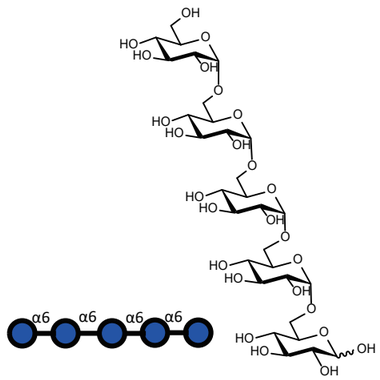
GO-0110 Isomaltopenose（(Glca1, 4)$_4$Glc）

M.F.: $C_{30}H_{52}O_{26}$

M.W.: 828.72

CAS No.: 6082-32-2

Package: mg to g



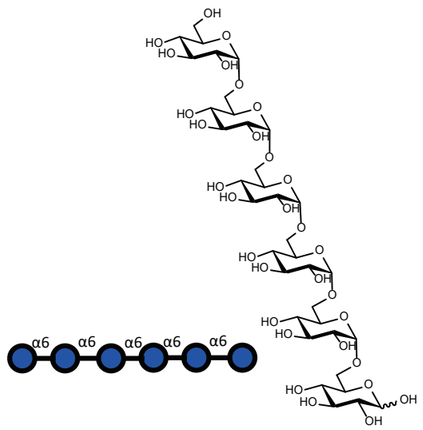
GO-0111 Isomaltohexaose（(Glca1, 6)$_5$Glc）

M.F.: $C_{36}H_{62}O_{31}$

M.W.: 990.86

CAS No.: 6175-02-6

Package: g to kg



人乳寡糖

人乳低聚糖结构有200多种，其中已确定结构的有30多种。每种结构的人乳寡糖都有独特的功能性。其利于新生儿大脑的发育，充当益生元，支持免疫系统与肠道发展，防止病原体粘附细胞表面，上皮细胞反应调节剂，免疫细胞调节剂，触发细胞保护力；目前已有2’-FL、LNnT、DFL、LNT、3’-SL、6’-SL等产品通过新型食品或GRAS认证并可在配方奶粉、功能饮料功能食品、营养补充剂、特医食品等领域中使用。

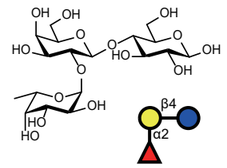
GO-2001 2’FL

M.F.: $C_{18}H_{32}O_{15}$

M.W.: 488.44

CAS No.: 41263-94-9

Package: g to kg



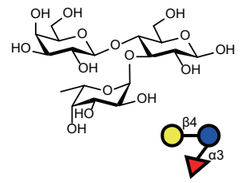
GO-2002 3’FL

M.F.: $C_{18}H_{32}O_{15}$

M.W.: 488.44

CAS No.: 41312-47-4

Package: g to kg



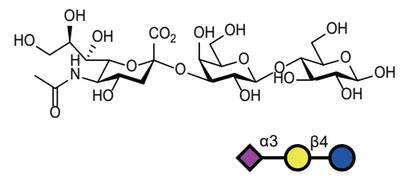
GO-2003 3’SL（游离）

M.F.: $C_{23}H_{38}NO_{19}$

M.W.: 633.55

CAS No.: 35890-38-1

Package: g to kg



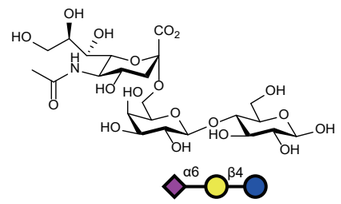
GO-2004 6’SL（游离）

M.F.: $C_{23}H_{38}NO_{19}$

M.W.: 633.55

CAS No.: 35890-39-2

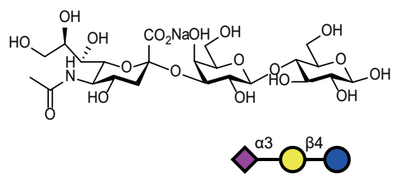
Package: g to kg



人乳寡糖

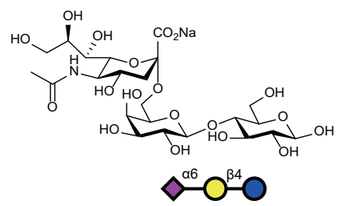
GO-2026 3'SL Sodium Salt

M.F.: $C_{23}H_{38}NNaO_{19}$
M.W.: 655.53
CAS No.: 128596-80-5
Package: g to kg



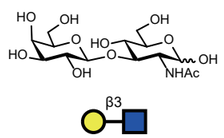
GO-2027 6'SL Sodium Salt

M.F.: $C_{23}H_{38}NNaO_{19}$
M.W.: 655.53
CAS No.: 157574-76-0
Package: g to kg



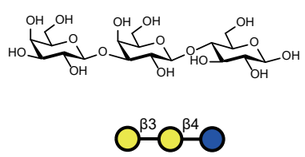
GO-2005 LNB

M.F.: $C_{14}H_{25}NO_{11}$
M.W.: 383.35
CAS No.: 50787-09-2
Package: mg to kg



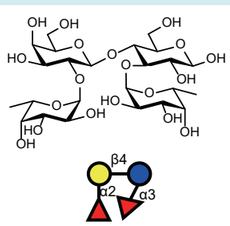
GO-2006 3'GL

M.F.: $C_{18}H_{32}O_{16}$
M.W.: 504.44
CAS No.: 32694-82-9
Package: mg to kg



GO-2007 DFL

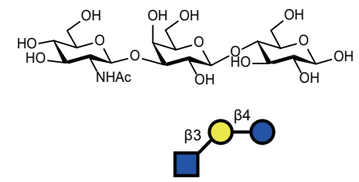
M.F.: $C_{24}H_{42}O_{19}$
M.W.: 634.58
CAS No.: 20768-11-0
Package: mg to kg



人乳寡糖

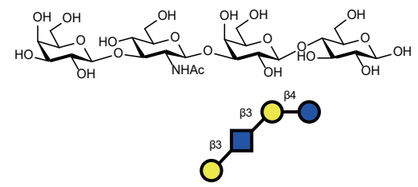
GO-2008 LNT II

M.F.: $C_{20}H_{35}NO_{16}$
M.W.: 545.49
CAS No.: 75645-27-1
Package: mg to kg



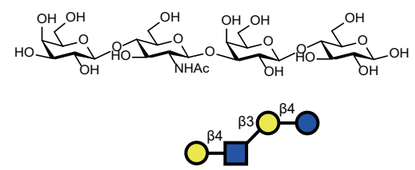
GO-2009 LNT

M.F.: $C_{26}H_{46}NO_{21}$
M.W.: 707.63
CAS No.: 14116-68-8
Package: mg to kg



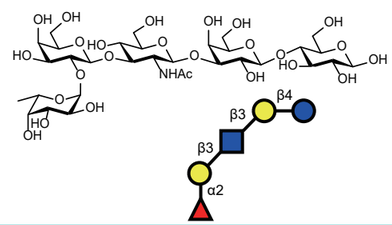
GO-2010 LNnT

M.F.: $C_{26}H_{45}NO_{21}$
M.W.: 707.63
CAS No.: 13007-32-4
Package: mg to kg



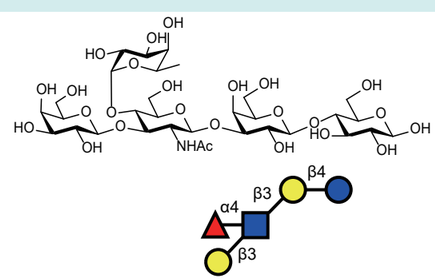
GO-2011 LNFP I

M.F.: $C_{32}H_{55}NO_{25}$
M.W.: 853.77
CAS No.: 7578-25-8
Package: mg to g



GO-2012 LNFP II

M.F.: $C_{32}H_{55}NO_{25}$
M.W.: 853.77
CAS No.: 21973-23-9
Package: mg to g



人乳寡糖

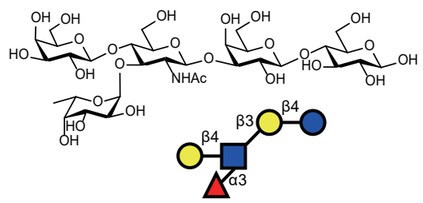
GO-2013 LNFP III

M.F.: $C_{32}H_{55}NO_{25}$

M.W.: 853.77

CAS No.: 25541-09-7

Package: mg to g



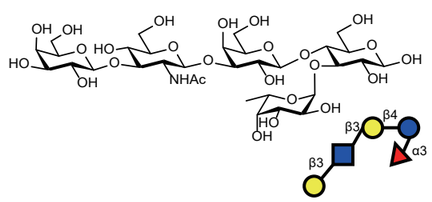
GO-2014 LNFP V

M.F.: $C_{32}H_{55}NO_{25}$

M.W.: 853.77

CAS No.: 60254-64-0

Package: mg to g



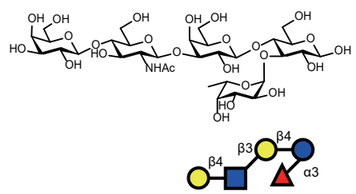
GO-2015 LNFP VI

M.F.: $C_{32}H_{55}NO_{25}$

M.W.: 853.77

CAS No.: 145876-86-4

Package: mg to g



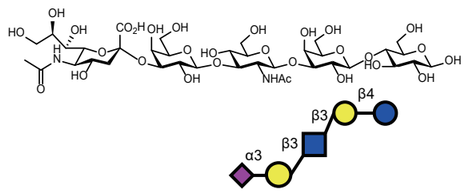
GO-2016 LSTa

M.F.: $C_{37}H_{62}N_2O_{29}$

M.W.: 998.89

CAS No.: 64003-53-8

Package: mg to g



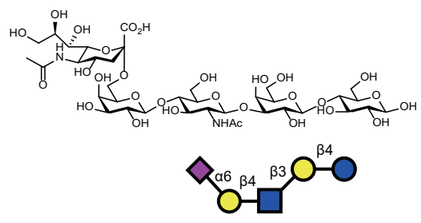
GO-2017 LSTc

M.F.: $C_{37}H_{62}N_2O_{29}$

M.W.: 998.89

CAS No.: 64003-55-0

Package: mg to g



人乳寡糖

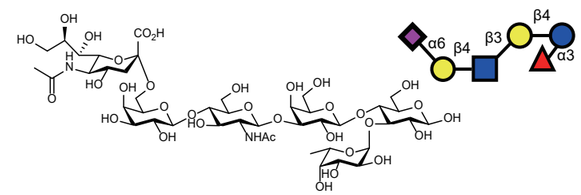
GO-2018 F-LSTc

M.F.: $C_{43}H_{72}N_2O_{33}$

M.W.: 1145.03

CAS No.: N/A

Package: mg to g



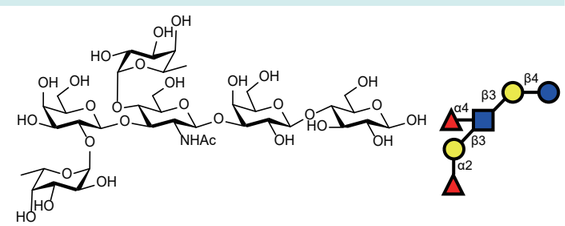
GO-2019 LNDFH I

M.F.: $C_{38}H_{65}NO_{29}$

M.W.: 999.92

CAS No.: 16789-38-1

Package: mg to g



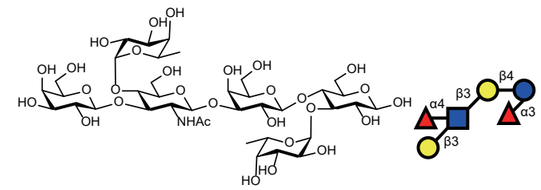
GO-2020 LNDFH II

M.F.: $C_{38}H_{65}NO_{29}$

M.W.: 999.92

CAS No.: 62258-12-2

Package: mg to g



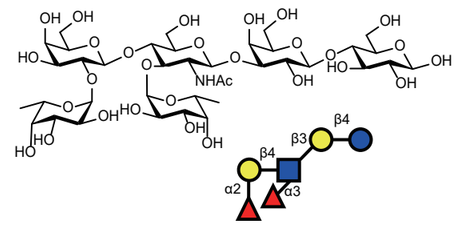
GO-2021 LNnDFH I

M.F.: $C_{38}H_{65}NO_{29}$

M.W.: 999.92

CAS No.: 62469-99-2

Package: mg to g



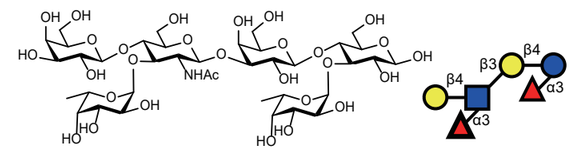
GO-2022 LNnDFH II

M.F.: $C_{38}H_{65}NO_{29}$

M.W.: 999.92

CAS No.: N/A

Package: mg to g



人乳寡糖

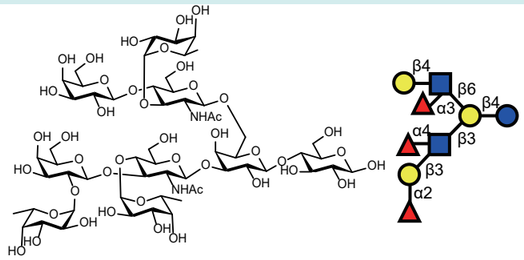
GO-2023 TF-LNH(TFLNH I)

M.F.: $C_{58}H_{98}N_2O_{43}$

M.W.: 1511.39

CAS No.: 11688-09-1

Package: mg to g



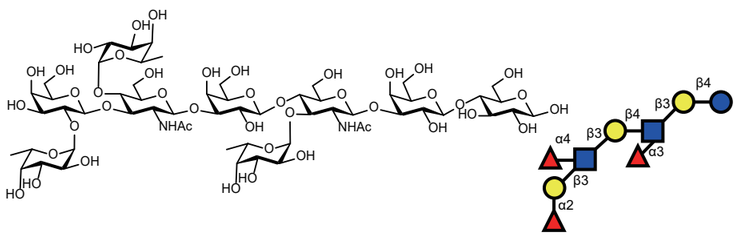
GO-2024 TF-pLNH I

M.F.: $C_{58}H_{98}N_2O_{43}$

M.W.: 1511.39

CAS No.: 120864-60-0

Package: mg to g



特殊寡糖

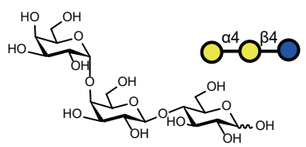
GO-3001 Gala1, 4Galb1, 4Glc

M.F.: $C_{18}H_{32}O_{16}$

M.W.: 504.44

CAS No.: N/A

Package: mg to hg



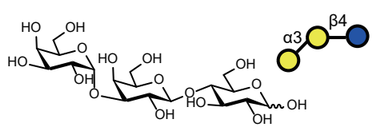
GO-3002 Gala1, 3Galb1, 4Glc

M.F.: $C_{18}H_{32}O_{16}$

M.W.: 504.44

CAS No.: N/A

Package: mg to hg



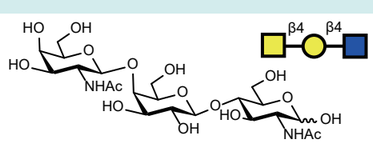
GO-3003 GalNAcb1, 4Galb1, 4GlcNAc

M.F.: $C_{22}H_{38}N_2O_{16}$

M.W.: 586.54

CAS No.: N/A

Package: mg to hg



特殊寡糖

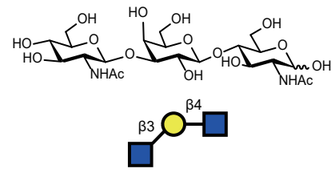
GO-3004 GlcNAcb1, 3Galb1, 4GlcNAc

M.F.: $C_{22}H_{38}N_2O_{16}$

M.W.: 586.54

CAS No.: N/A

Package: mg , g



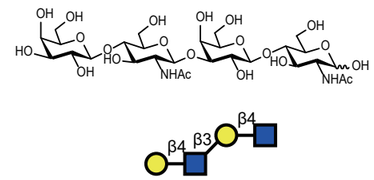
GO-3005 DiLacNAc(Galb1, 4GlcNAcb1, 3Galb1, 4GlcNAc)

M.F.: $C_{28}H_{48}N_2O_{21}$

M.W.: 748.69

CAS No.: N/A

Package: mg , g



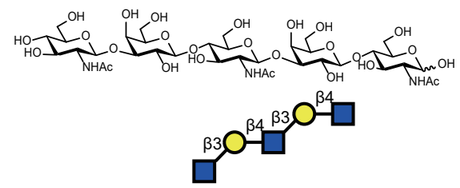
GO-3006 GlcNAcb1, 3Galb1, 4GlcNAcb1, 3Galb1, 4GlcNAc

M.F.: $C_{36}H_{61}N_3O_{26}$

M.W.: 951.88

CAS No.: N/A

Package: mg , g



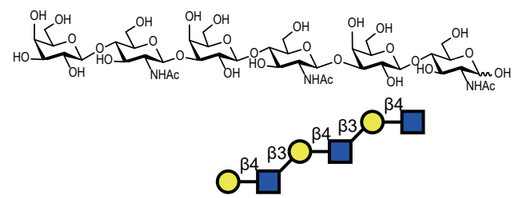
GO-3007 Galb1, 4GlcNAcb1, 3Galb1, 4GlcNAcb1, 3Galb1, 4GlcNAc

M.F.: $C_{42}H_{71}N_3O_{31}$

M.W.: 1114.02

CAS No.: N/A

Package: mg , g



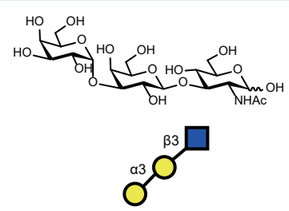
GO-3008 Gala1, 3Galb1, 3GlcNAc

M.F.: $C_{20}H_{35}NO_{16}$

M.W.: 545.49

CAS No.: N/A

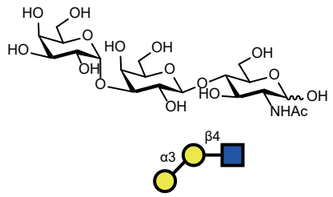
Package: mg , g



特殊寡糖

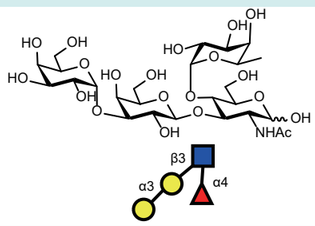
GO-3009	α-Gal Gala1,3Galb1,4GlcNAc

M.F.: $C_{20}H_{35}NO_{16}$
M.W.: 545.49
CAS No.: N/A
Package: mg , g



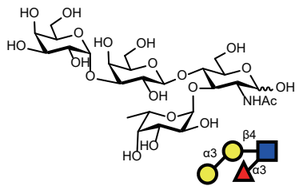
GO-3010	α-Gal LewisA Gala1, 3Galb1, 3(Fuca1, 4)GlcNAc

M.F.: $C_{26}H_{45}NO_{20}$
M.W.: 691.63
CAS No.: N/A
Package: mg , g



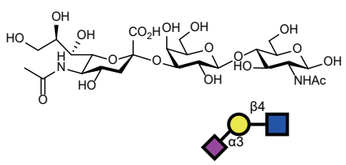
GO-3011	α-Gal LewisX Gala1,3Galb1,4(Fuca1,3)GlcNAc

M.F.: $C_{26}H_{45}NO_{20}$
M.W.: 691.63
CAS No.: N/A
Package: mg , g



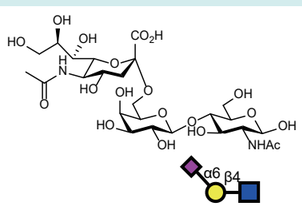
GO-3012	NeuAca2,3Galb1,4GlcNAc

M.F.: $C_{25}H_{42}N_2O_{19}$
M.W.: 674.61
CAS No.: 81693-22-3
Package: mg , g



GO-3013	NeuAca2, 6Galb1, 4GlcNAc

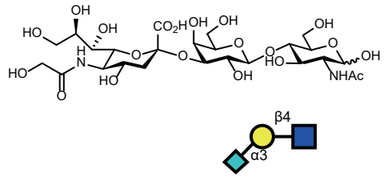
M.F.: $C_{25}H_{42}N_2O_{19}$
M.W.: 674.61
CAS No.: N/A
Package: mg , g



特殊寡糖

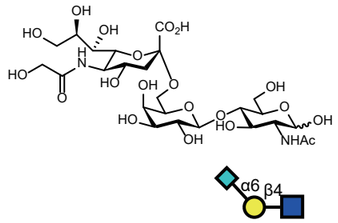
GO-3014	Neu5Gca2, 3Galb1, 4GlcNAc

M.F.: $C_{25}H_{42}N_2O_{20}$
M.W.: 690.61
CAS No.: N/A
Package: mg , g



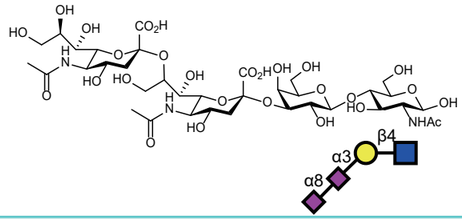
GO-3015	Neu5Gca2, 6Galb1, 4GlcNAc

M.F.: $C_{25}H_{42}N_2O_{20}$
M.W.: 690.61
CAS No.: N/A
Package: mg , g



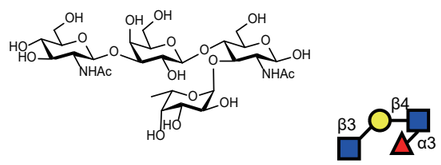
GO-3016	NeuAca2, 8NeuAca2, 3Galb1, 4GlcNAc

M.F.: $C_{36}H_{59}N_3O_{27}$
M.W.: 965.86
CAS No.: N/A
Package: mg , g



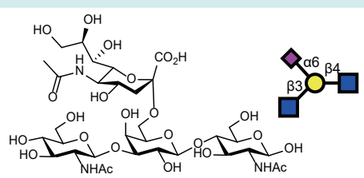
GO-3017	GlcNAcb1, 3Galb1, 4(Fuca1, 3)GlcNAc

M.F.: $C_{28}H_{48}N_2O_{20}$
M.W.: 732.69
CAS No.: N/A
Package: mg , g



GO-3018	GlcNAcb1, 3(Neu5Aca2, 6)Galb1, 4GlcNAc

M.F.: $C_{33}H_{55}N_3O_{24}$
M.W.: 877.80
CAS No.: N/A
Package: mg , g



血型寡糖

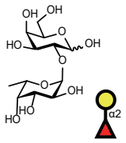
很多低聚糖在细胞生命中与蛋白、脂质等组成特异性抗原，参与生命活动，发挥重要的功能。血型ABH（O）抗原是典型的糖类抗原。Lewis抗原决定簇的各类复杂糖链可与蛋白质和脂质共价结合形成糖复合物或以游离寡糖或聚糖形式存在，能够介导或调节细胞间、细胞与细胞外环境的相互作用，在许多生理和病理过程中均发挥着至关重要的作用，在生物医学领域具有广阔的应用前景。例如，Lex、sLex、Ley和sLea是常见的肿瘤相关糖抗原（TACAs），它们已被用作肿瘤临床诊断的生物标志物和免疫治疗靶点。Pk抗原是志贺毒素和大肠杆菌相关溶血性尿毒症综合征（HUS）的受体，它也是猪链球菌（可引起细菌性脑膜炎的人畜共患病菌）的受体。

这些糖类在药物、疫苗中有广泛的应用前景。

血型抗原 (ABH)

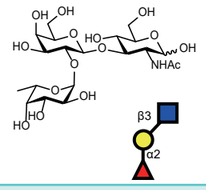
GO-4001 Blood type disaccharide H

M.F.: $C_{12}H_{22}O_{10}$
M.W.: 326.30
CAS No.: 16741-18-7
Package: mg , g



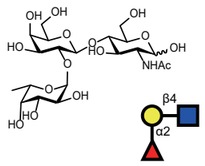
GO-4002 Blood type trisaccharide H Type I

M.F.: $C_{20}H_{35}NO_{15}$
M.W.: 529.49
CAS No.: N/A
Package: mg , g



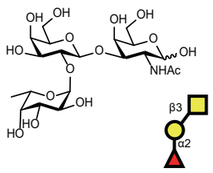
GO-4003 Blood type trisaccharide H Type II

M.F.: $C_{20}H_{35}NO_{15}$
M.W.: 529.49
CAS No.: N/A
Package: mg , g



GO-4004 Blood type trisaccharide H Type III/IV

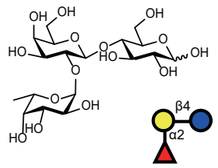
M.F.: $C_{20}H_{35}NO_{15}$
M.W.: 529.49
CAS No.: N/A
Package: mg , g



血型抗原 (ABH)

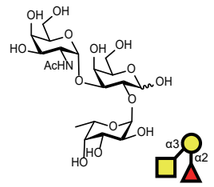
GO-4005 Blood type trisaccharide H Type VI (2'FL)

M.F.: $C_{18}H_{32}O_{15}$
M.W.: 488.44
CAS No.: N/A
Package: mg , g



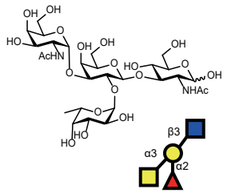
GO-4006 Blood type trisaccharide A

M.F.: $C_{20}H_{35}NO_{15}$
M.W.: 529.49
CAS No.: 49777-13-1
Package: mg , g



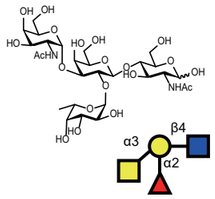
GO-4007 Blood type tetrasaccharide A Type I

M.F.: $C_{28}H_{48}N_2O_{20}$
M.W.: 732.69
CAS No.: N/A
Package: mg , g



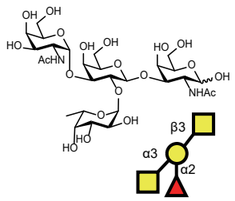
GO-4008 Blood type tetrasaccharide A Type II

M.F.: $C_{28}H_{48}N_2O_{20}$
M.W.: 732.69
CAS No.: N/A
Package: mg , g



GO-4009 Blood type tetrasaccharide A Type III/IV

M.F.: $C_{28}H_{48}N_2O_{20}$
M.W.: 732.69
CAS No.: N/A
Package: mg , g



血型抗原 (ABH)

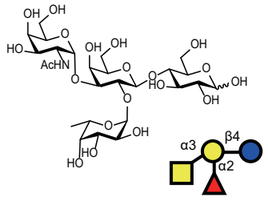
GO-4010 Blood type tetrasaccharide A Type VI

M.F.: $C_{26}H_{45}NO_{20}$

M.W.: 691.63

CAS No.: 59957-92-5

Package: mg , g



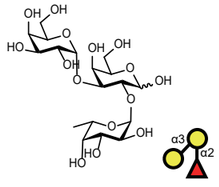
GO-4011 Blood type trisaccharide B

M.F.: $C_{18}H_{32}O_{15}$

M.W.: 488.44

CAS No.: 49777-14-2

Package: mg , g



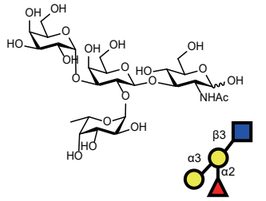
GO-4012 Blood type tetrasaccharide B Type I

M.F.: $C_{26}H_{45}NO_{20}$

M.W.: 691.63

CAS No.: N/A

Package: mg , g



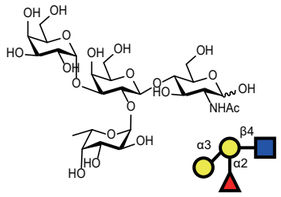
GO-4013 Blood type tetrasaccharide B Type II

M.F.: $C_{26}H_{45}NO_{20}$

M.W.: 691.63

CAS No.: N/A

Package: mg , g



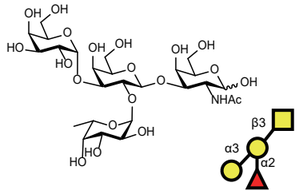
GO-4014 Blood type tetrasaccharide B Type III/IV

M.F.: $C_{26}H_{45}NO_{20}$

M.W.: 691.63

CAS No.: N/A

Package: mg , g



血型抗原 (ABH)

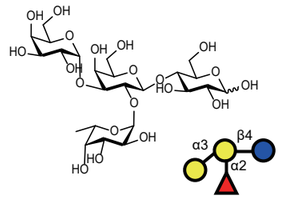
GO-4015 Blood type tetrasaccharide B Type VI

M.F.: $C_{24}H_{42}O_{20}$

M.W.: 650.58

CAS No.: N/A

Package: mg , g



Lewis 抗原

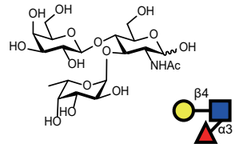
GO-4201 Lewis X (LeX) SSEA-1/CD15

M.F.: $C_{20}H_{35}NO_{15}$

M.W.: 529.49

CAS No.: 71208-06-5

Package: mg , g



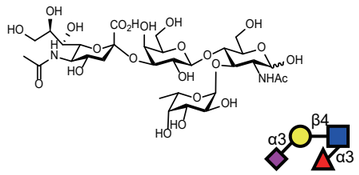
GO-4202 Sialyl Lewis X (sLe^X)

M.F.: $C_{31}H_{52}N_2O_{23}$

M.W.: 820.75

CAS No.: N/A

Package: mg , g



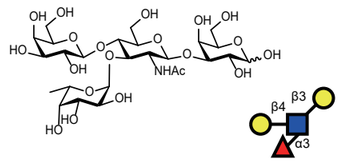
GO-4203 Lewis X (Le^X) Tetrasaccharide

M.F.: $C_{26}H_{45}NO_{20}$

M.W.: 691.63

CAS No.: N/A

Package: mg , g



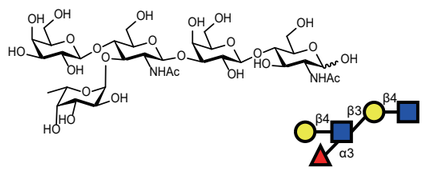
GO-4204 Lewis X (Le^X) Pentasaccharides

M.F.: $C_{34}H_{58}N_2O_{25}$

M.W.: 894.83

CAS No.: N/A

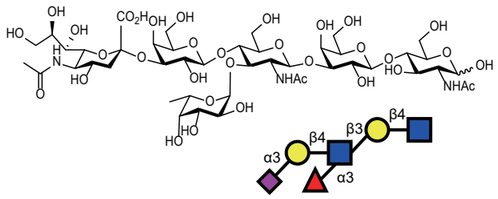
Package: mg , g



Lewis 抗原

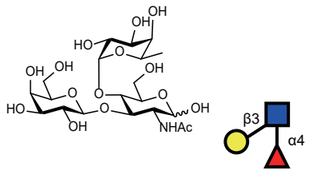
GO-4205 Sialyl Lewis X (sLe^X)-Hexasaccharide

M.F.: $C_{45}H_{75}N_3O_{33}$
M.W.: 1186.08
CAS No.: N/A
Package: mg , g



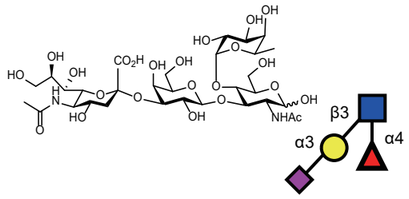
GO-4206 Lewis A (Le^a)

M.F.: $C_{20}H_{35}NO_{15}$
M.W.: 529.49
CAS No.: 56570-03-7
Package: mg , g



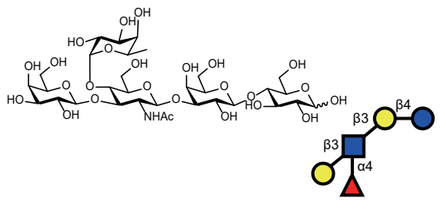
GO-4207 Sialyl Lewis A (sLe^a)

M.F.: $C_{31}H_{52}N_2O_{23}$
M.W.: 820.75
CAS No.: N/A
Package: mg , g



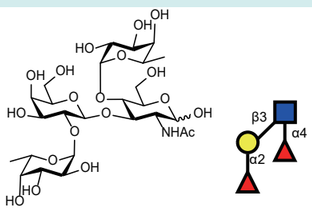
GO-4208 Lewis A (Le^a) pentasaccharide

M.F.: $C_{32}H_{55}NO_{25}$
M.W.: 853.77
CAS No.: N/A
Package: mg , g



GO-4209 Lewis B (Le^b)

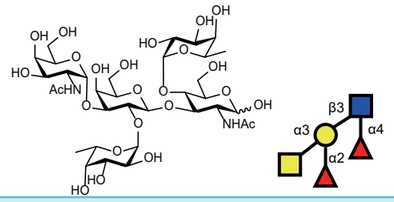
M.F.: $C_{26}H_{45}NO_{19}$
M.W.: 675.63
CAS No.: N/A
Package: mg , g



Lewis 抗原

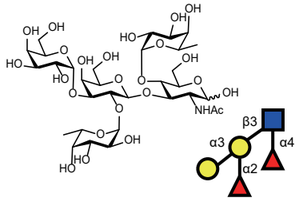
GO-4210 ALewis B (ALe^b)

M.F.: $C_{34}H_{58}N_2O_{24}$
M.W.: 878.83
CAS No.: N/A
Package: mg , g



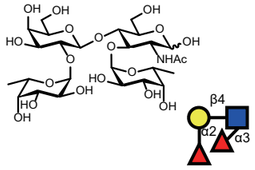
GO-4211 BLewis B (ALe^b)

M.F.: $C_{32}H_{55}NO_{24}$
M.W.: 837.78
CAS No.: N/A
Package: mg , g



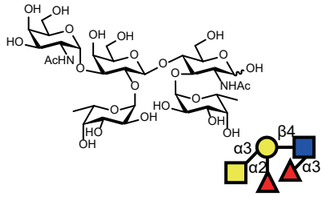
GO-4212 Lewis Y (Le^Y)

M.F.: $C_{26}H_{45}NO_{19}$
M.W.: 675.63
CAS No.: N/A
Package: mg , g



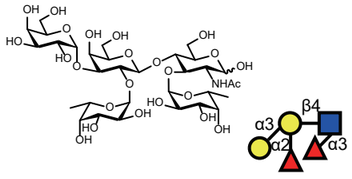
GO-4213 ALewis Y (ALe^Y)

M.F.: $C_{34}H_{58}N_2O_{24}$
M.W.: 878.83
CAS No.: N/A
Package: mg , g



GO-4214 BLewis Y (ALe^Y)

M.F.: $C_{32}H_{55}NO_{24}$
M.W.: 837.78
CAS No.: N/A
Package: mg , g

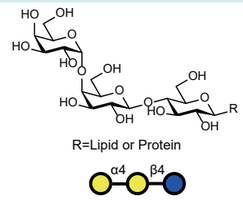


P system 抗原

GO-4301 P^k (Gala1,4Galb1,4GlcbR)

CAS No.: N/A

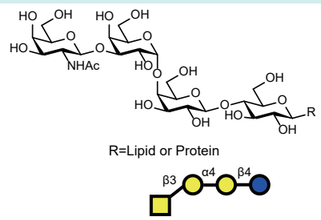
Package: mg , g



GO-4302 P (Galb1,3Gala1,4Galb1,4GlcbR)

CAS No.: N/A

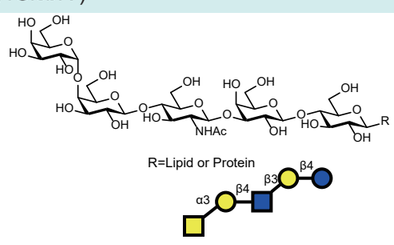
Package: mg , g



GO-4303 P1 (Gala1,4Galb1,4GlcNAcb1,3Galb1,4GlcbR)

CAS No.: N/A

Package: mg , g

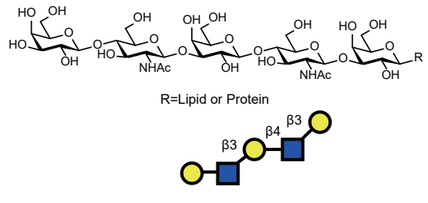


i system 抗原

GO-4351 i (Galb1,4GlcNAcb1,3Galb1,4GlcNAcb1,3GalbR)

CAS No.: N/A

Package: mg , g



糖脂寡糖

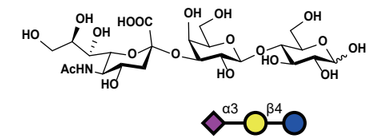
GO-4401 GM3 (3SL)

M.F.: $C_{23}H_{39}NO_{19}$

M.W.: 633.55

CAS No.: N/A

Package: mg , g



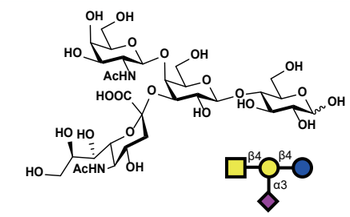
GO-4402 GM2

M.F.: $C_{31}H_{52}N_2O_{24}$

M.W.: 836.75

CAS No.: N/A

Package: mg , g



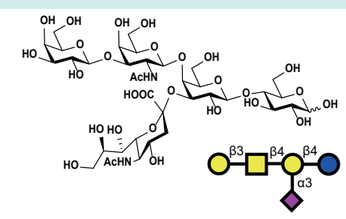
GO-4403 GM1a

M.F.: $C_{37}H_{62}N_2O_{29}$

M.W.: 998.89

CAS No.: N/A

Package: mg , g



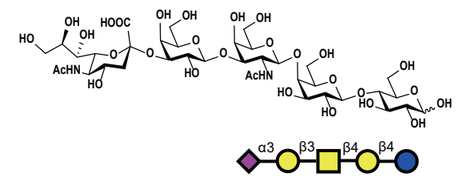
GO-4404 GM1b

M.F.: $C_{37}H_{62}N_2O_{29}$

M.W.: 998.89

CAS No.: N/A

Package: mg , g



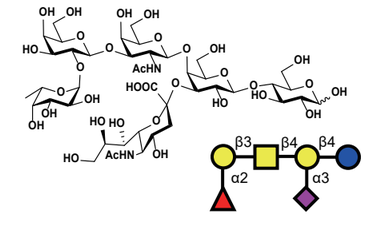
GO-4405 Fuc-GM1

M.F.: $C_{43}H_{72}N_2O_{33}$

M.W.: 1145.03

CAS No.: N/A

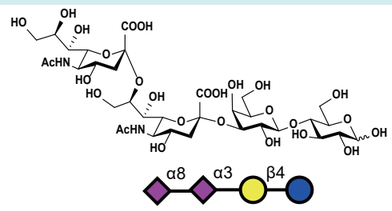
Package: mg , g



糖脂寡糖

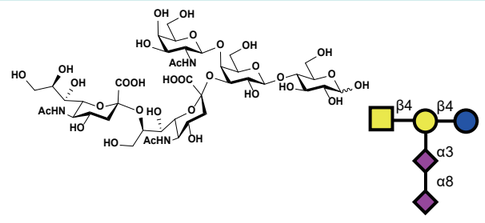
GO-4406 GD3

M.F.: $C_{34}H_{56}N_2O_{27}$
M.W.: 924.81
CAS No.: N/A
Package: mg , g



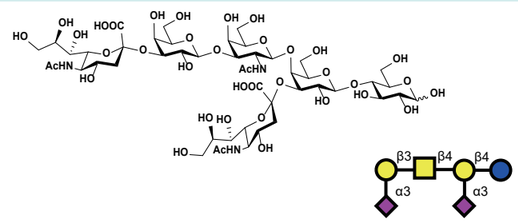
GO-4407 GD2

M.F.: $C_{42}H_{69}N_3O_{32}$
M.W.: 1128.00
CAS No.: N/A
Package: mg , g



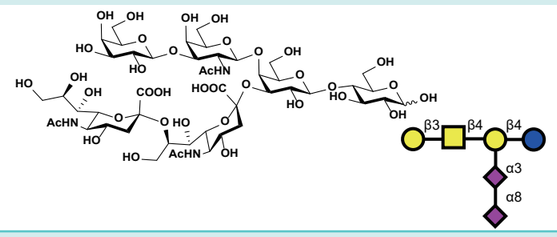
GO-4408 GD1a

M.F.: $C_{48}H_{79}N_3O_{37}$
M.W.: 1290.14
CAS No.: N/A
Package: mg , g



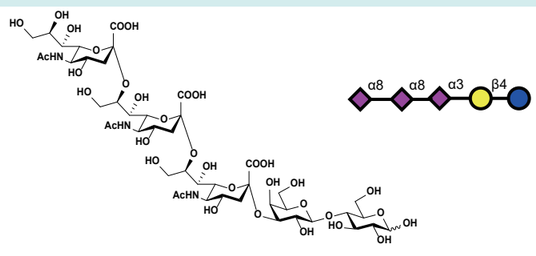
GO-4409 GD1b

M.F.: $C_{48}H_{79}N_3O_{37}$
M.W.: 1290.14
CAS No.: N/A
Package: mg , g



GO-4410 GT3

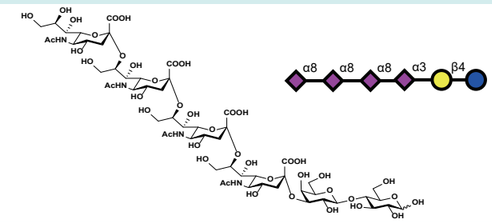
M.F.: $C_{45}H_{73}N_3O_{35}$
M.W.: 1216.07
CAS No.: N/A
Package: mg , g



糖脂寡糖

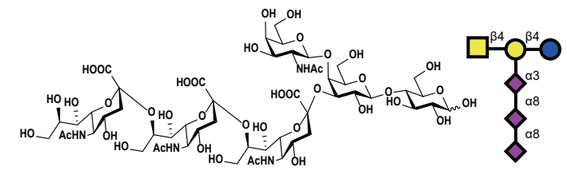
GO-4411 GQ3

M.F.: $C_{56}H_{90}N_4O_{43}$
M.W.: 1507.32
CAS No.: N/A
Package: mg , g



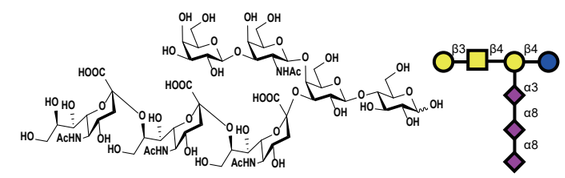
GO-4412 GT2

M.F.: $C_{53}H_{85}N_4O_{40}$
M.W.: 1418.25
CAS No.: N/A
Package: mg , g



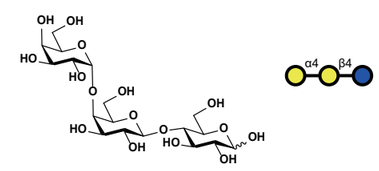
GO-4413 GT1c

M.F.: $C_{59}H_{96}N_4O_{45}$
M.W.: 1581.40
CAS No.: N/A
Package: mg , g



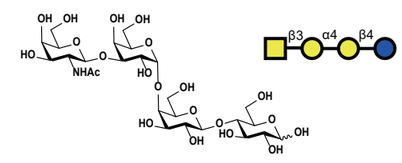
GO-4414 Gb3

M.F.: $C_{18}H_{32}O_{16}$
M.W.: 504.44
CAS No.: N/A
Package: mg , g



GO-4415 Gb4

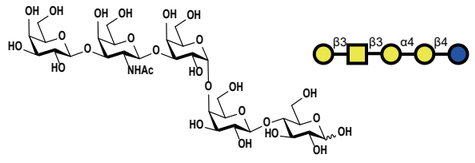
M.F.: $C_{26}H_{45}NO_{21}$
M.W.: 707.63
CAS No.: N/A
Package: mg , g



糖脂寡糖

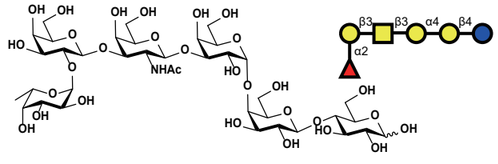
GO-4416 Gb5

M.F.: $C_{32}H_{55}NO_{26}$
M.W.: 869.77
CAS No.: N/A
Package: mg , g



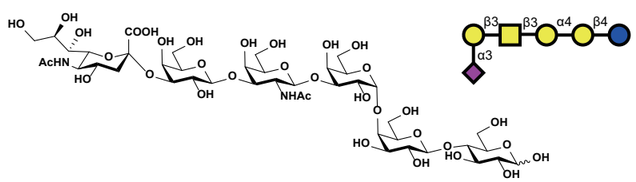
GO-4417 GloboH

M.F.: $C_{38}H_{65}NO_{30}$
M.W.: 1015.92
CAS No.: N/A
Package: mg , g



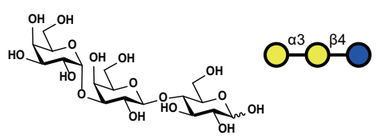
GO-4418 SSEA-4

M.F.: $C_{48}H_{79}N_3O_{37}$
M.W.: 1290.14
CAS No.: N/A
Package: mg , g



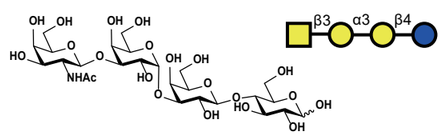
GO-4419 iGb3

M.F.: $C_{18}H_{32}O_{16}$
M.W.: 504.44
CAS No.: N/A
Package: mg , g



GO-4420 iGb4

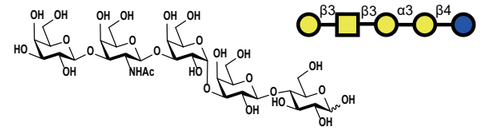
M.F.: $C_{26}H_{45}NO_{21}$
M.W.: 707.63
CAS No.: N/A
Package: mg , g



糖脂寡糖

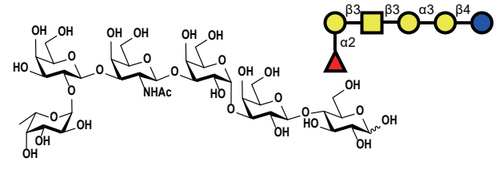
GO-4421 iGb5

M.F.: $C_{32}H_{55}NO_{26}$
M.W.: 869.77
CAS No.: N/A
Package: mg , g



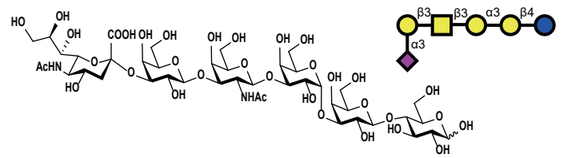
GO-4422 iGloboH

M.F.: $C_{38}H_{65}NO_{30}$
M.W.: 1015.92
CAS No.: N/A
Package: mg , g



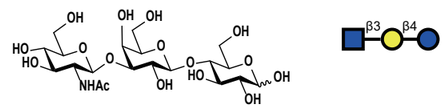
GO-4423 Sialyl-iGb5

M.F.: $C_{43}H_{72}N_2O_{34}$
M.W.: 1161.03
CAS No.: N/A
Package: mg , g



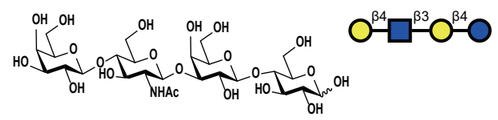
GO-4424 Lc3

M.F.: $C_{20}H_{35}NO_{16}$
M.W.: 545.49
CAS No.: N/A
Package: mg , g



GO-4425 nLc4

M.F.: $C_{26}H_{45}NO_{21}$
M.W.: 707.63
CAS No.: N/A
Package: mg , g



糖脂寡糖

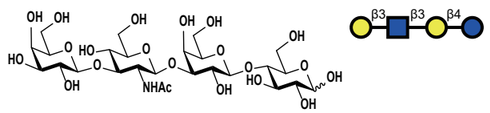
GO-4426 Lc4

M.F.: $C_{26}H_{45}NO_{21}$

M.W.: 707.63

CAS No.: N/A

Package: mg , g



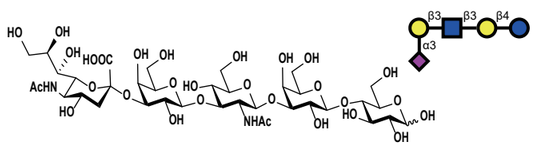
GO-4427 Sialyl-Lc4

M.F.: $C_{37}H_{62}N_2O_{29}$

M.W.: 998.89

CAS No.: N/A

Package: mg , g



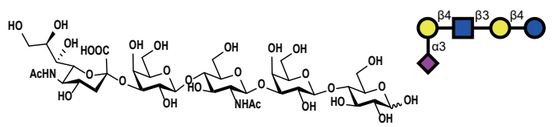
GO-4428 Sialyl-nLc4

M.F.: $C_{37}H_{62}N_2O_{29}$

M.W.: 998.89

CAS No.: N/A

Package: mg , g



天然寡糖及糖缀合物

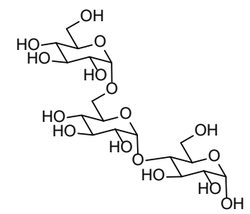
GO-6001 D-Panose

M.F.: $C_{18}H_{32}O_{16}$

M.W.: 504.44

CAS No.: 33401-87-5

Package: g to kg



潘糖被广泛应用于食品色素的抗褪色剂、食品抗氧化剂和抗癌甜味剂。通过酶促反应可实现大批量生产。

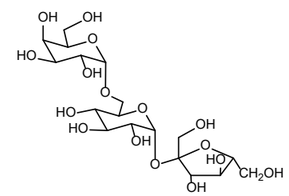
GO-6002 D-Raffinose/melitriose

M.F.: $C_{18}H_{32}O_{16}$

M.W.: 504.44

CAS No.: 512-69-6

Package: g to kg



棉子糖是自然界中最知名的一种三糖，由半乳糖、果糖和葡萄糖结合而成，它也被称为蜜三糖，是一种具有较强增殖双歧杆菌作用的功能性低聚糖，可从植物中提取，也可通过酶促合成。

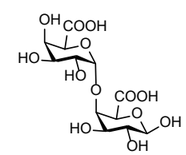
GO-6003 GalAa1,4GalA

M.F.: $C_{12}H_{18}O_{13}$

M.W.: 370.26

CAS No.: 5894-59-7

Package: g to kg



在体内源自果胶分解代谢的二半乳糖醛酸（DGA）用于酶（例如蛋白酶K）的共结晶。它在半乳糖醛酸代谢研究中用作底物，以鉴定、区分和表征内聚和外聚半乳糖醛酸酶和葡萄糖酶。DGA用于研究诸如TogMNAB ABC转运蛋白之类的系统对寡半乳糖醛酸的转运。

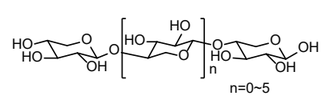
GO-6004 XOS

M.F.: $C_{15}H_{26}O_{13}$

M.W.: 414.36

CAS No.: 5894-59-7

Package: g to kg



低聚木糖是由富含木糖的植物提取酶解，作为食品中的抗氧化剂和胶凝剂具有多方面的应用，对糖尿病有益，治疗动脉硬化，降低2型糖尿病患者和结肠癌患者的总胆固醇等等。

天然寡糖及糖缀合物

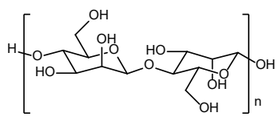
GO-6005 Mannan oligosaccharide

M.F.: $C_{12}H_{22}O_{11}$

M.W.: 342.30

CAS No.: N/A

Package: g to kg



甘露寡糖具有一定的免疫原性，能够刺激机体免疫应答，可作为外源抗原的佐剂。甘露寡糖广泛存在于多种微生物细胞壁内，目前工业甘露寡糖主要通过酶解法进行生产。

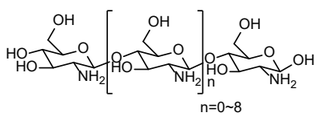
GO-6006 COS

M.F.: $C_{18}H_{35}N_3O_{13}$

M.W.: 501.49

CAS No.: N/A

Package: g to kg



壳寡糖由甲壳类动物提取酶解，主要用作抗氧化剂、抗肿瘤剂和抗微生物剂。壳聚糖低聚糖有保护正常细胞免于凋亡的作用。

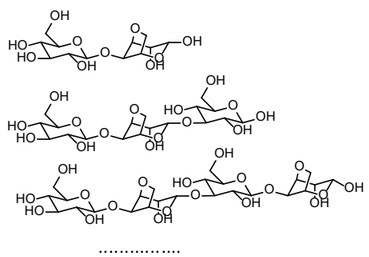
GO-6007 AOS

M.F.: $C_{54}H_{88}O_{44}$

M.W.: 1441.25

CAS No.: N/A

Package: g to kg



琼脂寡糖由红藻中提取，琼脂寡糖具有益生元、抗氧化、抗炎、保肝等多种生理活性，在食品、化妆品和制药行业的应用具有重要意义。

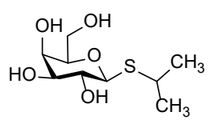
GO-6201 IPTG

M.F.: $C_9H_{18}O_5S$

M.W.: 238.30

CAS No.: 367-93-1

Package: g to kg



IPTG是一种在分子生物学领域中广泛应用的化合物，常用于调控基因表达。其特殊的性质使其成为诱导蛋白表达和研究基因功能的重要工具。IPTG作为基因表达调控的关键工具，在分子生物学研究中发挥着重要作用。

天然寡糖及糖缀合物

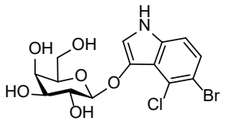
GO-6202 X-Gal

M.F.: $C_{14}H_{15}BrClNO_6$

M.W.: 408.63

CAS No.: 7240-90-6

Package: g to kg



X-Gal是一种与IPTG一起用于蓝/白菌落选择的显色底物。
[1] 它是一种可溶性无色化合物，包括连接在取代吲哚上的半乳糖。
[2] 在X-Gal存在下，α-互补后的lac+细菌形成蓝色菌落，携带重组质粒的细菌形成白色菌落。

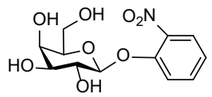
GO-6203 2-Nitrophenyl-b-D-galactopyranoside(ONPG)

M.F.: $C_{12}H_{15}NO_8$

M.W.: 301.25

CAS No.: 369-07-3

Package: g to kg



ONPG: β-半乳糖苷酶的显色底物。在被β-半乳糖苷酶酶切后，邻硝基苯酚被释放，其可以通过在420nm下的比色检测来定量，作为β-半乳糖糖苷酶活性的测量。

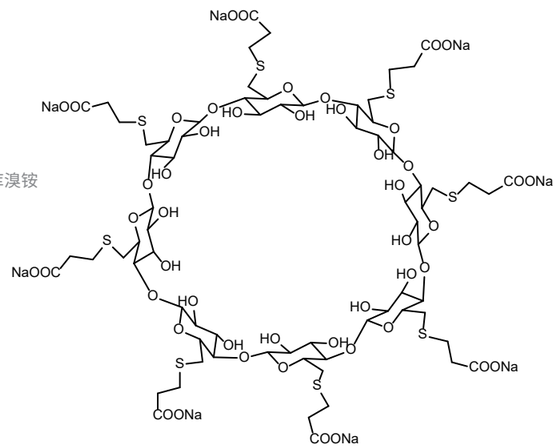
GO-6204 Sugammadex sodium

M.F.: $C_{72}H_{104}Na_8O_{48}S_8$

M.W.: 2177.97

CAS No.: 343306-79-6

Package: g to kg



舒更葡糖钠用于逆转常规使用的神经肌肉阻断药罗库溴铵和维库溴铵诱导产生的神经肌肉麻醉作用。

化学修饰糖

叠氮基糖类似物

叠氮基糖类似物可通过细胞内的聚糖生物合成途径引入到糖蛋白上，然后通过Click Chemistry特异性地与成像探针或亲和探针进行共价标记。由于分泌蛋白通常是糖蛋白，这种糖代谢标记已被用于分泌蛋白的标记和富集。

叠氮基糖类似物具有如下特点：

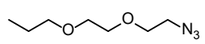
- 生物正交性--叠氮基团体积较小，无反应性且不存在于生命系统中。因此，叠氮基糖类似物不会干扰内源性细胞通路和取代其自然发生的类似物；
- 兼容性--在正常缓冲液条件下，叠氮基糖类似物可有效使用磷酸化合物进行反应，无需铜或还原剂等辅助试剂；
- 化学选择性--叠氮基糖类似物和膦类化合物不会与生物样品的组分反应或干扰此类组分，而是彼此高效偶联；
- 通用性--叠氮基糖类似物标记可用于检测、固定、偶联或亲和纯化。

其中，N-叠氮乙酰半乳糖胺(GalNAz)、N-叠氮乙酰葡萄糖胺(GlcNAz)和N-叠氮乙酰甘露糖胺(ManNAz)是最经典的叠氮基糖类似物，酰化后所得的Ac_4ManNAz、Ac_4GlcNAz和Ac_4GalNAz则可增加叠氮基糖在有机溶剂中的溶解度，更容易处理。

修饰寡糖

β-D-glycoside

R'= (1) Azide modified alkyl : ;

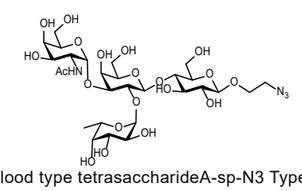
(2) PEG derivatives: 

(3) Biotin

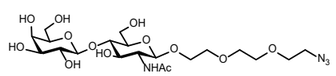
(4) Lipid

R=Monosaccharides or oligosaccharides

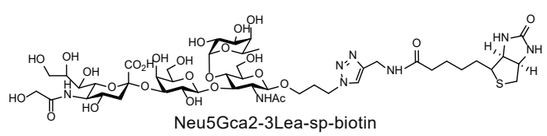
R'=Azidoalkyl, polyethylene glycol derivatives, lipid chains, biotin, etc.



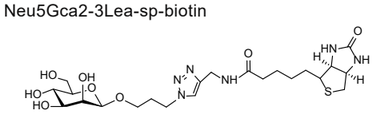
Blood type tetrasaccharideA-sp-N3 Type VI



LacNAc-PEG-N_3



Neu5Gca2-3Lea-sp-biotin



Mannose-sp-biotin

葡萄糖衍生物

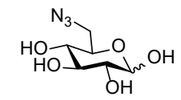
GS-0009 6-azido-6-deoxy-D-glucose

M.F.: $C_6H_{11}N_3O_5$

M.W.: 205.17

CAS No.: 20847-05-6

Package: mg to kg



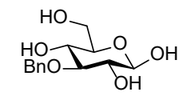
GS-4013 3-OBnGlc

M.F.: $C_{13}H_{18}O_6$

M.W.: 270.28

CAS No.: 97590-76-6

Package: mg to kg



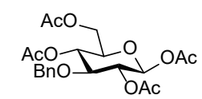
GS-4014 3-OBnAc_4Glc

M.F.: $C_{21}H_{26}O_{10}$

M.W.: 438.43

CAS No.: 39686-94-7

Package: mg to kg



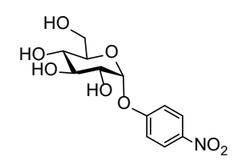
GS-4023 4-nitrophenyl-α-D-glucoside

M.F.: $C_{12}H_{15}NO_8$

M.W.: 301.25

CAS No.: 3767-28-0

Package: mg to kg



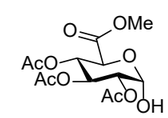
GS-4026 2,3,4-Tri-O-acetyl-α-D-glucuronic Acid Methyl Ester

M.F.: $C_{13}H_{18}O_{10}$

M.W.: 334.28

CAS No.: 72692-06-9/ 3082-95-9

Package: mg to kg



葡萄糖衍生物

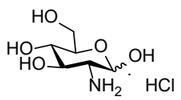
GS-4028 D-Glucosamine hydrochloride

M.F.: $C_6H_{14}ClNO_5$

M.W.: 215.63

CAS No.: 66-84-2

Package: mg to kg



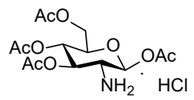
GS-4029 1,3,4,6-Tetra-O-acetyl-α-D-glucosamine HCl

M.F.: $C_{14}H_{22}ClNO_9$

M.W.: 383.78

CAS No.: 10034-20-5

Package: mg to kg



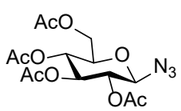
GS-0037 1-azido-2,3,4,6-Tetra-O-acetyl-β-D-glucose

M.F.: $C_{14}H_{19}N_3O_9$

M.W.: 373.32

CAS No.: 13992-25-1

Package: mg to kg



氨基葡萄糖衍生物

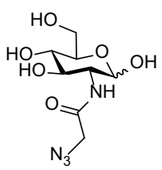
GS-0005 GlcNAz

M.F.: $C_8H_{14}N_4O_6$

M.W.: 262.22

CAS No.: 92659-90-0

Package: mg to kg



氨基葡萄糖衍生物

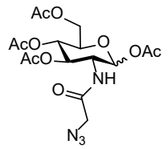
GS-0006 Ac_4GlcNAz

M.F.: $C_{16}H_{22}N_4O_{10}$

M.W.: 430.37

CAS No.: 98924-81-3

Package: mg to kg



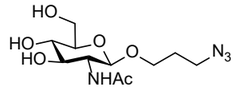
GS-0013 GlcNAcbproN_3

M.F.: $C_{11}H_{20}N_4O_6$

M.W.: 304.30

CAS No.: 595568-99-3

Package: mg to kg



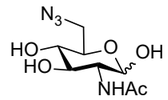
GS-0020 6-AzGlcNAc

M.F.: $C_8H_{14}N_4O_5$

M.W.: 246.22

CAS No.: 1611491-03-2

Package: mg to kg



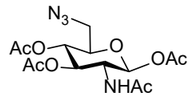
GS-0021 $Ac_3$6-AzGlcNAc

M.F.: $C_{14}H_{20}N_4O_8$

M.W.: 372.33

CAS No.: 487027-19-0

Package: mg to kg



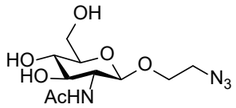
GS-0032 2-azidoethyl GlcNAc

M.F.: $C_{10}H_{18}N_4O_6$

M.W.: 290.28

CAS No.: 142072-12-6

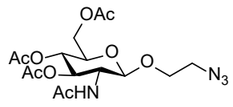
Package: mg to kg



氨基葡萄糖衍生物

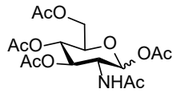
GS-0033 2-azidoethyl $Ac_3GlcNAc$

M.F.: $C_{16}H_{24}N_4O_9$
M.W.: 416.39
CAS No.: N/A
Package: mg to kg



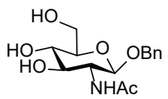
GS-0034 2-Acetamido-2-deoxy-1,3,4,6-tetra-O-acetyl-α-D-glucopyranose

M.F.: $C_{16}H_{23}NO_{10}$
M.W.: 389.36
CAS No.: 14086-90-9
Package: mg to kg



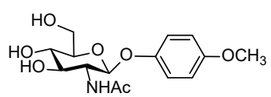
GS-0035 Benzyl-2-Acetamido-2-deoxy-β-D-glucopyranoside

M.F.: $C_{15}H_{21}NO_6$
M.W.: 311.33
CAS No.: 13343-67-4
Package: mg to kg



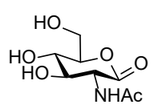
GS-0036 4'-Methoxyphenyl-2-Acetamido-2-deoxy-β-D-Glucopyranoside

M.F.: $C_{15}H_{21}NO_7$
M.W.: 327.33
CAS No.: 38229-78-6
Package: mg to kg



GS-4020 2-AcetaMido-2-deoxy-D-glucono-1,5-lactone

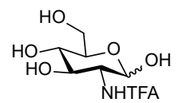
M.F.: $C_8H_{13}NO_6$
M.W.: 219.19
CAS No.: 19026-22-3
Package: mg to kg



氨基葡萄糖衍生物

GS-4016 N-Trifluoroacetyl-D-glucosamine(GlcNTFA)

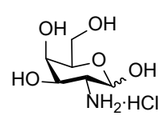
M.F.: $C_8H_{12}F_3NO_6$
M.W.: 275.18
CAS No.: 36875-26-0
Package: mg to kg



半乳糖及氨基半乳糖衍生物

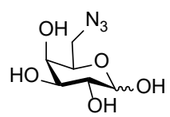
GS-4017 D(+)-$GalHN_2$·HCl

M.F.: $C_6H_{14}ClNO_5$
M.W.: 215.63
CAS No.: 1772-03-8
Package: mg to kg



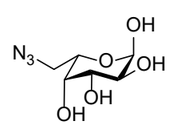
GS-0008 6-azido-6-deoxy-D-galactose

M.F.: $C_6H_{11}N_3O_5$
M.W.: 205.17
CAS No.: 66927-03-5
Package: mg to kg



GS-0017 6-azido-6-deoxy-L-galactose

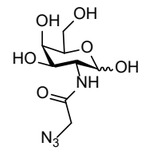
M.F.: $C_6H_{11}N_3O_5$
M.W.: 205.17
CAS No.: 70932-63-7
Package: mg to kg



半乳糖及氨基半乳糖衍生物

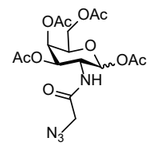
GS-0003 GalNAz

M.F.: $C_8H_{14}N_4O_6$
M.W.: 262.22
CAS No.: 869186-83-4
Package: mg to kg



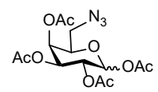
GS-0004 Ac_4GalNAz

M.F.: $C_{16}H_{22}N_4O_{10}$
M.W.: 430.37
CAS No.: 653600-56-7
Package: mg to kg



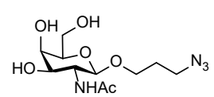
GS-0011 Ac_4-6-azido-6-deoxy-D-galactose

M.F.: $C_{14}H_{19}N_3O_9$
M.W.: 373.32
CAS No.: 629620-22-0
Package: mg to kg



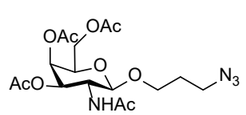
GS-0014 GalNAcbproN_3

M.F.: $C_{11}H_{20}N_4O_6$
M.W.: 304.30
CAS No.: 874120-65-7
Package: mg to kg



GS-0016 Ac_3GalNAcproN_3

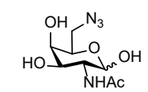
M.F.: $C_{17}H_{26}N_4O_9$
M.W.: 430.41
CAS No.: 874120-66-8
Package: mg to kg



半乳糖及氨基半乳糖衍生物

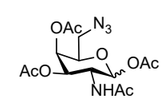
GS-0018 6-AzGalNAc

M.F.: $C_8H_{14}N_4O_5$
M.W.: 246.22
CAS No.: 869186-83-4
Package: mg to kg



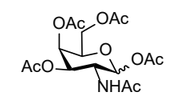
GS-0019 $Ac_3$6-AzGalNAc

M.F.: $C_{14}H_{20}N_4O_8$
M.W.: 372.33
CAS No.: 657363-19-4
Package: mg to kg



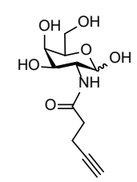
GS-4009 Ac_4GalNAc

M.F.: $C_{16}H_{23}NO_{10}$
M.W.: 389.36
CAS No.: 76375-60-5
Package: mg to kg



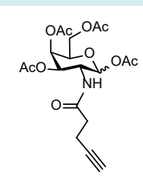
GS-1003 GalNAl

M.F.: $C_{11}H_{17}NO_6$
M.W.: 259.26
CAS No.: 2244888-87-5
Package: mg to kg



GS-1004 Ac_4GalNAl

M.F.: $C_{19}H_{25}NO_{10}$
M.W.: 427.41
CAS No.: 1810852-60-8
Package: mg to kg



甘露糖衍生物

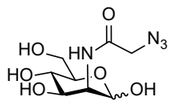
GS-0001 ManNAz

M.F.: $C_8H_{14}N_4O_6$

M.W.: 262.22

CAS No.: 361154-23-6

Package: mg to kg



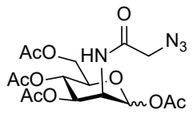
GS-0002 Ac_4ManNAz

M.F.: $C_{16}H_{22}N_4O_{10}$

M.W.: 430.37

CAS No.: 361154-30-5

Package: mg to kg



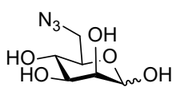
GS-0007 6-azido-6-deoxy-D-mannose

M.F.: $C_6H_{11}N_3O_5$

M.W.: 205.17

CAS No.: 316379-15-4

Package: mg to kg



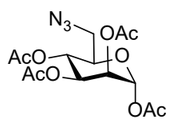
GS-0010 1,2,3,4-tetra-O-acetyl-6-azido-6-deoxy-α-D-mannose

M.F.: $C_{11}H_{20}N_4O_6$

M.W.: 304.30

CAS No.: 210170-40-4

Package: mg to kg



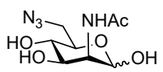
GS-0022 6-AzManNAc

M.F.: $C_8H_{14}N_4O_5$

M.W.: 246.22

CAS No.: 2555160-60-4

Package: mg to kg



甘露糖衍生物

GS-0023 $Ac_3$6-AzManNAc

M.F.: $C_{14}H_{20}N_4O_8$

M.W.: 372.33

CAS No.: 487027-18-9

Package: mg to kg

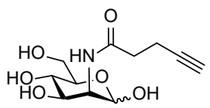
GS-1001 ManNAl

M.F.: $C_{11}H_{17}NO_6$

M.W.: 259.26

CAS No.: 935658-94-9

Package: mg to kg



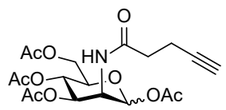
GS-1002 Ac_4ManNAl

M.F.: $C_{19}H_{25}NO_{10}$

M.W.: 427.41

CAS No.: 935658-93-8

Package: mg to kg



GS-4007 ManNAc

M.F.: $C_8H_{15}NO_6$

M.W.: 221.21

CAS No.: 4773-29-9

Package: mg to kg

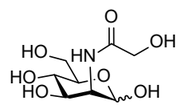
GS-4012 ManNGc

M.F.: $C_8H_{15}NO_7$

M.W.: 237.21

CAS No.: 119943-65-6

Package: mg to kg



甘露糖衍生物

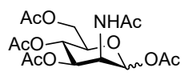
GS-4008 $Ac_4ManNAc$

M.F.: $C_{16}H_{23}NO_{10}$

M.W.: 389.36

CAS No.: 76375-61-6

Package: mg to kg



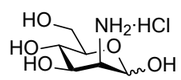
GS-4022 D-Mannosamine hydrochloride

M.F.: $C_6H_{14}ClNO_5$

M.W.: 215.63

CAS No.: 5505-63-5

Package: mg to kg



唾液酸衍生物

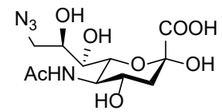
GS-2001 9-AzSiaNAc

M.F.: $C_{11}H_{18}N_4O_8$

M.W.: 334.29

CAS No.: 160555-88-4

Package: mg to kg



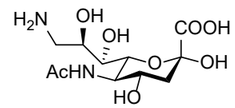
GS-2002 9-NH_2SiaNAc

M.F.: $C_{11}H_{20}N_2O_8$

M.W.: 308.29

CAS No.: 160555-89-5

Package: mg to kg



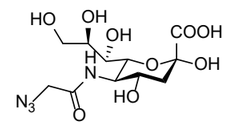
GS-2003 SiaNAz

M.F.: $C_{11}H_{18}N_4O_9$

M.W.: 350.28

CAS No.: 756823-87-7

Package: mg to kg



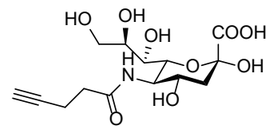
GS-2004 SiaNAl

M.F.: $C_{14}H_{21}NO_9$

M.W.: 347.32

CAS No.: 1639411-94-1

Package: mg to kg



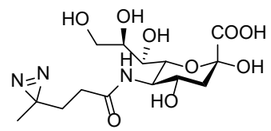
GS-2005 SiaDAz

M.F.: $C_{14}H_{23}N_3O_9$

M.W.: 377.35

CAS No.: N/A

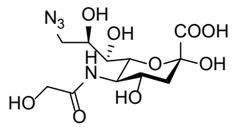
Package: mg to kg



唾液酸衍生物

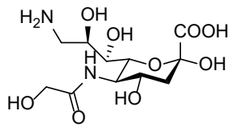
GS-2007 9-AzNeu5Gc

M.F.: $C_{11}H_{18}N_4O_9$
M.W.: 350.28
CAS No.: N/A
Package: mg to kg



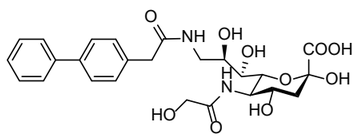
GS-2008 9-NH_2Neu5Gc

M.F.: $C_{11}H_{20}N_2O_9$
M.W.: 324.29
CAS No.: N/A
Package: mg to kg



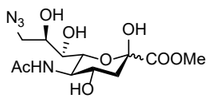
GS-2009 BPA-Neu5Gc

M.F.: $C_{25}H_{30}N_2O_{10}$
M.W.: 518.52
CAS No.: 2803296-78-6
Package: mg to kg



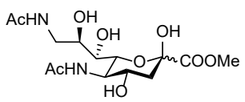
GS-2010 1-Methyl-9-azido-SiaNAc

M.F.: $C_{12}H_{20}N_4O_8$
M.W.: 348.31
CAS No.: 1919846-02-8
Package: mg to kg



GS-2011 1-Methyl-9-N-acetyl-SiaNAc

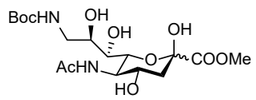
M.F.: $C_{14}H_{24}N_2O_9$
M.W.: 364.35
CAS No.: N/A
Package: mg to kg



唾液酸衍生物

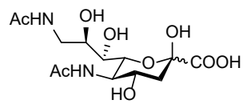
GS-2012 1-Methyl-9-N-Boc-SiaNAc

M.F.: $C_{17}H_{30}N_2O_{10}$
M.W.: 422.43
CAS No.: N/A
Package: mg to kg



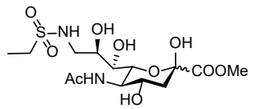
GS-2013 9-N-acetyl-SiaNAc

M.F.: $C_{13}H_{22}N_2O_9$
M.W.: 350.32
CAS No.: N/A
Package: mg to kg



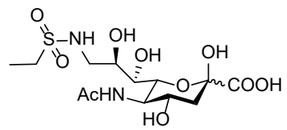
GS-2014 1-Methyl-9-ethylsulfonamido-SiaNAc

M.F.: $C_{14}H_{26}N_2O_{10}S$
M.W.: 414.43
CAS No.: N/A
Package: mg to kg



GS-2015 9-Ethylsulfonamido-SiaNAc

M.F.: $C_{13}H_{24}N_2O_{10}S$
M.W.: 400.40
CAS No.: N/A
Package: mg to kg



含磷的糖

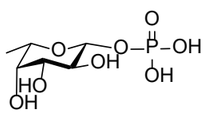
GS-3001 Fucose 1-phosphate sodium salt

M.F.: $C_6H_{13}O_8P$

M.W.: 244.14

CAS No.: 16562-58-6

Package: mg to kg



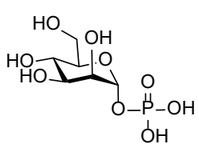
GS-3002 Mannose 1-phosphate sodium salt

M.F.: $C_6H_{13}N_9P$

M.W.: 260.13

CAS No.: 27251-84-9

Package: mg to kg



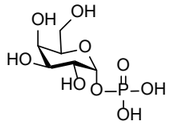
GS-3003 Galactose 1-phosphate sodium salt

M.F.: $C_6H_{13}O_9P$

M.W.: 260.13

CAS No.: 2255-14-3

Package: mg to kg



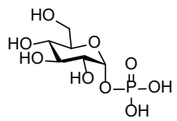
GS-3004 Glucose 1-phosphate sodium salt

M.F.: $C_6H_{13}O_9P$

M.W.: 260.13

CAS No.: 59-56-3

Package: mg to kg



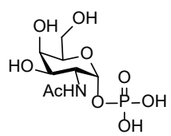
GS-3005 2-Acetamido-2-deoxyhexopyranose 1-phosphate sodium salt (GalNAc-1-P)

M.F.: $C_8H_{16}NO_9P$

M.W.: 301.19

CAS No.: 1919846-02-8

Package: mg to kg



含磷的糖

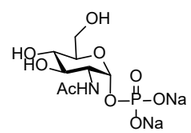
GS-3006 GlcNAc-1-P sodium salt

M.F.: $C_8H_{14}NNa_2O_9P$

M.W.: 345.15

CAS No.: 31281-59-1

Package: mg to kg



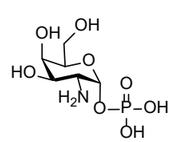
GS-3007 α-D-Galactosamine-1-phosphate sodium salt

M.F.: $C_6H_{14}NO_8P$

M.W.: 259.15

CAS No.: 75656-33-6

Package: mg to kg



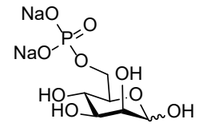
GS-3008 Mannose 6-phosphate sodium salt

M.F.: $C_6H_{11}Na_2O_9P$

M.W.: 304.10

CAS No.: 33068-18-7

Package: mg to kg



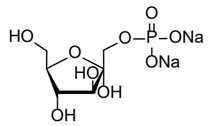
GS-3009 D-Fructose-1-dihydrogen phosphate sodium salt

M.F.: $C_6H_{11}Na_2O_9P$

M.W.: 304.10

CAS No.: 71662-09-4

Package: mg to kg



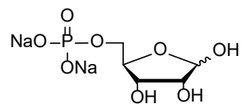
GS-3010 a-D-Ribose-5-phosphate sodium salt

M.F.: $C_5H_9Na_2O_8P$

M.W.: 274.07

CAS No.: 108321-99-9

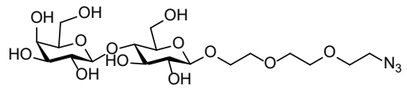
Package: mg to kg



修饰寡糖

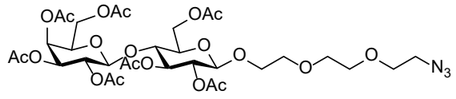
GS-0024 Lactose-PEG-N_3

M.F.: $C_{18}H_{33}N_3O_{13}$
M.W.: 499.47
CAS No.: 246855-74-3
Package: mg to kg



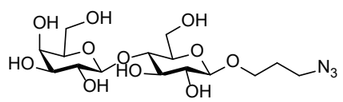
GS-0025 Ac_7Lactose-PEG-N_3

M.F.: $C_{32}H_{47}N_3O_{20}$
M.W.: 793.73
CAS No.: 153253-42-0
Package: mg to kg



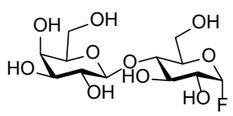
GS-0028 LactosebProN$_3$

M.F.: $C_{15}H_{27}N_3O_{11}$
M.W.: 425.39
CAS No.: N/A
Package: mg to kg



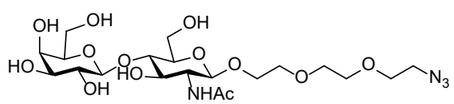
GS-4024 Lactose-F

M.F.: $C_{12}H_{21}FO_{10}$
M.W.: 344.29
CAS No.: 7792-96-3
Package: mg to kg



GS-0038 LacNAc-PEG-N_3

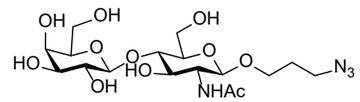
M.F.: $C_{20}H_{36}N_4O_{13}$
M.W.: 540.52
CAS No.: 1919846-02-8
Package: mg to kg



修饰寡糖

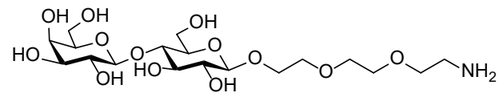
GS-0039 LacNAcbProN$_3$

M.F.: $C_{17}H_{30}N_4O_{11}$
M.W.: 466.44
CAS No.: 901851-43-2
Package: mg to kg



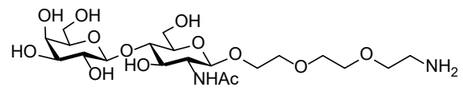
GSO-5005 Lactose PEG-NH_2

M.F.: $C_{18}H_{34}N_2O_{13}$
M.W.: 486.47
CAS No.: N/A
Package: mg to kg



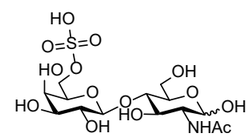
GSO-5008 LacNAc PEG-NH_2

M.F.: $C_{20}H_{37}N_3O_{13}$
M.W.: 527.52
CAS No.: 33068-18-7
Package: mg to kg



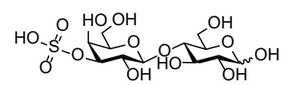
GSO-5001 (HSO4-6-)Galb1,4GlcNAc

M.F.: $C_{14}H_{25}NO_{14}S$
M.W.: 463.41
CAS No.: N/A
Package: mg to kg



GSO-5002 (HSO4-3-)Galb1,4Glc

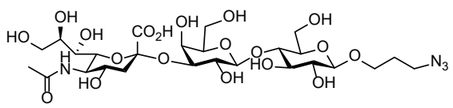
M.F.: $C_{12}H_{22}N_{14}S$
M.W.: 422.35
CAS No.: N/A
Package: mg to kg



修饰寡糖

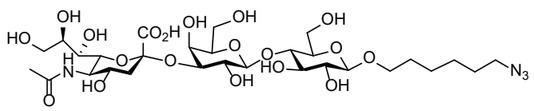
GS-0029 Neu5Aca2,3LacbProN$_3$

M.F.: $C_{26}H_{44}N_4O_{19}$
M.W.: 716.65
CAS No.: N/A
Package: mg to kg



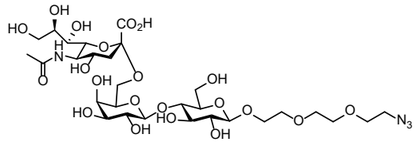
GS-0030 Neu5Aca2,3Lacb(C6)N$_3$

M.F.: $C_{29}H_{50}N_4O_{19}$
M.W.: 758.73
CAS No.: N/A
Package: mg to kg



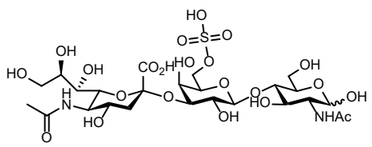
GS-0031 Neu5Aca2,6LacbPEGN$_3$

M.F.: $C_{29}H_{50}N_4O_{21}$
M.W.: 790.73
CAS No.: N/A
Package: mg to kg



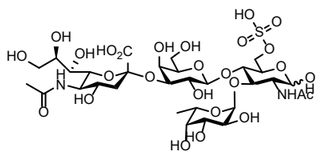
GSO-5003 Neu5Aca2,3(HSO4-6-)Galb1,4GlcNAc

M.F.: $C_{25}H_{42}N_2O_{22}S$
M.W.: 754.66
CAS No.: N/A
Package: mg to kg



GSO-5004 Neu5Aca2,3Galb1,4(Fuca1,3)(HSO4-6-)GlcNAc

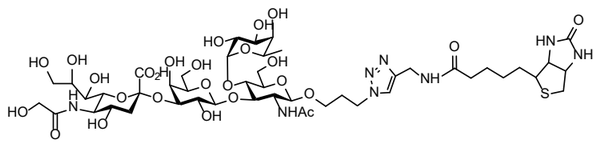
M.F.: $C_{31}H_{52}N_2O_{26}S$
M.W.: 900.81
CAS No.: N/A
Package: mg to kg



修饰寡糖

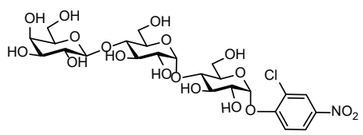
GSO-5009 Neu5Gca2,3Lea-sp-biotin

M.F.: $C_{47}H_{76}N_8O_{26}S$
M.W.: 1201.22
CAS No.: N/A
Package: mg to kg



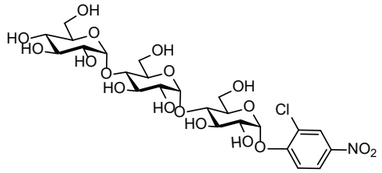
GY-001 Gal-G2-CNP

M.F.: $C_{24}H_{34}ClNO_{18}$
M.W.: 659.98
CAS No.: 157381-11-8
Package: 10 g, 100 g, 1 kg



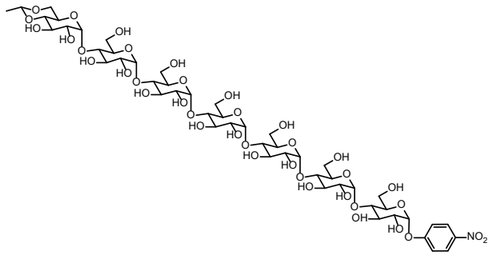
GY-002 G3-CNP

M.F.: $C_{24}H_{34}ClNO_{18}$
M.W.: 659.98
CAS No.: 118291-90-0
Package: 10 g, 100 g, 1 kg



GY-003 EPS

M.F.: $C_{50}H_{77}NO_{38}$
M.W.: 1300.14
CAS No.: 96597-16-9
Package: 10 g, 100 g, 1 kg



糖脂

糖鞘脂介绍

糖鞘脂(glycosphingolipid，GSL)由神经酰胺和寡糖链构成，在真核细胞质膜中普遍存在。由于寡糖部分与神经酰胺部分可变，因此产生了种类丰富的GSLs，参与并调节细胞凋亡、细胞增殖、内吞作用、细胞内运输、细胞迁移和衰老以及炎症等，而这些是肿瘤发生、癌症恶化以及抗癌治疗的关键。因此GSLs有望成为肿瘤的诊断标志物和免疫治疗靶点[*]。

为了探索GSLs与各种病原体、毒素、细胞等的相互作用，糖脂芯片应运而生，大多通过非共价结合的方式固定于疏水材料上。已有研究表明糖脂微阵列平台可高效识别感染或未感染结核分枝杆菌人尿液样本，且可与霍乱毒素紧密结合[*]。

糖脂分类

Name (Series)	Abbreviation	
Lacto	($LcOSe_4$)	Galb3GlcNAcb3Galb4Glcb1Ceramide
Lactoneo	($LcnOSe_4$)	Galb4GlcNAcb3Galb4Glcb1Ceramide
Globo	($GbOSe_4$)	GalNAcb3Gala4Galb4Glcb1Ceramide
Isoglobo	($GbiOSe_4$)	GalNAcb3Gala3Galb4Glcb1Ceramide
Ganglio	($GgOSe_4$)	Galb3GalNAcb4Galb4Glcb1Ceramide
Muco	($MucOSe_4$)	Galb3Galb3Galb4Glcb1Ceramide
Gala	($GalOSe_2$)	Gala4Galb1Ceramide
Sulfatide		3-0-SulfoGal3b1Ceramide

参考文献：

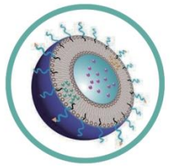
[*] Russo D, et al.. 2013. Dec; 280(24):6338-53.

[*]Zhang J, et al.. Biosens Bioelectron. 2011. Oct 15;28(1):355-61.

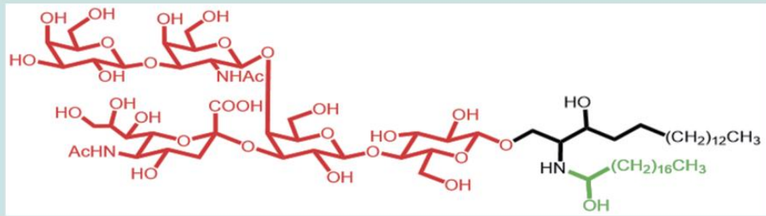
应用场景

药物中间体

药物疫苗



mRNA包裹



糖链模块

单糖脂 ~
Ganglio ~70 种
Lacto ~150 种
Neolacto ~250 种
Globo ~50 种
Isoglobo ~50 种

鞘氨醇模块

d18:0, d18:1
d16:1, d14:1

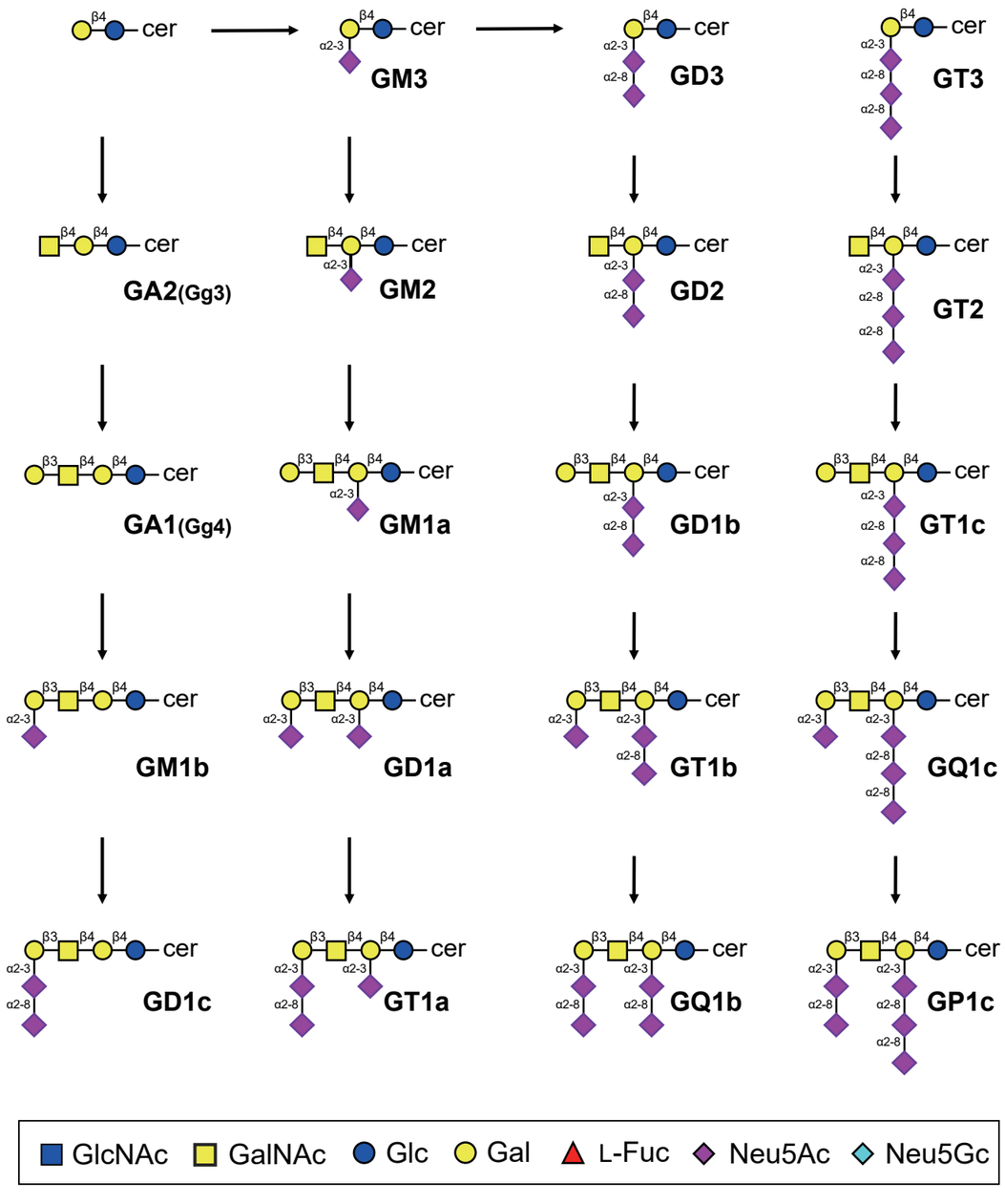
脂肪酸模块

C14-C30
- 双键
- 羟基化
- 甲基化
- ……

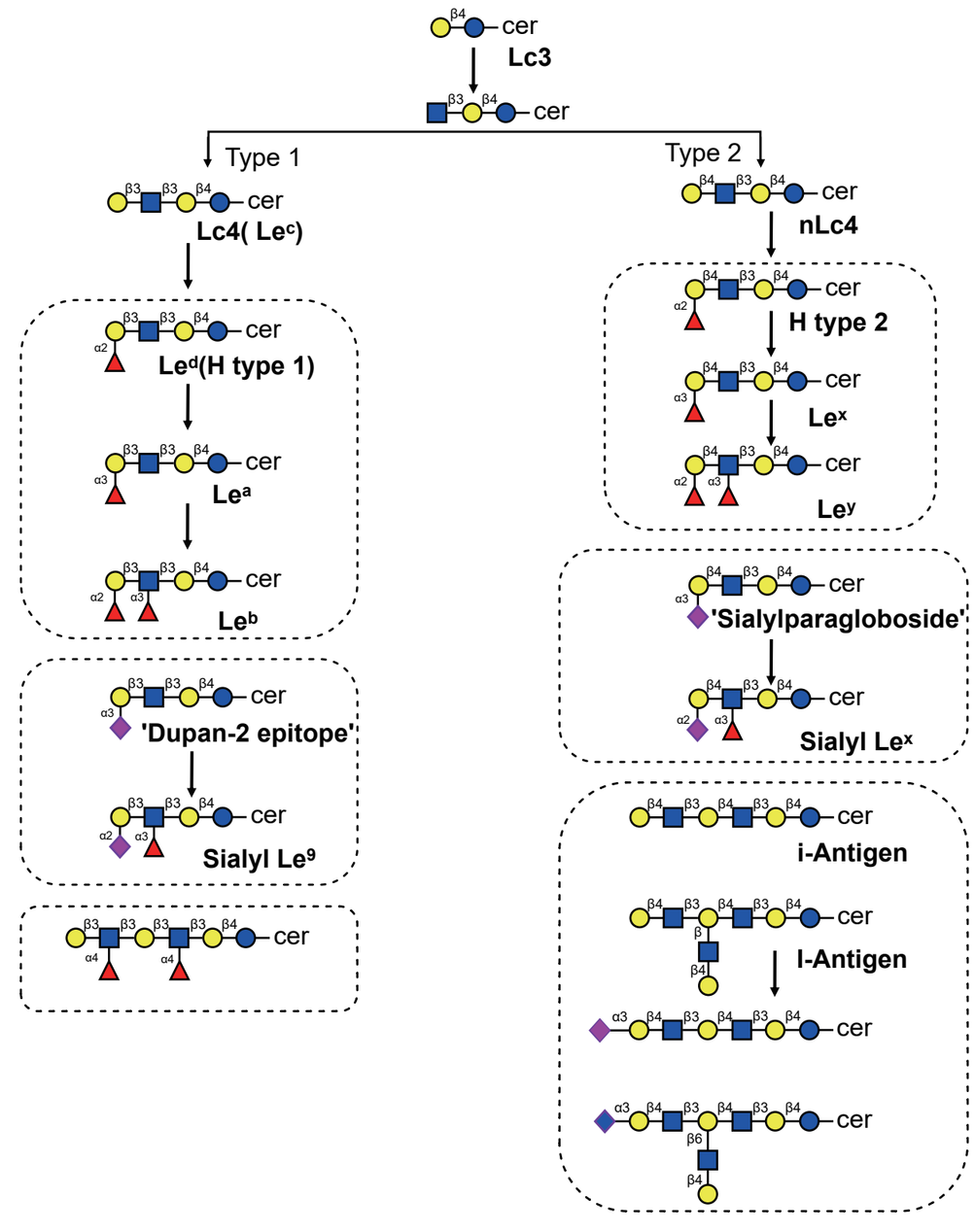
鞘氨醇

鞘氨醇，又称神经鞘氨醇，学名2-氨基-4-十八烯-1, 3-二醇，属于鞘脂类，鞘氨醇是神经酰胺、神经节苷脂、球糖苷、硫酸酯、鞘磷脂等多种鞘脂的结构单元，它在神经组织和细胞膜中含量最高，具有18个碳链和碳4处双键的鞘氨醇，是动物组织中最丰富的鞘氨醇。溶血鞘脂会抑制蛋白激酶C的活性，从而导致诸如Krabbe病和Gaucher病等鞘脂类疾病的发病。鞘氨醇可通过两种激酶磷酸化形成具有重要信号传导功能的1-磷酸鞘氨醇。虽然鞘氨醇和神经酰胺可以诱导细胞凋亡，但1-磷酸鞘氨醇可以促进细胞存活或增殖。鞘氨醇已被证明会导致细胞的细胞质钙水平增加。

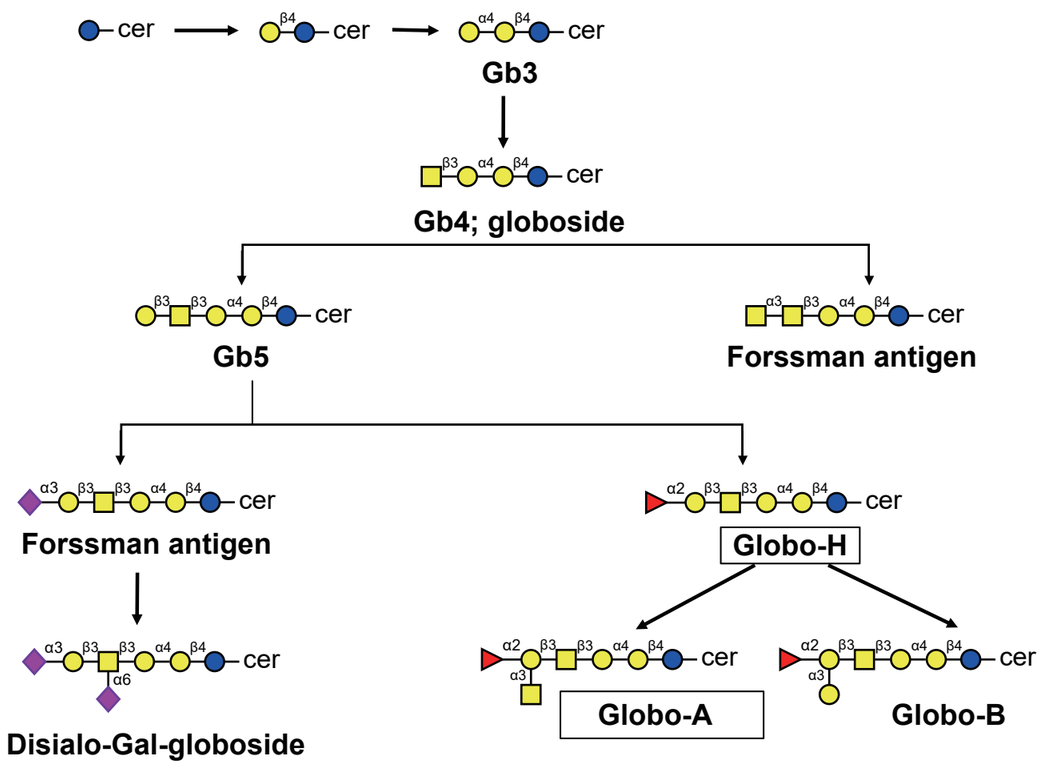
Ganglio-series GSLs



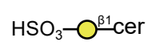
Lacto-series GSLs



Globo-series GSLs



Ulfated glycolipids.



Sulfatide, $I^3SO_3GalCer$

Sulfated LacCer, $II^3SO_3LacCer$

Sulfated Gg3, $II^3SO_3Gg3Cer$

Disulfated Gg3, $III^3II^3SO_3Gg3Cer$

Sulfated GM1a, $II^3NeuGcIV^3SO^3Gg4Cer$

KRN7000

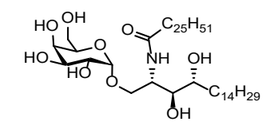
背景介绍

KRN7000是一种合成的糖脂，具有抗肿瘤和免疫刺激作用。α-Galactosylceramide 是一种非常有效的 NKT 细胞激动剂，可与 CD1d 有效结合 。α-Galactosylceramide 与 CD1d 的复合物可与 NKT 细胞的 T 细胞抗原受体结合[*]。

参考文献：

[*]Park JJ, etc.. Bioorg Med Chem Lett. 2008 Jul 15;18(14):3906-9.

单糖脂：GL-1001



KRN7000

158021-47-7

鞘氨醇系列

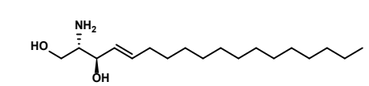
GLQ-0001	Sphingosine(d18:1)

M.F.: $C_{18}H_{37}NO_2$

M.W.: 299.5

CAS No.: 123-78-4

Package: mg to kg



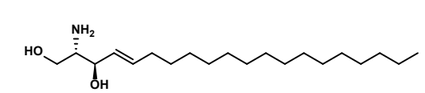
GLQ-0002	Sphingosine(d20:1)

M.F.: $C_{20}H_{41}NO_2$

M.W.: 327.55

CAS No.: 6918-49-6

Package: mg to kg



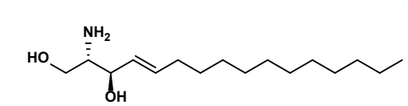
GLQ-0003	Sphingosine(d16:1)

M.F.: $C_{16}H_{33}NO_2$

M.W.: 271.45

CAS No.: 6982-9-8

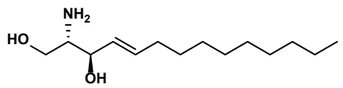
Package: mg to kg



鞘氨醇系列

GLQ-0004 Sphingosine(d14:1)

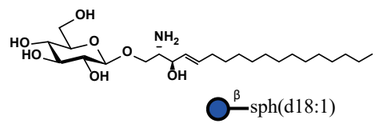
M.F.: $C_{14}H_{29}NO_2$
M.W.: 243.39
CAS No.: 24558-60-9
Package: mg to kg



单糖脂系列

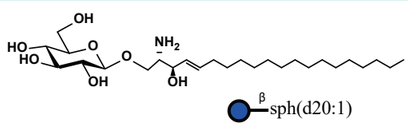
GL-0001 Glcsph d18:1 (GlcbSphingosine)

M.F.: $C_{24}H_{47}NO_7$
M.W.: 461.64
CAS No.: 52050-17-6
Package: mg to kg



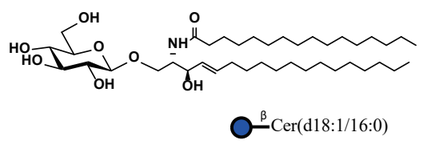
GL-0002 Glcsph d20:1 (GlcbSphingosine)

M.F.: $C_{26}H_{51}NO_7$
M.W.: 489.69
CAS No.: 108283-62-1
Package: mg to kg



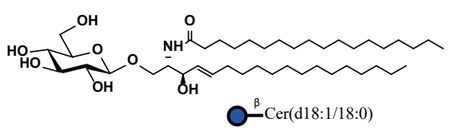
GL-1004 GlcCer d18:1/16:0 (GlcbCeramide)

M.F.: $C_{40}H_{77}NO_8$
M.W.: 700.06
CAS No.: 74365-77-8
Package: mg to kg



GL-1005 GlcCer d18:1/18:0 (GlcbCeramide)

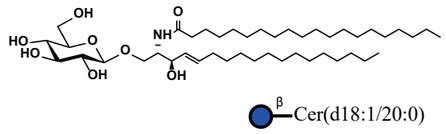
M.F.: $C_{42}H_{81}NO_8$
M.W.: 728.11
CAS No.: 95119-86-1
Package: mg to kg



单糖脂系列

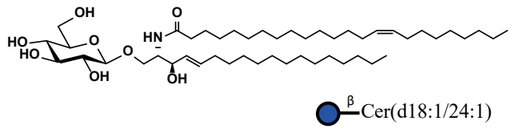
GL-1006 GlcCer d18:1/20:0 (GlcbCeramide)

M.F.: $C_{44}H_{85}NO_8$
M.W.: 756.16
CAS No.: N/A
Package: mg to kg



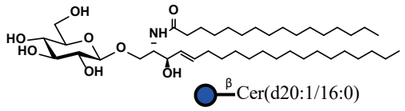
GL-1007 GlcCer d18:1/24:1 (GlcbCeramide)

M.F.: $C_{48}H_{91}NO_8$
M.W.: 810.26
CAS No.: 887907-50-8
Package: mg to kg



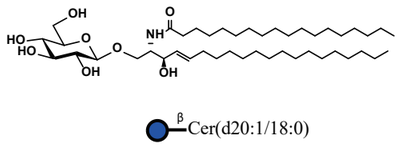
GL-1010 GlcCer d20:1/16:0 (GlcbCeramide)

M.F.: $C_{42}H_{81}NO_8$
M.W.: 728.11
CAS No.: N/A
Package: mg to kg



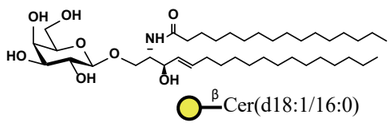
GL-1011 GlcCer d20:1/18:0 (GlcbCeramide)

M.F.: $C_{44}H_{85}NO_8$
M.W.: 756.16
CAS No.: N/A
Package: mg to kg



GL-1016 GalCer d18:1/16:0 (GalbCeramide)

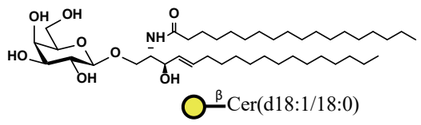
M.F.: $C_{40}H_{77}NO_8$
M.W.: 700.06
CAS No.: 2260795-77-3
Package: mg to kg



单糖脂系列

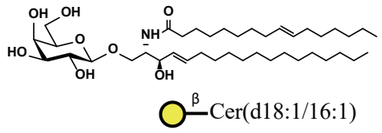
GL-1017 GalCer d18:1/18:0 (GalbCeramide)

M.F.: $C_{42}H_{81}NO_8$
M.W.: 728.11
CAS No.: N/A
Package: mg to kg



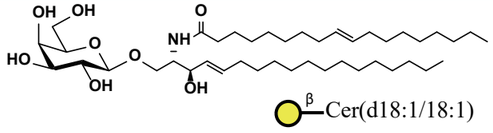
GL-1020 GalCer d18:1/16:1 (GalbCeramide)

M.F.: $C_{40}H_{75}NO_8$
M.W.: 698.04
CAS No.: N/A
Package: mg to kg



GL-1021 Galc d18:1/18:1 (GalbCeramide)

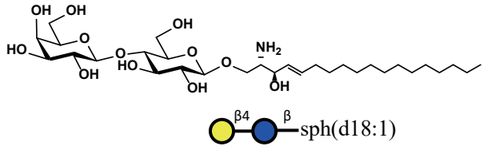
M.F.: $C_{42}H_{79}NO_8$
M.W.: 726.09
CAS No.: N/A
Package: mg to kg



多糖脂系列

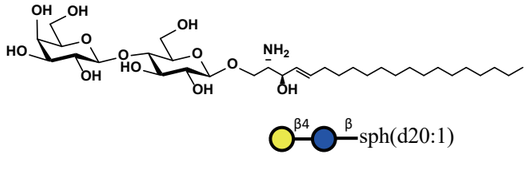
GL-0003 Lacsph d18:1 (Galb1,4GlcbSphingosine)

M.F.: $C_{30}H_{57}NO_{12}$
M.W.: 623.78
CAS No.: 109785-20-8
Package: mg to kg



GL-0004 Lacsph d20:1 (Galb1,4GlcbSphingosine)

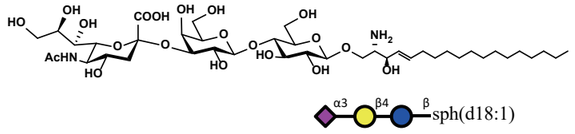
M.F.: $C_{32}H_{61}NO_{12}$
M.W.: 651.84
CAS No.: N/A
Package: mg to kg



多糖脂系列

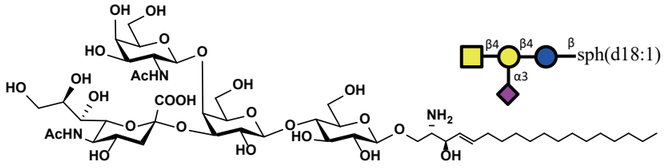
GL-0005 GM3sph d18:1 (Neu5Aca2,3Galb1,4GlcbSphingosine)

M.F.: $C_{41}H_{74}N_2O_{20}$
M.W.: 915.04
CAS No.: N/A
Package: mg to kg



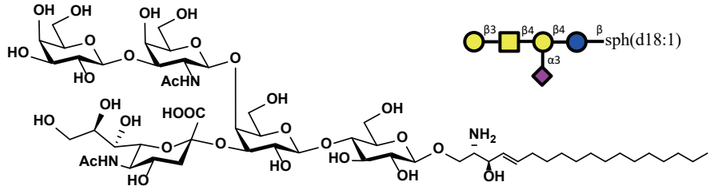
GL-0007 GM2sph d18:1 (GalNAcb1,4(Neu5Aca2,3)Galb1,4GlcbSphingosine)

M.F.: $C_{49}H_{87}N_3O_{25}$
M.W.: 1118.23
CAS No.: N/A
Package: mg , g



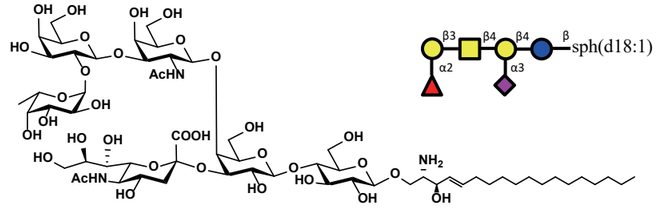
GL-0009 GM1asph d18:1 (Galb1,3GalNAcb1,4(Neu5Aca2,3)Galb1,4GlcbSphingosine)

M.F.: $C_{55}H_{97}N_3O_{30}$
M.W.: 1280.37
CAS No.: N/A
Package: mg to kg



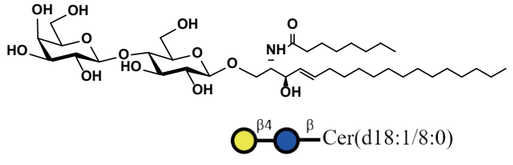
GL-0013 FucGM1sph d18:1 ((Fuca1,2)Galb1,3GalNAcb1,4(Neu5Aca2,3)Galb1,4GlcbSphingosine)

M.F.: $C_{61}H_{107}N_3O_{34}$
M.W.: 1426.51
CAS No.: N/A
Package: mg to kg



GL-2001 LacCer d18:1/8:0 (Galb1,4GlcbCeramide)

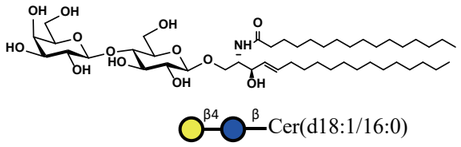
M.F.: $C_{38}H_{71}NO_{13}$
M.W.: 749.98
CAS No.: 384842-72-2
Package: mg to kg



多糖脂系列

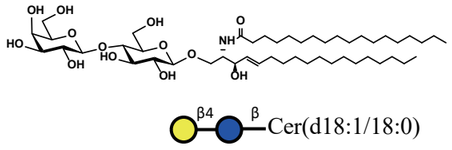
GL-2003 LacCer d18:1/16:0 (Galb1,4GlcbCeramide)

M.F.: $C_{46}H_{87}NO_{13}$
M.W.: 862.20
CAS No.: 4201-62-1
Package: mg to kg



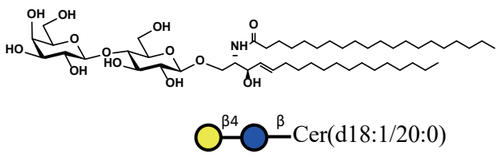
GL-2004 LacCer d18:1/18:0 (Galb1,4GlcbCeramide)

M.F.: $C_{48}H_{91}NO_{13}$
M.W.: 890.25
CAS No.: 125712-73-4
Package: mg to kg



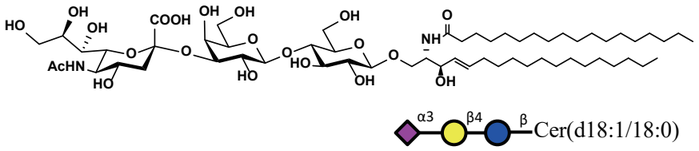
GL-2005 LacCer d18:1/20:0 (Galb1,4GlcbCeramide)

M.F.: $C_{50}H_{95}NO_{13}$
M.W.: 918.30
CAS No.: 125650-87-5
Package: mg to kg



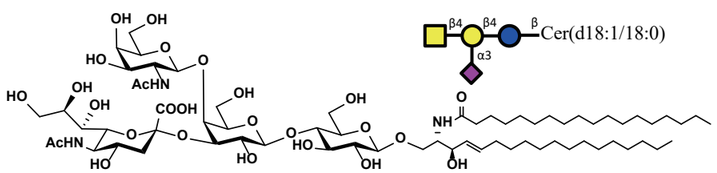
GL-2104 GM3Cer d18:1/18:0 (Neu5Aca2,3Galb1,4GlcbCeramide)

M.F.: $C_{59}H_{108}N_2O_{21}$
M.W.: 1181.51
CAS No.: N/A
Package: mg to kg



GL-2116 GM2Cer d18:1/18:0 (GalNAcb1,4(Neu5Aca2,3)Galb1,4GlcbCeramide)

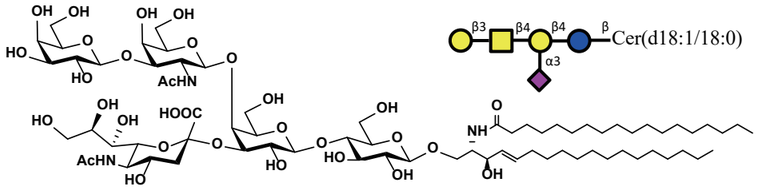
M.F.: $C_{67}H_{121}N_3O_{26}$
M.W.: 1384.70
CAS No.: N/A
Package: mg , g



多糖脂系列

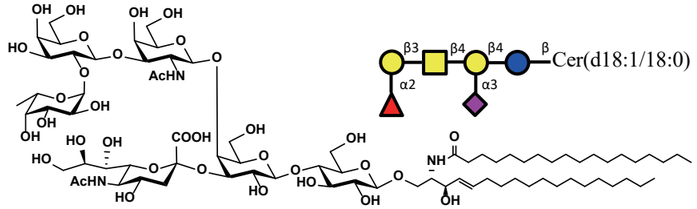
GL-2128 GM1aCer d18:1/18:0 (Galb1,3GalNAcb1,4(Neu5Aca2,3)Galb1,4GlcbCeramide)

M.F.: $C_{73}H_{131}N_3O_{31}$
M.W.: 1546.84
CAS No.: 37758-47-7
Package: mg to kg



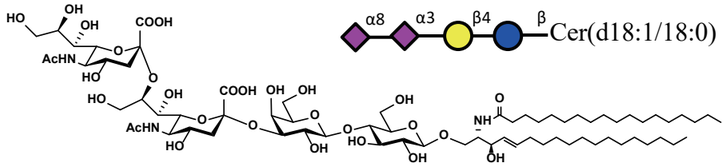
GL-2152 FucGM1Cer d18:1/18:0 ((Fuca1,2)Galb1,3GalNAcb1,4(Neu5Aca2,3)Galb1,4GlcbCeramide)

M.F.: $C_{79}H_{141}N_3O_{35}$
M.W.: 1692.98
CAS No.: N/A
Package: mg to kg



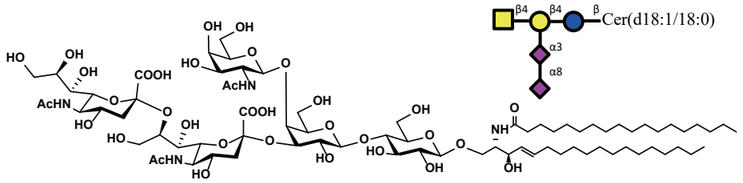
GL-2164 GD3Cer d18:1/18:0 (Neu5Aca2,8Neu5Aca2,3Galb1,4GlcbCeramide)

M.F.: $C_{70}H_{125}N_3O_{29}$
M.W.: 1472.76
CAS No.: N/A
Package: mg , g



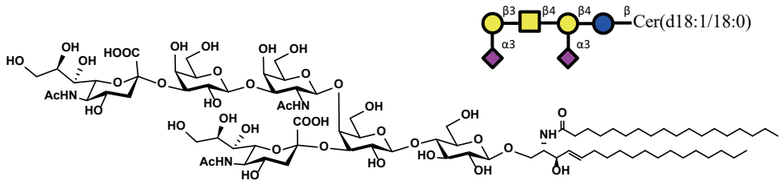
GL-2176 GD2Cer d18:1/18:0 (GalNAcb1,4(Neu5Aca2,8Neu5Aca2,3)Galb1,4GlcbCeramide)

M.F.: $C_{78}H_{138}N_4O_{34}$
M.W.: 1675.96
CAS No.: N/A
Package: mg , g



GL-2188 GD1aCer d18:1/18:0 ((Neu5Aca2,3)Galb1,3GalNAcb1,4(Neu5Aca2,3)Galb1,4GlcbCeramide)

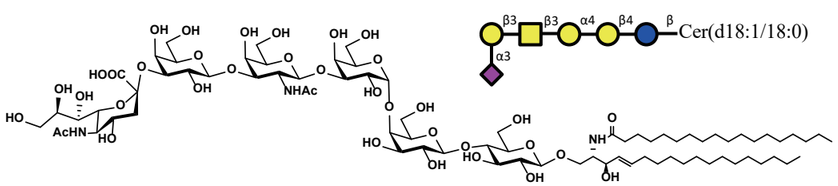
M.F.: $C_{84}H_{148}N_4O_{39}$
M.W.: 1838.10
CAS No.: N/A
Package: mg , g



多糖脂系列

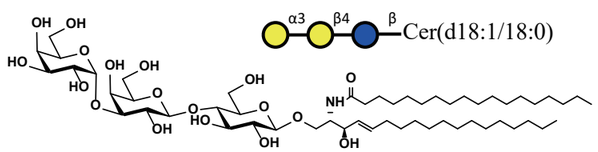
GL-2352 SSEA-4 d18:1/18:0 ((Neu5Aca2,3)Galb1,3GalNAcb1,3Gala1,4Galb1,4GlcbCeramide)

M.F.: $C_{79}H_{141}N_3O_{36}$
M.W.: 1708.98
CAS No.: N/A
Package: mg , g



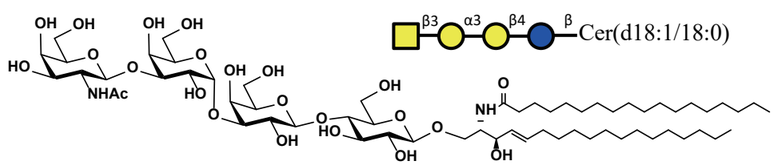
GL-2364 iGB3Cer d18:1/18:0 (Gala1,3Galb1,4GlcbCeramide)

M.F.: $C_{54}H_{101}NO_{18}$
M.W.: 1052.39
CAS No.: N/A
Package: mg , g



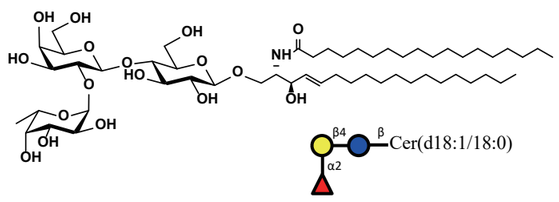
GL-2376 iGB4Cer d18:1/18:0 (GalNAcb1,3Gala1,3Galb1,4GlcbCeramide)

M.F.: $C_{62}H_{114}N_2O_{23}$
M.W.: 1255.59
CAS No.: N/A
Package: mg , g



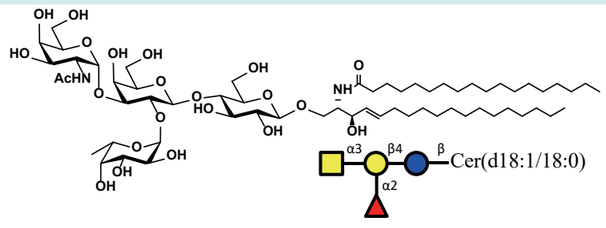
GL-2424 H AntigenCer d18:1/18:0 ((Fuca1,2)Galb1,4GlcbCeramide)

M.F.: $C_{54}H_{101}NO_{17}$
M.W.: 1036.39
CAS No.: N/A
Package: mg to kg



GL-2436 A AntigenCer d18:1/18:0 (GalNAca1,3(Fuca1,2)Galb1,4GlcbCeramide)

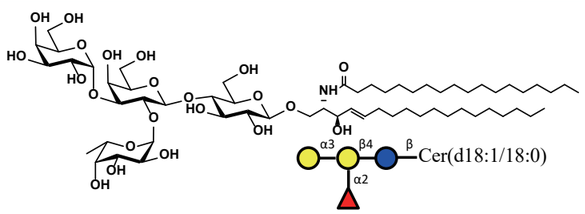
M.F.: $C_{62}H_{114}N_2O_{22}$
M.W.: 1239.59
CAS No.: N/A
Package: mg to kg



多糖脂系列

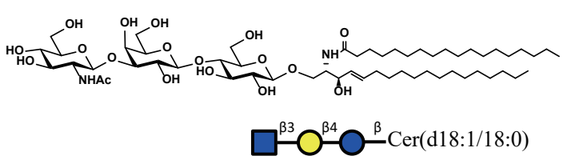
GL-2448 B AntigenCer d18:1/18:0 (Gala1,3(Fuca1,2)Galb1,4GlcbCeramide)

M.F.: $C_{60}H_{111}NO_{22}$
M.W.: 1198.53
CAS No.: N/A
Package: mg to kg



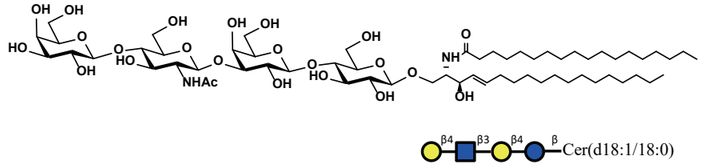
GL-2460 Lc3Cer d18:1/18:0 (GlcNAcb1,3Galb1,4GlcbCeramide)

M.F.: $C_{56}H_{104}N_2O_{18}$
M.W.: 1093.44
CAS No.: N/A
Package: mg to kg



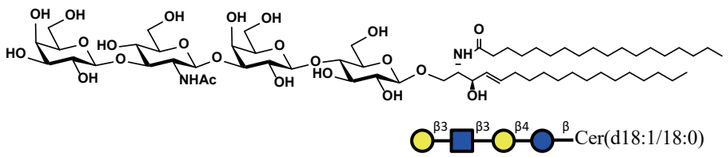
GL-2472 nLc4Cer d18:1/18:0 (Galb1,4GlcNAcb1,3Galb1,4GlcbCeramide)

M.F.: $C_{62}H_{114}N_2O_{23}$
M.W.: 1255.59
CAS No.: N/A
Package: mg to kg



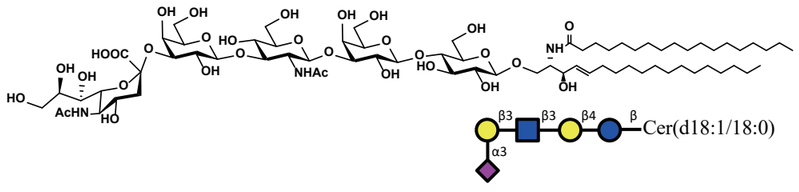
GL-2484 Lc4Cer d18:1/18:0 (Galb1,3GlcNAcb1,3Galb1,4GlcbCeramide)

M.F.: $C_{62}H_{114}N_2O_{23}$
M.W.: 1255.59
CAS No.: N/A
Package: mg to kg



GL-2496 Sialyl-Lc4Cer d18:1/18:0 ((Neu5Aca2,3)Galb1,3GlcNAcb1,3Galb1,4GlcbCeramide)

M.F.: $C_{73}H_{131}N_3O_{31}$
M.W.: 1546.84
CAS No.: N/A
Package: mg to kg



硫化物系列

硫苷脂在神经系统中含量丰富，参与髓磷脂的构成。髓磷脂对神经元起到保护和绝缘的作用，所以脑硫脂代谢缺陷会损害感官、行为、认知等功能，与AD、PD等相关。脑硫脂在肾脏，胃肠道以及红细胞，血小板和粒细胞的膜中也有发现，可能参与肿瘤、糖尿病和一些免疫疾病（如多发性硬化症）[*]。

参考文献：

[*]Jarosław Suchański, et al. 2016 May 9;70:489-504.

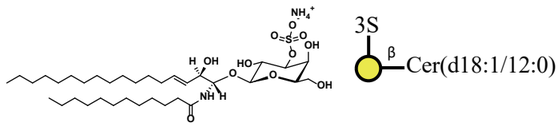
GSLA-0001 Mono-sulfo-GalactosylbCeramide(d18:1/12:0)

M.F.: $C_{35}H_{70}N_2O_{11}S$

M.W.: 727.01

CAS No.: 852043-39-1

Package: mg , g



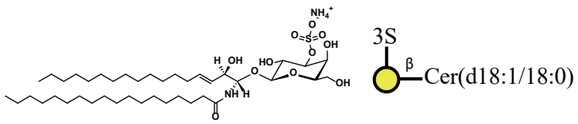
GSLA-0002 Mono-sulfo-GalactosylbCeramide(d18:1/18:0)

M.F.: $C_{41}H_{82}N_2O_{11}S$

M.W.: 811.17

CAS No.: 2260670-26-4/2260270-28-6

Package: mg , g



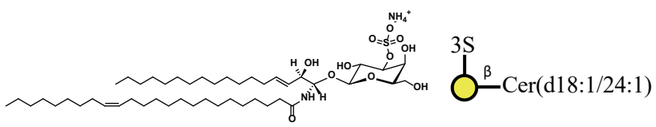
GSLA-0003 Mono-sulfo-GalactosylbCeramide(d18:1/24:1)

M.F.: $C_{47}H_{92}N_2O_{11}S$

M.W.: 893.32

CAS No.: 1246355-69-0

Package: mg , g



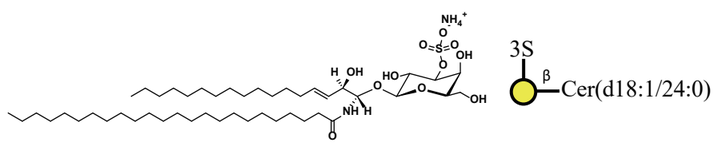
GSLA-0004 Mono-sulfo-GalactosylbCeramide(d18:1/24:0)

M.F.: $C_{47}H_{94}N_2O_{11}S$

M.W.: 895.33

CAS No.: 1246304-32-4

Package: mg , g



硫化物系列

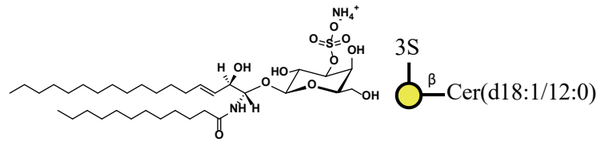
GSLA-0005 Di-sulfo-GalactosylbCeramide(d18:1/12:0)

M.F.: $C_{35}H_{70}N_2O_{11}S$

M.W.: 727.01

CAS No.: 852043-40-4

Package: mg , g



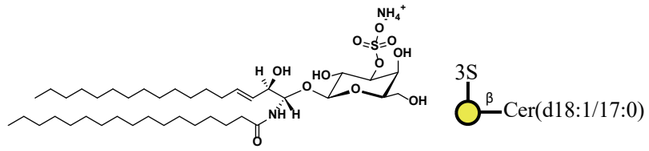
GSLA-0006 Mono-sulfo-GalactosylbCeramide(d18:1/17:0)

M.F.: $C_{40}H_{80}N_2O_{11}S$

M.W.: 797.14

CAS No.: 1246303-23-0

Package: mg , g



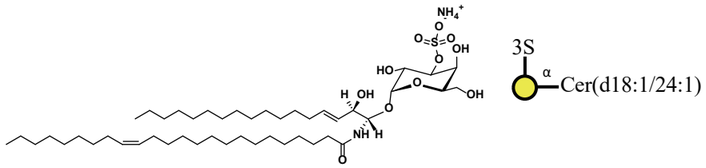
GSLA-0007 Mono-sulfo-GalactosylaCeramide(d18:1/24:1)

M.F.: $C_{47}H_{92}N_2O_{11}S$

M.W.: 893.32

CAS No.: 2260670-38-8

Package: mg , g



生物素修饰系列

生物素修饰鞘糖脂有利于检测鞘糖脂与毒素、病原体、细胞等结合的情况，甚至可追踪其细胞内代谢情况。例如：GM1-Biotin被大鼠神经母细胞瘤细胞B104和人神经母细胞癌细胞SHSY5Y摄取后，可通过免疫电子显微镜研究它们在溶胞体膜内的内吞和分布，且可在细胞溶酶体中代谢为GM2-Biotin与GM3-Biotin[*]。

参考文献：

[*] Bernd Albrecht, et al. Chemistry and Physics of Lipids,Volume 86, Issue 1,1997,Pages 37-50.

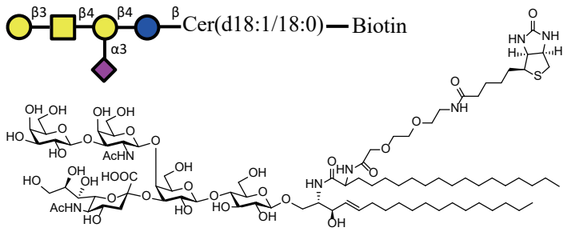
GSLA-1001 GM1aCer d18:1/18:0-Biotin (Galb1,3GalNAcb1,4(Neu5Aca2,3)Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{89}H_{157}N_7O_{36}S$

M.W.: 1933.31

CAS No.: 2770684-25-6

Package: mg , g



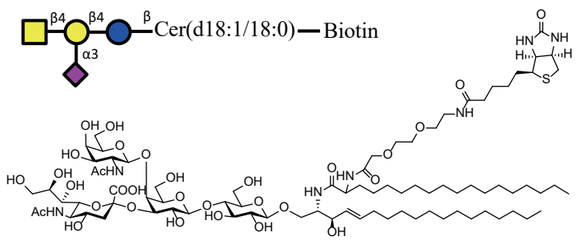
GSLA-1002 GM2Cer d18:1/18:0-Biotin (GalNAcb1,4(Neu5Aca2,3)Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{83}H_{147}N_7O_{31}S$

M.W.: 1771.17

CAS No.: N/A

Package: mg , g



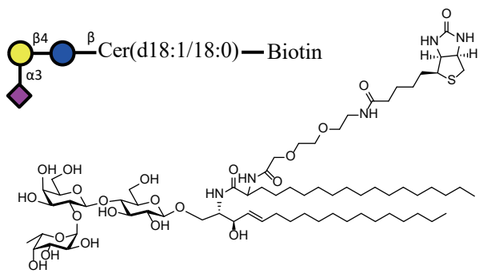
GSLA-1003 GM3Cer d18:1/18:0-Biotin ((Neu5Aca2,3)Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{70}H_{127}N_5O_{22}S$

M.W.: 1422.86

CAS No.: N/A

Package: mg , g



生物素修饰系列

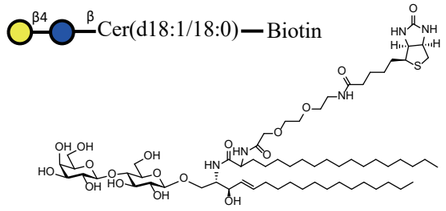
GSLA-1004 LacCer d18:1/18:0-Biotin (Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{64}H_{117}N_5O_{18}S$

M.W.: 1276.72

CAS No.: N/A

Package: mg , g



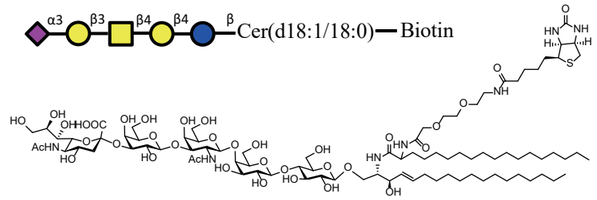
GSLA-1005 GM1bCer d18:1/18:0-Biotin ((Neu5Aca2,3)Galb1,3GalNAcb1,4Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{89}H_{157}N_7O_{36}S$

M.W.: 1933.31

CAS No.: N/A

Package: mg , g



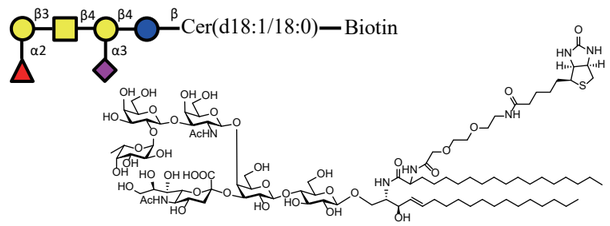
GSLA-1006 FucGM1Cer d18:1/18:0-Biotin ((Fuca1,2)Galb1,3GalNAcb1,4(Neu5Aca2,3)Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{95}H_{167}N_7O_{40}S$

M.W.: 2079.45

CAS No.: N/A

Package: mg , g



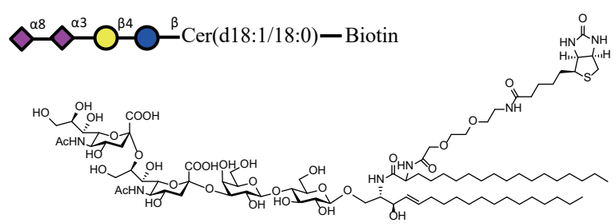
GSLA-1007 GD3Cer d18:1/18:0-Biotin (Neu5Aca2,8Neu5Aca2,3Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{86}H_{151}N_7O_{34}S$

M.W.: 1859.23

CAS No.: N/A

Package: mg , g



生物素修饰系列

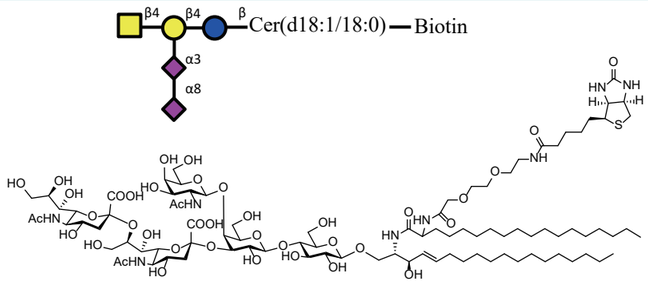
GSLA-1008 GD2Cer d18:1/18:0-Biotin (GalNAcb1,4(Neu5Aca2,8Neu5Aca2,3)Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{94}H_{164}N_8O_{39}S$

M.W.: 2062.42

CAS No.: N/A

Package: mg , g



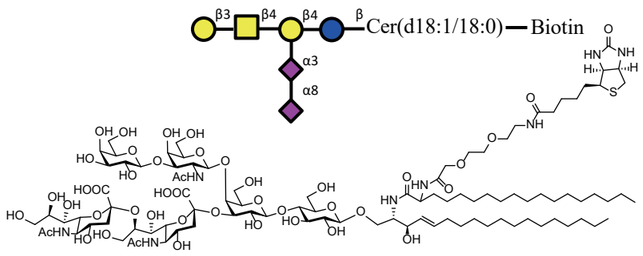
GSLA-1009 GD1bCer d18:1/18:0-Biotin (Galb1,3GalNAcb1,4(Neu5Aca2,8Neu5Aca2,3)Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{100}H_{174}N_8O_{44}S$

M.W.: 2224.56

CAS No.: N/A

Package: mg , g



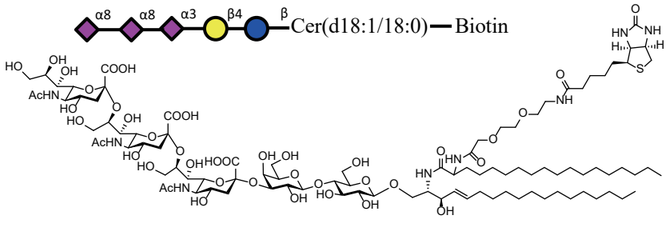
GSLA-1010 GT3Cer d18:1/18:0-Biotin (Neu5Aca2,8Neu5Aca2,8Neu5Aca2,3Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{97}H_{168}N_8O_{42}S$

M.W.: 2150.49

CAS No.: N/A

Package: mg , g



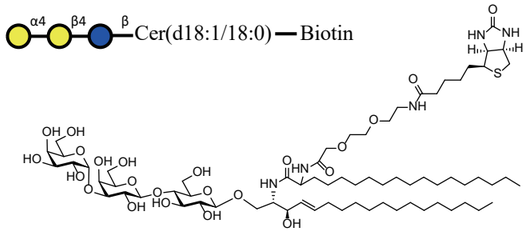
GSLA-1011 GB3Cer d18:1/18:0-Biotin (Gala1,4Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{70}H_{127}N_5O_{23}S$

M.W.: 1438.86

CAS No.: N/A

Package: mg , g



生物素修饰系列

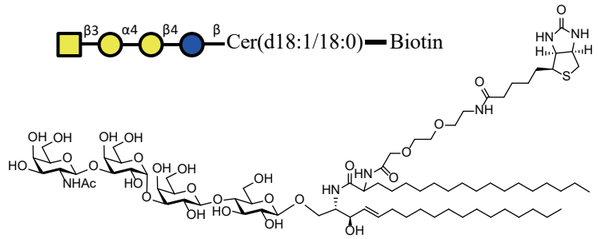
GSLA-1012 GB4Cer d18:1/18:0-Biotin (GalNAcb1,3Gala1,4Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{78}H_{140}N_6O_{28}S$

M.W.: 1642.05

CAS No.: N/A

Package: mg , g



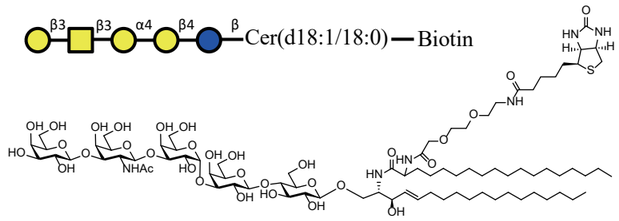
GSLA-1013 GB5Cer d18:1/18:0-Biotin (Galb1,3GalNAcb1,3Gala1,4Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{84}H_{150}N_6O_{33}S$

M.W.: 1804.19

CAS No.: N/A

Package: mg , g



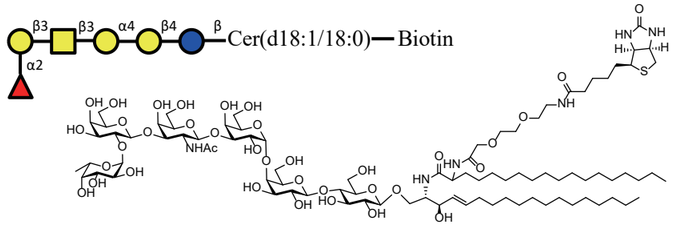
GSLA-1014 GloboHCer d18:1/18:0-Biotin ((Fuca1,2)Galb1,3GalNAcb1,3Gala1,4Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{90}H_{160}N_6O_{37}S$

M.W.: 1950.34

CAS No.: N/A

Package: mg , g



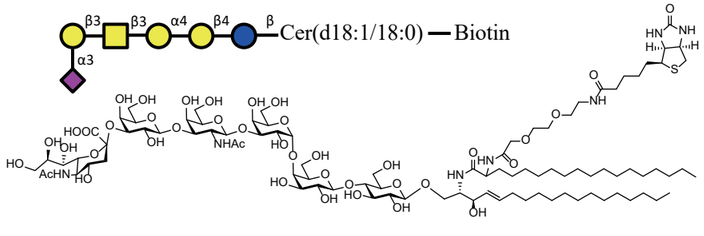
GSLA-1015 SSEA-4 d18:1/18:0-Biotin ((Neu5Aca2,3)Galb1,3GalNAcb1,3Gala1,4Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{95}H_{167}N_7O_{41}S$

M.W.: 2095.45

CAS No.: N/A

Package: mg , g



生物素修饰系列

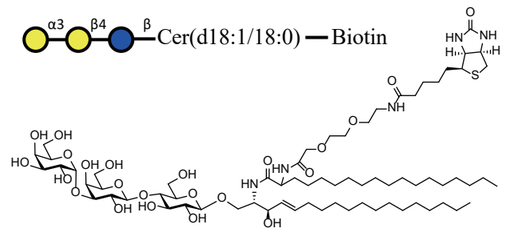
GSLA-1016 iGB3Cer d18:1/18:0-Biotin (Gala1,3Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{70}H_{127}N_5O_{23}S$

M.W.: 1438.86

CAS No.: N/A

Package: mg , g



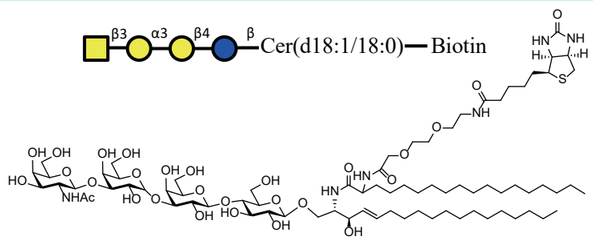
GSLA-1017 iGB4Cer d18:1/18:0-Biotin (GalNAcb1,3Gala1,3Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{78}H_{140}N_6O_{28}S$

M.W.: 1642.05

CAS No.: N/A

Package: mg , g



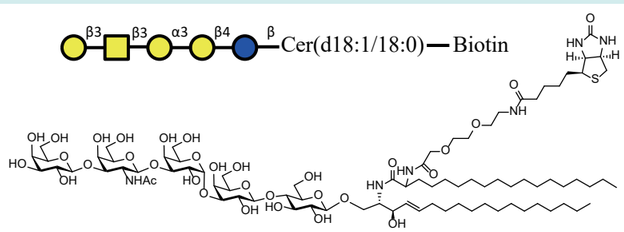
GSLA-1018 iGB5Cer d18:1/18:0-Biotin (Galb1,3GalNAcb1,3Gala1,3Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{84}H_{150}N_6O_{33}S$

M.W.: 1804.19

CAS No.: N/A

Package: mg , g



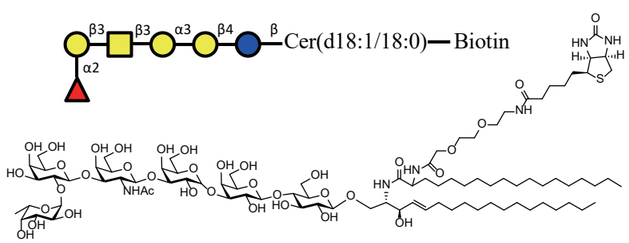
GSLA-1019 iGloboHCer d18:1/18:0-Biotin ((Fuca1,2)Galb1,3GalNAcb1,3Gala1,3Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{90}H_{160}N_6O_{37}S$

M.W.: 1950.34

CAS No.: N/A

Package: mg , g



生物素修饰系列

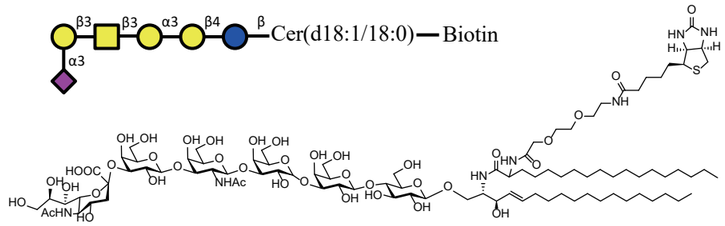
GSLA-1020 SialyI-iGB5Cer d18:1/18:0-Biotin ((Neu5Aca2,3)Galb1,3GalNAcb1,3Gala1,3Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{95}H_{167}N_7O_{41}S$

M.W.: 2095.45

CAS No.: N/A

Package: mg , g



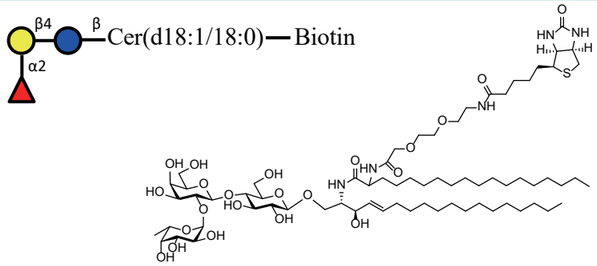
GSLA-1021 H-Antigen-Cer d18:1/18:0-Biotin ((Fuca1,2)Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{70}H_{127}N_5O_{22}S$

M.W.: 1422.86

CAS No.: N/A

Package: mg , g



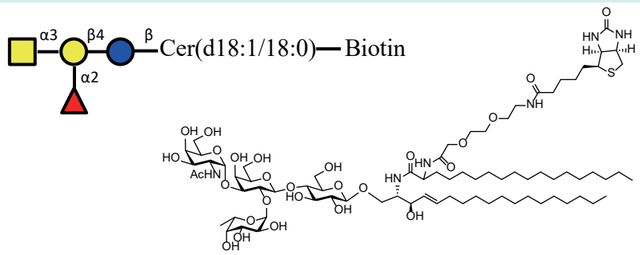
GSLA-1022 A-Antigen-Cer d18:1/18:0-Biotin (GalNAca1,3(Fuca1,2)Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{78}H_{140}N_6O_{27}S$

M.W.: 1626.05

CAS No.: N/A

Package: mg , g



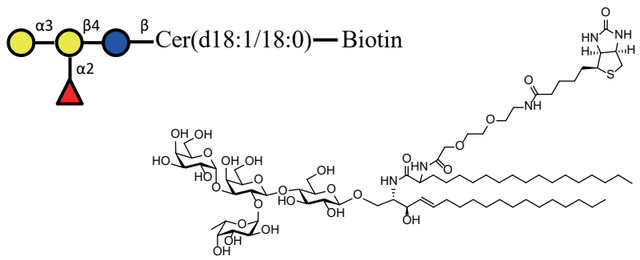
GSLA-1023 B-Antigen-Cer d18:1/18:0-Biotin (Gala1,3(Fuca1,2)Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{76}H_{137}N_5O_{27}S$

M.W.: 1585.00

CAS No.: N/A

Package: mg , g



生物素修饰系列

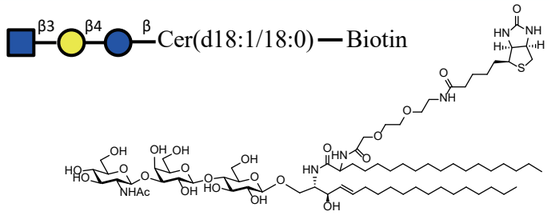
GSLA-1024 Lc3Cer d18:1/18:0-Biotin (GlcNAcb1,3Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{72}H_{130}N_6O_{23}S$

M.W.: 1479.91

CAS No.: N/A

Package: mg , g



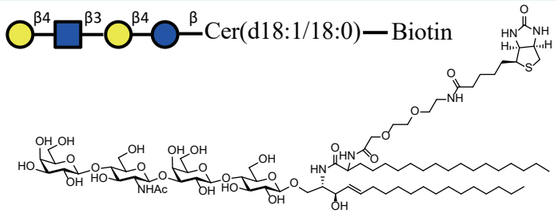
GSLA-1025 nLc4Cer d18:1/18:0-Biotin (Galb1,4GlcNAcb1,3Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{78}H_{140}N_6O_{28}S$

M.W.: 1642.05

CAS No.: N/A

Package: mg , g



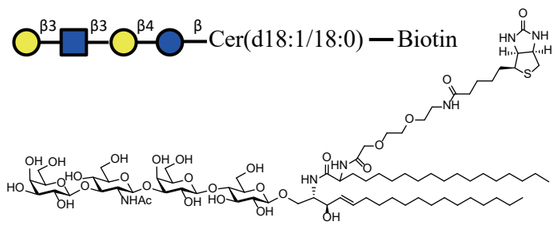
GSLA-1026 Lc4Cer d18:1/18:0-Biotin (Galb1,3GlcNAcb1,3Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{78}H_{140}N_6O_{28}S$

M.W.: 1642.05

CAS No.: N/A

Package: mg , g



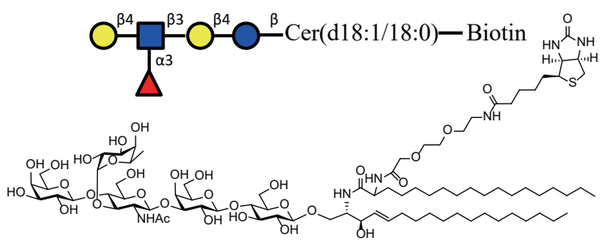
GSLA-1027 LewisxCer d18:1/18:0-Biotin (Galb1,4(Fuca1,3)GlcNAcb1,3Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{84}H_{150}N_6O_{32}S$

M.W.: 1788.19

CAS No.: N/A

Package: mg , g



生物素修饰系列

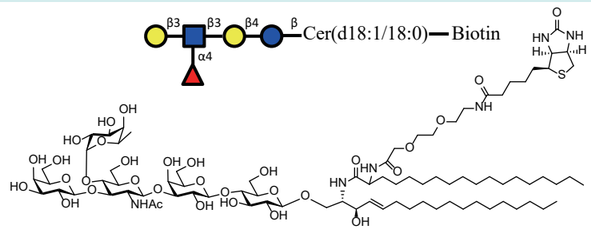
GSLA-1028 LewisaCer d20:1/24:1-Biotin (Galb1,3(Fuca1,4)GlcNAcb1,3Galb1,4GlcbCeramide-Biotin)

M.F.: $C_{84}H_{150}N_6O_{32}S$

M.W.: 1788.19

CAS No.: N/A

Package: mg , g



同位素标记糖脂

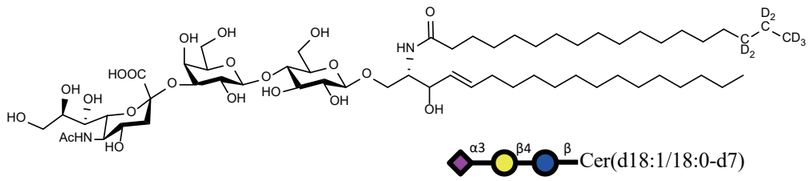
GSLA-2003 GM3Cer(d18:1/18:0-d7)

M.F.: $C_{59}H_{103}D_7N_2O_{21}$

M.W.: 1186.54

CAS No.: N/A

Package: mg , g



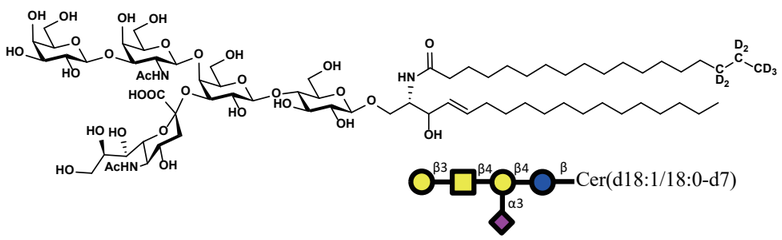
GSLA-2001 GM1aCer(d18:1/18:0-d7)

M.F.: $C_{73}H_{126}D_7N_3O_{31}$

M.W.: 1551.87

CAS No.: N/A

Package: mg , g



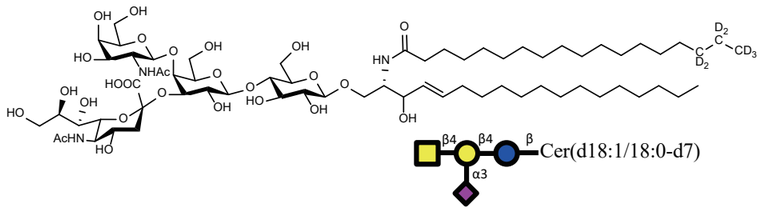
GSLA-2002 GM2Cer(d18:1/18:0-d7)

M.F.: $C_{67}H_{116}D_7N_3O_{26}$

M.W.: 1389.73

CAS No.: N/A

Package: mg , g



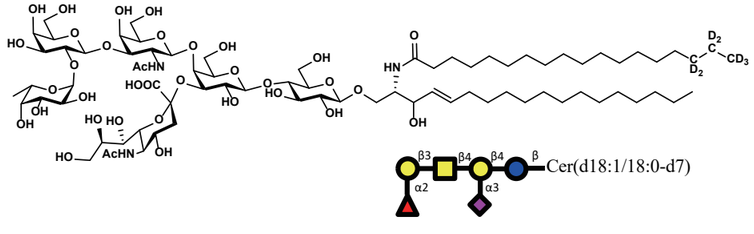
GSLA-2010 Fuc-GM1Cer(d18:1/18:0-d7)

M.F.: $C_{79}H_{136}D_7N_3O_{35}$

M.W.: 1698.01

CAS No.: N/A

Package: mg , g



同位素标记糖脂

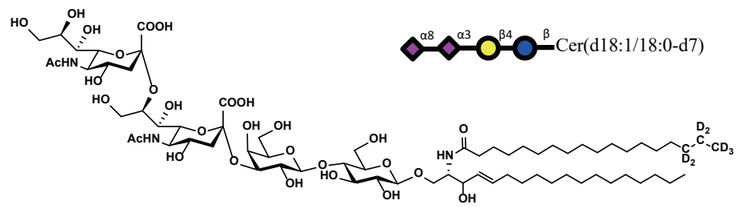
GSLA-2004 GD3Cer(d18:1/18:0-d7)

M.F.: $C_{70}H_{120}D_7N_3O_{29}$

M.W.: 1477.79

CAS No.: N/A

Package: mg , g



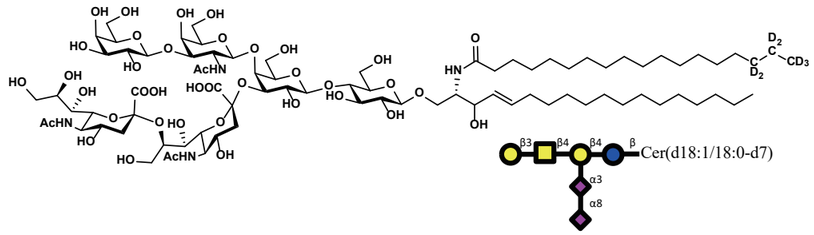
GSLA-2006 GD1bCer(d18:1/18:0-d7)

M.F.: $C_{84}H_{143}D_7N_4O_{39}$

M.W.: 1843.13

CAS No.: N/A

Package: mg , g



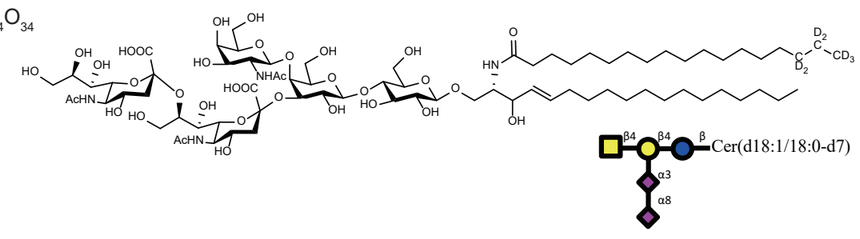
GSLA-2005 GD2Cer(d18:1/18:0-d7)

M.F.: $C_{78}H_{133}D_7N_4O_{34}$

M.W.: 1680.99

CAS No.: N/A

Package: mg , g



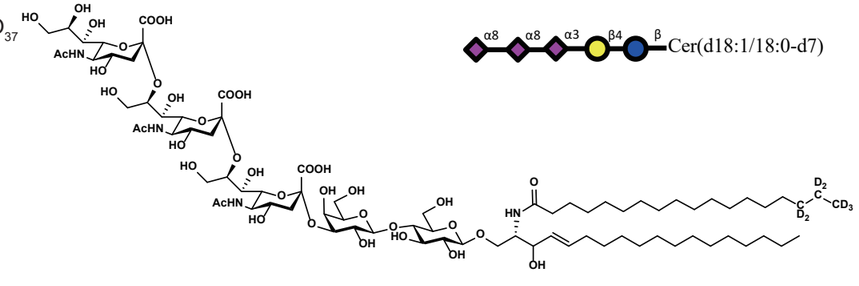
GSLA-2007 GT3Cer(d18:1/18:0-d7)

M.F.: $C_{81}H_{137}D_7N_4O_{37}$

M.W.: 1769.05

CAS No.: N/A

Package: mg , g



同位素标记糖脂

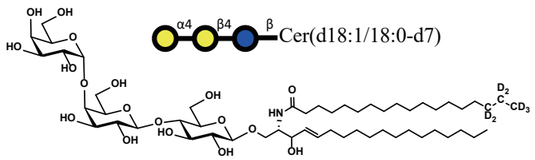
GSLA-2008 GB3Cer(d18:1/18:0-d7)

M.F.: $C_{54}H_{96}D_7NO_{18}$

M.W.: 1057.42

CAS No.: N/A

Package: mg , g



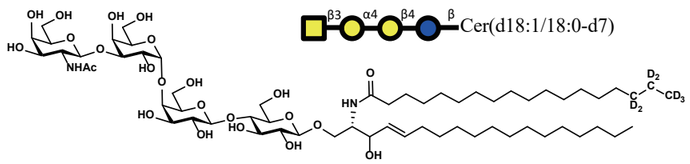
GSLA-2009 GB4Cer(d18:1/18:0-d7)

M.F.: $C_{62}H_{109}D_7N_2O_{23}$

M.W.: 1260.62

CAS No.: N/A

Package: mg , g



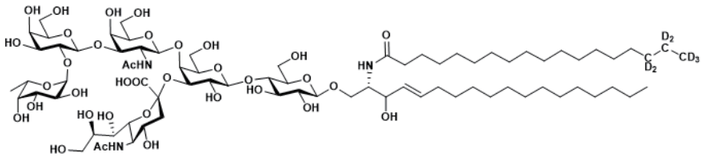
GSLA-2009 Fuc-GM1-Cer(d18:1/18:0-d7)

M.F.: $C_{62}H_{109}D_7N_2O_{23}$

M.W.: 1260.62

CAS No.: N/A

Package: mg , g

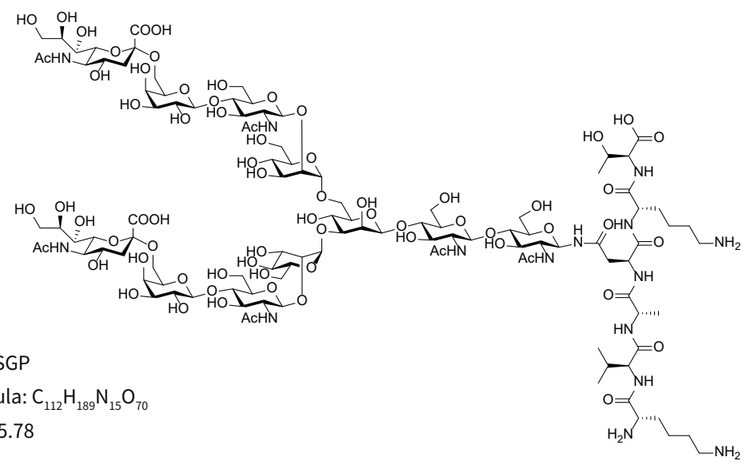


更多产品信息可扫码查看

聚糖及糖肽

SGP及应用介绍

SGP（唾液酸糖肽）是从鸡蛋黄中提取的一种双天线唾液酸化糖肽。糖智药业从提取、纯化到检测等技术，突破了SGP从克级到百克级的生产与纯化难点，加速了其从科研实验室到工业化的应用。SGP为起始原料，通过酶的作用不仅可以获得多样化的N-糖链，其衍生或修饰结构在糖肽、糖蛋白、ADC药物等领域的应用越来越火热。



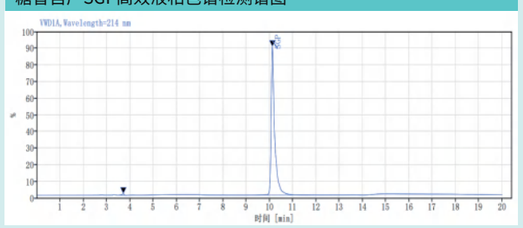
蛋黄粉中提取的SGP

Chemical Formula: $C_{112}H_{189}N_{15}O_{70}$

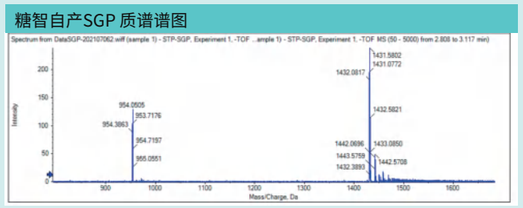
Exact Mass: 2865.78

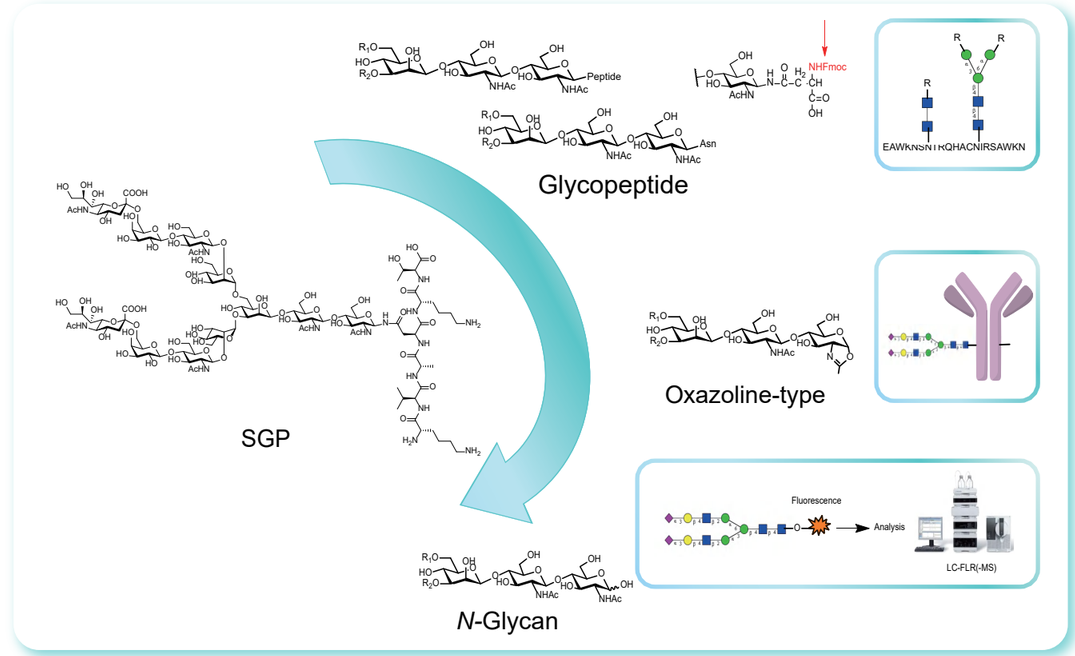
GP-1001

糖智自产SGP高效液相色谱检测谱图



糖智自产SGP 质谱谱图





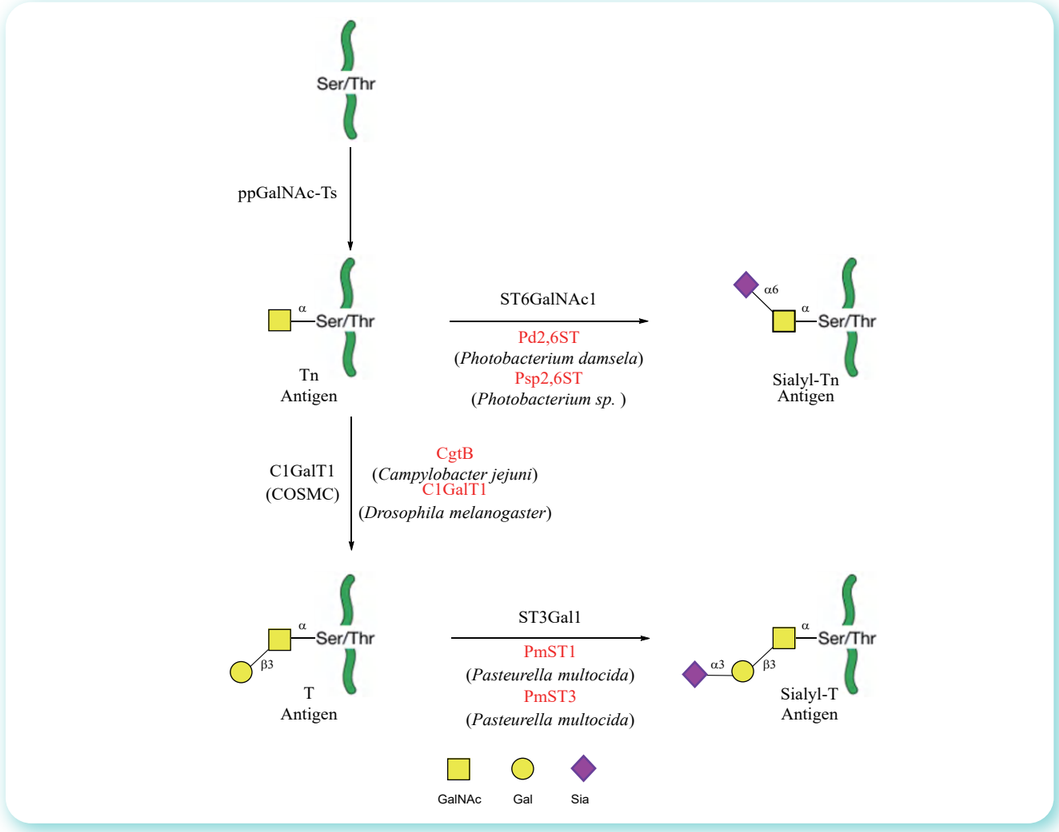
糖肽

糖肽是一类寡糖与多肽相结合的大分子化合物，连键的主要类型有两种：1. N-糖肽键；2. O-糖肽键。

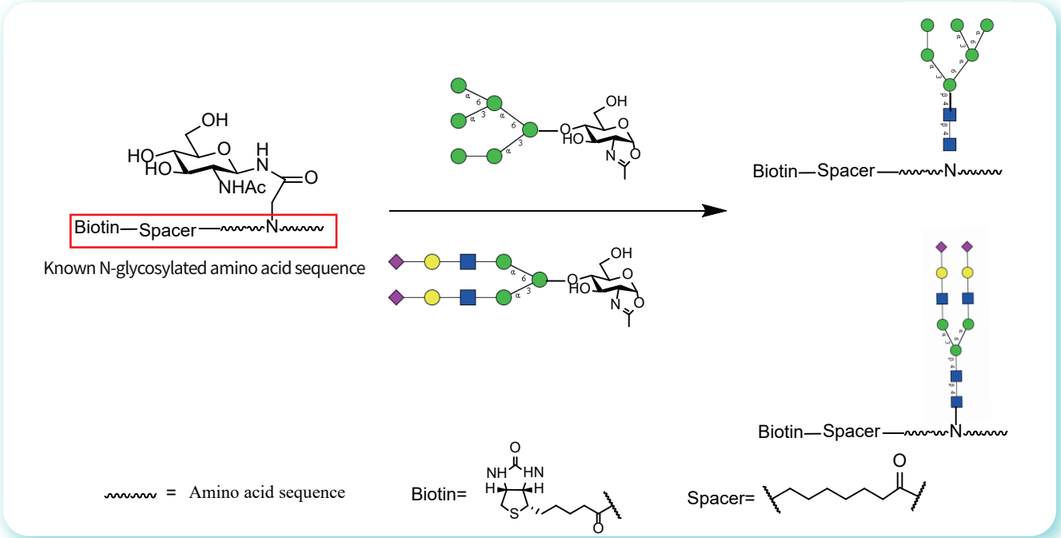
糖肽在糖类药物研发，如糖肽类抗生素和抗肿瘤疫苗的研发中有重要应用。经过几十年的发展，多肽的合成技术目前已经十分成熟，寡糖的合成在最近几年也取得了进展。然而关于糖肽的合成，仍然是极具挑战的难题。

糖肽通常位于糖蛋白核心结构区域，由糖基与肽链通过一定的连接方式组成。糖基与多肽相连的共价键主要有两种，一种是N-连接糖肽，以天冬酰胺的侧链酰氨基与糖基通过一个β-N-糖苷键相连接，以α-构型相连的较少见；另一种是O-连接糖肽，即糖与肽链之间通过O-糖苷键相连，有α-和β-两种构型，氨基酸残基通常是丝氨酸或苏氨酸，也有酪氨酸，4-或5-羟基赖氨酸和4-羟基苯基甘氨酸等。糖肽中的O-或N-糖苷键，也是缩醛结构，因此具有缩醛的酸化学敏感性，遇到酸会被切断或发生端基异构化；此外，O-糖苷键对碱也较敏感，中等强度的碱就可以引起糖的β-消除反应而合糖肽分解。强亲核试剂也会切断糖苷键或使其异构化。因此进行糖肽合成时，就必须选择温和的保护及去保护条件、温和的缩合及糖链、肽链延长的方法。

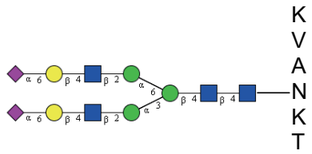
Synthesis of O-Glycopeptides



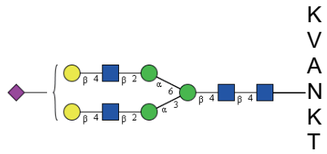
Synthesis of N-Glycopeptides



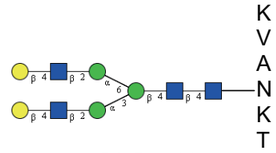
N-糖肽



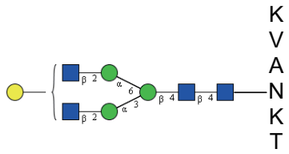
SGP
GP-1001



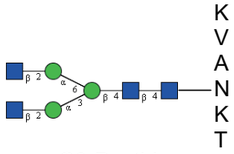
S1G2-Peptide
GP-1002



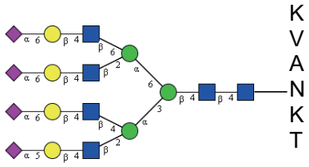
G2-Peptide
GP-1003



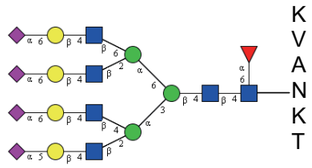
G1-Peptide
GP-1004



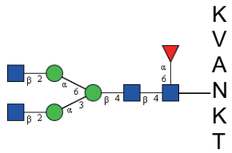
G0-Peptide
GP-1005



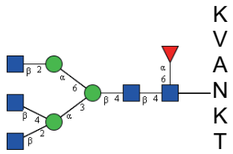
S4(6)G4-Peptide
GP-1006



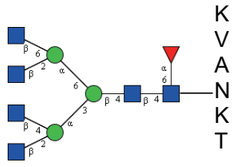
S4(6)G4F-Peptide
GP-1007



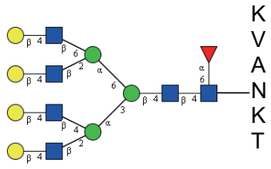
G0F-Peptide
GP-1008



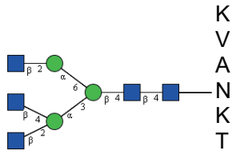
A1aA2bF-Peptide
GP-1009



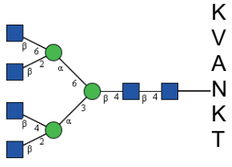
A4F-Peptide
GP-1010



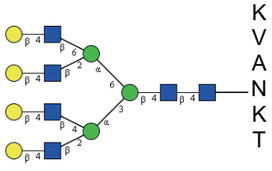
G4A4F-Peptide
GP-1011



A1aA2b-Peptide
GP-1012

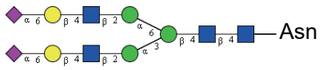


A4-Peptide
GP-1013

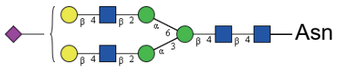


G4-Peptide
GP-1014

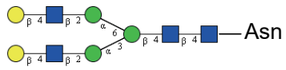
糖氨基酸



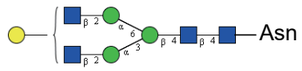
S2(6)G2-Asn
GPN-0001



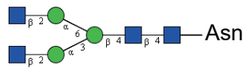
S1G2-Asn
GPN-0002



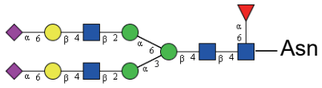
G2-Asn
GPN-0003



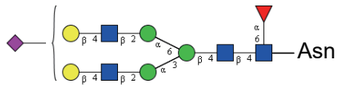
G1-Asn
GPN-0004



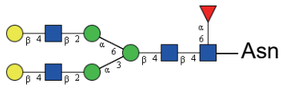
G0-Asn
GPN-0005



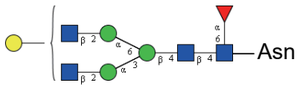
S2(6)G2F-Asn
GPN-0006



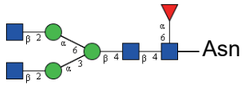
S1G2F-Asn
GPN-0007



G2F-Asn
GPN-0008



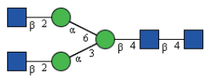
G1F-Asn
GPN-0009

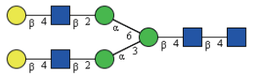


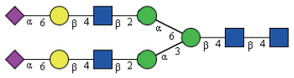
G0F-Asn
GPN-0010

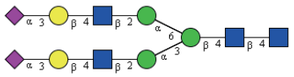
N-Glycan

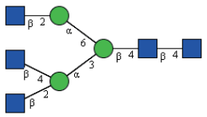
M3-Glycan
GN-3022

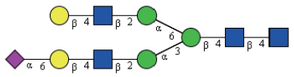

G0-Glycan
GN-3009

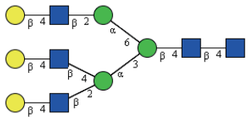

G2-Glycan
GN-3007

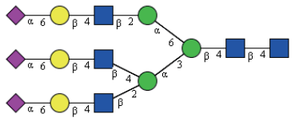

S2(6)G2-Glycan
GN-3001

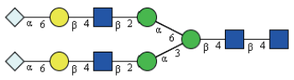

S2(3)G2-Glycan
GN-3002

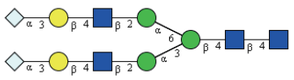

A1aA2b-Glycan
GN-3030

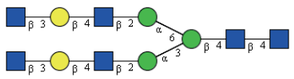

S1bG2-Glycan
GN-3006

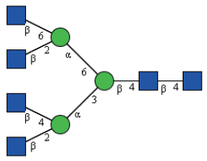

G1A1aG2A2b-Glycan
GN-3031

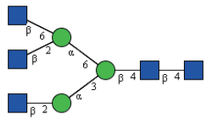

S1(6)G1A1aS2(6)G2A2b-Glycan
GN-3032

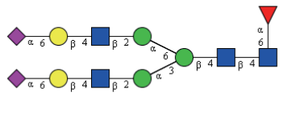

Neu5Gc2(6)G2-Glycan
GN-3005

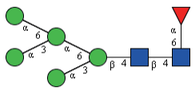

Neu5Gc2(3)G2-Glycan
GN-3004

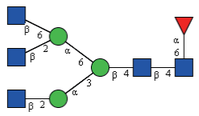

A2G2A2G3-Glycan
GN-3035

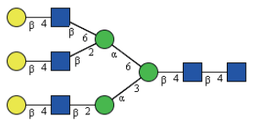

A4-Glycan
GN-3034

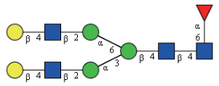

A2aA1b-Glycan
GN-3010

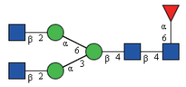

S2G2F
GN-3017

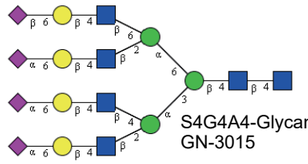

M5F
GN-3021

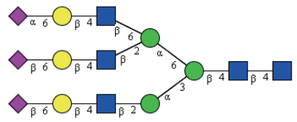

A3F
GN-3020

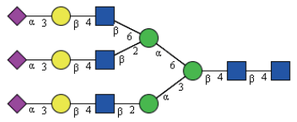

G3A3-Glycan
GN-3011

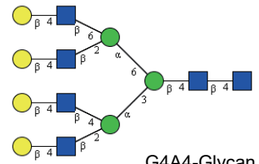

G2F
GN-3019


G0F
GN-3018


S4G4A4-Glycan
GN-3015


S3(6)G3A3-Glycan
GN-3012


S3(3)G3A3-Glycan
GN-3033


G4A4-Glycan
GN-3014

N糖及相关产品

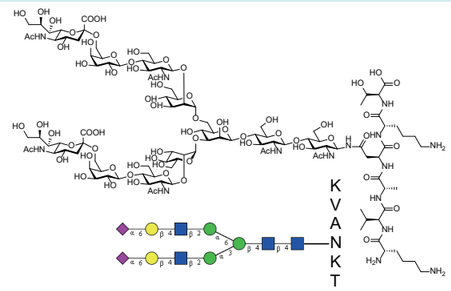
GP-1001 Sialylglycopeptide (SGP)

M.F.: $C_{112}H_{189}N_{15}O_{70}$

M.W.: 2865.78

CAS No.: 189035-43-6

Package: 10 mg, 50 mg, 100 mg, 500 mg, 1 g



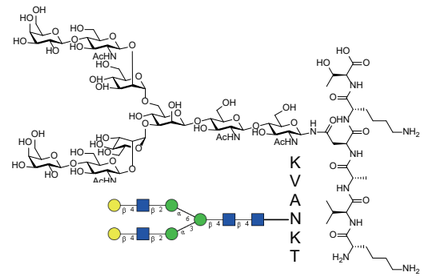
GP-1003 Asialo Sialylglycopeptide (G2-peptide)

M.F.: $C_{90}H_{155}N_{13}O_{54}$

M.W.: 2283.27

CAS No.: 361443-81-4

Package: 10 mg, 50 mg, 100 mg, 500 mg, 1 g



N糖及相关产品

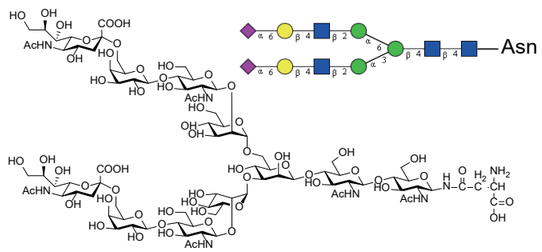
GPN-0001 S2(6)G2-Asn

M.F.: $C_{88}H_{144}N_8O_{64}$

M.W.: 2338.11

CAS No.: 68141-38-8

Package: 10 mg, 50 mg, 100 mg, 500 mg, 1 g



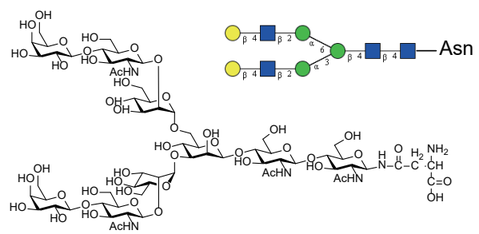
GPN-0003 G2-Asn

M.F.: $C_{66}H_{110}N_6O_{48}$

M.W.: 1755.60

CAS No.: 67299-24-5

Package: 10 mg, 50 mg, 100 mg, 500 mg, 1 g



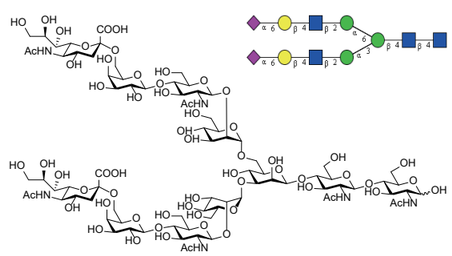
GN-3001 S2(6)G2-Glycan

M.F.: $C_{84}H_{138}N_6O_{62}$

M.W.: 2224.01

CAS No.: 1125602-44-9

Package: 10 mg, 50 mg, 100 mg, 500 mg, 1 g



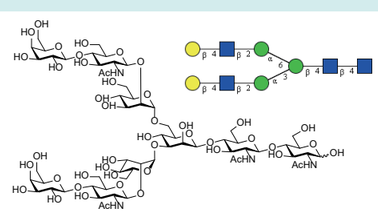
GN-3007 G2-Glycan

M.F.: $C_{62}H_{104}N_4O_{46}$

M.W.: 1641.50

CAS No.: 71496-53-2

Package: 10 mg, 50 mg, 100 mg, 500 mg, 1 g



N糖及相关产品

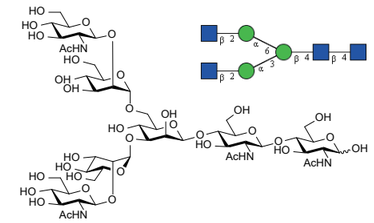
GN-3009 G0-Glycan

M.F.: $C_{50}H_{84}N_4O_{36}$

M.W.: 1317.21

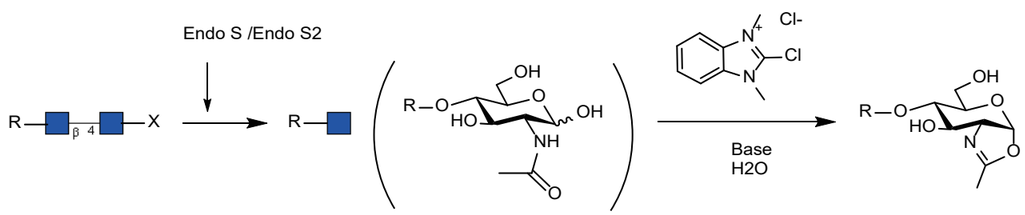
CAS No.: 84808-02-6

Package: mg to kg

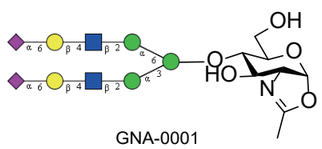


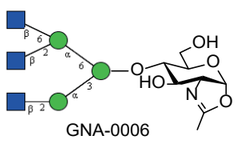
更多产品信息可扫码查看

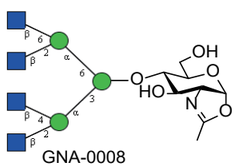
Glycan oxazoline



R=oligosaccharide;
X=OH, Asn, Peptide, Antibodies, Protein, etc..


GNA-0001


GNA-0006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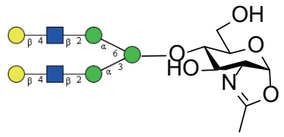
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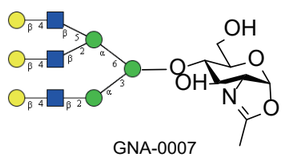
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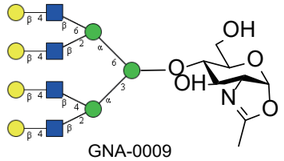
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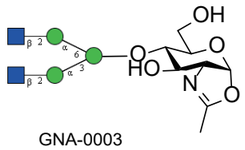
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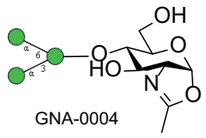
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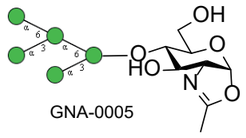
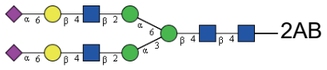
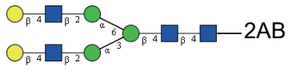

GNA-0005

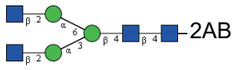
2-AB labelled N-Glycan



S2(6)G2-2AB
GN-5001



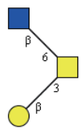
G2-2AB
GN-5001



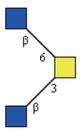
G0-2AB
GN-5003

O-Glycan

Core 1
GPO-1001


Core 2
GPO-1002

Core 3
GPO-1003


Core 4
GPO-1004

Core 5
GPO-1005

Core 6
GPO-1006

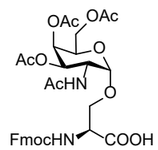
Core 7
GPO-1007

Core 8
GPO-1008

O-Glycoamino acid

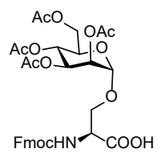
GPO-0001 Fmoc-Ser(Ac_3GalNAca)-OH

M.F.: $C_{32}H_{36}N_2O_{13}$
M.W.: 656.64
CAS No.: 120173-57-1
Package: mg to kg



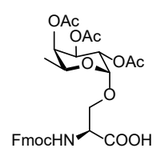
GPO-0002 Fmoc-Ser(Ac_4Mana)-OH

M.F.: $C_{32}H_{35}NO_{14}$
M.W.: 657.63
CAS No.: 118358-80-8
Package: mg to kg



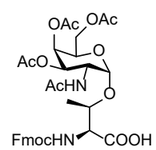
GPO-0003 Fmoc-L-Ser(Ac_3-L-Fuca)-OH

M.F.: $C_{30}H_{33}NO_{12}$
M.W.: 599.59
CAS No.: 173935-46-1
Package: mg to kg



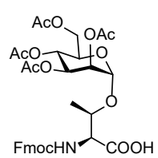
GPO-0004 Fmoc-Thr(Ac_3GalNAca)-OH

M.F.: $C_{33}H_{38}N_2O_{13}$
M.W.: 670.67
CAS No.: 116783-35-8
Package: mg to kg



GPO-0005 Fmoc-Thr(Ac_4Mana)-OH

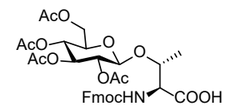
M.F.: $C_{33}H_{37}NO_{24}$
M.W.: 671.65
CAS No.: 169219-08-3
Package: mg to kg



O-Glycoamino acid

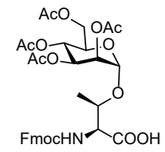
GPO-0006 Fmoc-L-Thr(Ac_4-D-Glcβ-OH)

M.F.: $C_{33}H_{37}NO_{14}$
M.W.: 671.65
CAS No.: 130548-92-4
Package: mg to kg



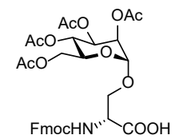
GPO-0007 Fmoc-Thr(Ac_4Mana)-OH

M.F.: $C_{33}H_{37}NO_{14}$
M.W.: 671.65
CAS No.: 169219-08-3
Package: mg to kg



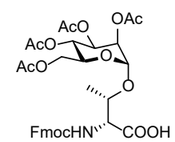
GPO-0008 Fmoc-D-Ser(Ac_4-L-Mana)-OH

M.F.: $C_{32}H_{35}NO_{14}$
M.W.: 657.63
CAS No.: N/A
Package: mg to kg



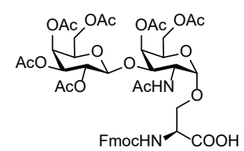
GPO-0009 Fmoc-D-Thr(Ac_4-L-Mana)-OH

M.F.: $C_{33}H_{37}NO_{14}$
M.W.: 671.65
CAS No.: N/A
Package: mg to kg



GPO-0010 Fmoc-Ser(Ac_4Galβ-3Ac_2GalNAca)-OH

M.F.: $C_{44}H_{52}N_2O_{21}$
M.W.: 944.89
CAS No.: 125760-30-7
Package: mg to kg



O-Glycoamino acid

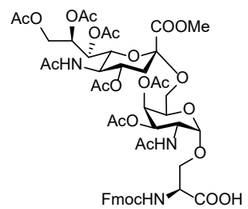
GPO-0011 Fmoc-Ser(Me,Ac_4Neu5Aca2-6Ac_2GalNAca)-OH

M.F.: $C_{50}H_{61}N_3O_{24}$

M.W.: 1088.04

CAS No.: 914456-67-0

Package: mg to kg



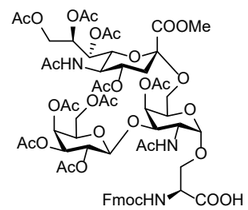
GPO-0012 Fmoc-Ser((Ac$_4$Galβ-3)Me,Ac$_4$Neu5Aca2-6AcGalNAca)-OH

M.F.: $C_{62}H_{77}N_3O_{32}$

M.W.: 1376.29

CAS No.: 174783-91-6

Package: mg to kg



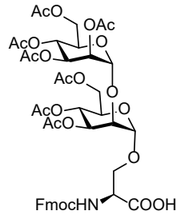
GPO-0013 Fmoc-Ser(Ac$_4$Mana1-2Ac$_3$Mana)-OH

M.F.: $C_{44}H_{51}NO_{22}$

M.W.: 945.88

CAS No.: 1427205-92-2

Package: mg to kg



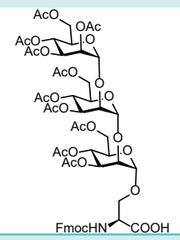
GPO-0014 Fmoc-Ser(Ac$_4$Mana1-2Ac$_3$Mana1-2Ac$_3$Mana)-OH

M.F.: $C_{56}H_{67}NO_{30}$

M.W.: 1234.13

CAS No.: 1427205-93-3

Package: mg to kg



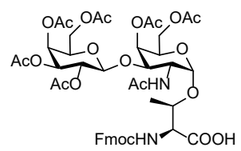
GPO-0015 Fmoc-Thr(Ac$_4$Galβ-3Ac$_2$GalNAca)-OH

M.F.: $C_{45}H_{54}N_2O_{21}$

M.W.: 958.92

CAS No.: 125760-33-0

Package: mg to kg



O-Glycoamino acid

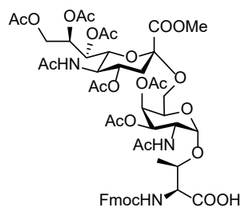
GPO-0016 Fmoc-Thr(Me,Ac_4Neu5Aca2-6Ac_2GalNAca)-OH

M.F.: $C_{51}H_{63}N_3O_{24}$

M.W.: 1102.06

CAS No.: 189561-77-1

Package: mg to kg



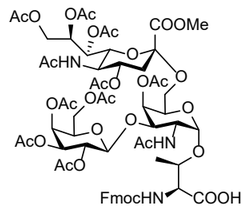
GPO-0017 Fmoc-Thr((Ac$_4$Galβ-3)Me,Ac$_4$Neu5Aca2-6AcGalNAca)-OH

M.F.: $C_{63}H_{79}N_3O_{32}$

M.W.: 1390.31

CAS No.: 174783-92-7

Package: mg to kg



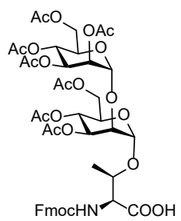
GPO-0018 Fmoc-Thr(Ac$_4$Mana1-2Ac$_3$Mana)-OH

M.F.: $C_{45}H_{53}NO_{22}$

M.W.: 959.90

CAS No.: 482576-73-8

Package: mg to kg



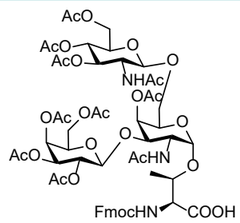
GPO-0019 Fmoc-Thr((Ac$_4$Galβ-3)Ac$_3$GlcNAcβ-6AcGalNAca)-OH

M.F.: $C_{57}H_{71}N_3O_{28}$

M.W.: 1246.19

CAS No.: 1240252-34-9

Package: mg to kg



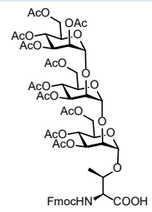
GPO-0020 Fmoc-Thr(Ac$_4$Mana1-2Ac$_3$Mana1-2Ac$_3$Mana)-OH

M.F.: $C_{57}H_{69}NO_{30}$

M.W.: 1248.16

CAS No.: 482576-74-9

Package: mg to kg



原核表达的糖工具酶

我们的优势

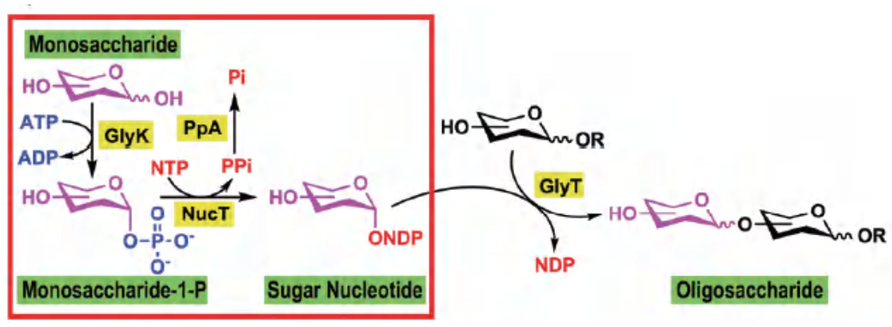
糖智专注于糖科学中常用酶的研发和生产，目前已有100余种不同来源的糖工具酶，包括糖基转移酶、糖苷酶、糖激酶、糖氧化脱氢酶等，可以用于糖类化合物的合成、分解、修饰和检测。

- 糖工具酶：克级至百克级供应，多种规格，纯度>95%。
- 糖基转移酶和糖苷酶：针对半乳糖、唾液酸、岩藻糖等多种糖基的不同键型，包含α和β构型，酶来源多样，可以适用不同底物。
- 糖激酶：戊糖和己糖多个位点磷酸化，特异性高。
- 糖氧化脱氢酶：包含葡萄糖、半乳糖氧化酶和脱氢酶，果糖脱氢酶等。

产品应用

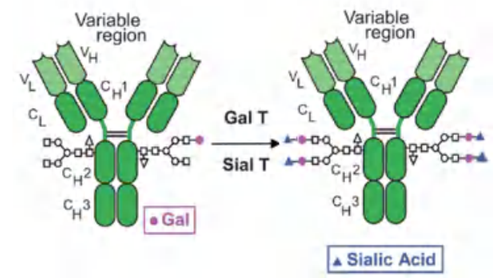
糖合成

可以利用糖基转移酶合成各种寡糖，克服了化学合成过程复杂和位点选择性困难等问题，位点特异性好，反应条件温和。同时，使用糖苷酶可以切除特定位点的糖基。糖激酶对糖基不同位点磷酸化，使其具备特殊的功能。



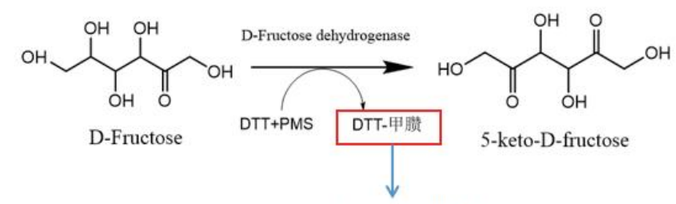
糖修饰

糖基转移酶和糖苷酶联合使用能够对糖蛋白N-糖链和O-糖链进行修饰，在糖蛋白药物或者抗体药物中有广泛应用。



糖检测

葡萄糖、果糖和半乳糖的氧化脱氢酶，可以应用于不同样本中糖的检测，进而指示人体健康状况。



果糖浓度检测试剂盒原理

Glycosyltransferase

SE-1001 β1, 3-N-acetylglucosaminyltransferase (LgtA)

UDP-GlcNAc + Galβ1,4Glc ⟶ GlcNAcβ1, 3Galβ1,4Glc + UDP

EC: 2.4.1.56

Package: 100 mU, 1 U, 5 U

Explanation: *E. coli* recombinant β1, 3-N-acetylglucosaminyltransferase from *Neisseria meningitides*.

Definition: One unit is defined as the amount of enzyme that transfer 1μmol GlcNAc from UDP-GlcNAc to lactose to form GlcNAcβ1,3Lac per minute at 37°C.

SE-1002 β1, 4-galactosyltransferase (LgtB)

GlcNAc or Glc + UDP-Gal ⟶ Galβ1,4GlcNAc or Galβ1,4Glc + UDP

EC: 2.4.1.90

Package: 1 U, 5 U, 25 U

Explanation: *E. coli* recombinant β1, 4-galactosyltransferase from *Neisseria meningitides*.

Definition: One unit is defined as the amount of enzyme that transfer 1μmol Gal from UDP-Gal to GlcNAc to form Galβ1,4GlcNAc per min at 37°C.

SE-1003 α1, 4-galactosyltransferase (LgtC)

UDP-Gal + Galβ1,4Glc ⟶ Galα1,4Galβ1,4Glc + UDP

EC: 2.4.1.228

Package: 5 U, 25 U, 50 U

Explanation: *E. coli* recombinant α1,4-galactosyltransferase from *Neisseria meningitides.*

Definition: One unit is defined as the amount of enzyme that transfer 1μmol Gal from UDP-Gal to Lactose to form Galα1, 4Galβ1, 4Glc per min at 37°C.

SE-1004 β1, 3-N-acetylgalactosaminyltransferase (LgtD)

Galα1, 4Galβ1, 4Glc + UDP-GalNAc ⟶ GalNAcβ1, 3Galα1, 4Galβ1, 4Glc + UDP

EC: 2.4.1.79

Package: 1 U, 5 U, 25 U

Explanation: *E. coli* recombinant β1, 3-N-acetylgalactosaminyltransferase from *Haemophilus influenzae.*

Definition: One unit is defined as the amount of enzyme that transfer 1μmol GalNAc from UDP-GalNAc to Galα1,4Galβ1,4Glc to form GalNAcβ1,3Galα1,4Galβ1,4Glc per min at 37°C.

Glycosyltransferase

SE-1005 β1, 4-N-acetylgalactosaminyltransferase (CgtA)

Neu5Acα2, 3Galβ1, 4Glc + UDP-GalNAc ⟶ Neu5Acα2, 3(GalNAcβ1, 4)Galβ1, 4Glc + UDP

EC: 2.4.1.92

Package: 100 mU, 1 U

Explanation: *E.coli* recombinant β1, 4-N-acetylgalactosaminyltransferase from *Campylobacter jejuni.*

Definition: One unit is defined as the amount of enzyme that transfer 1μmol GalNAc from UDP-GalNAc to Neu5Acα2,3Lac to form Neu5Acα2,3(GalNAcβ1,4)Lac per min at 37°C.

SE-1006 β1, 3-galactosyltransferase (CgtB)

GalNAc + UDP-Gal ⟶ Galβ1, 3GalNAc + UDP

EC: 2.4.1.62

Package: 1 U, 5 U, 25 U

Explanation: *E.coli* recombinant β1, 3-galactosyltransferase from *Campylobacter jejuni.*

Definition: One unit is defined as the amount of enzyme that transfer 1μmol Gal from UDP-Gal to GalNAc to form Galβ1,3GalNAc per min at 37°C.

SE-1007 α1, 3-N-acetylgalactosaminyltransferase (Pm1138)

GalNAc + UDP-GalNAc ⟶ GalNAcα1, 3GalNAc + UDP

EC: 2.4.1.40

Package: 1 U, 10 U, 100 U

Explanation: *E. coli* recombinant α1, 3-N-acetylgalactosaminyltransferase from *Pasteurella multocida.*

Definition: One unit is defined as the amount of enzyme that transfer 1μmol GalNAc from UDP-GalNAc to GalNAc to form GalNAcα1,3-GalNAc per min at 37°C.

SE-1008 α1, 3-galactosyltransferase (α1, 3GalT)

UDP-Gal + Galβ1, 4Glc ⟶ Galα1, 3Galβ1, 4Glc + UDP

EC: 2.4.1.87

Package: 100 mU, 1 U, 5 U

Explanation: *E. coli* recombinant α1, 3-galactosyltransferase from *Bovine*.

Definition: One unit is defined as the amount of enzyme that transfer 1 μmol Gal from UDP-Gal to Galβ1,4Glc to form Galα1,3Galβ1,4Glc per min at 37°C.

Glycosyltransferase

SE-1009 β1, 4-galactosyltransferase (LgtE)

UDP-Gal + Glcα1, 4Glc ⟶ Galβ1, 4Glcα1, 4Glc + UDP

EC: 2.4.1.90

Package: 1 U, 5 U, 25 U

Explanation: *E. coli* recombinant β1, 4-galactosyltransferase from *Neisseria gonorrhoeae.*

Definition: One unit is defined as the amount of enzyme that transfer 1μmol Gal from UDP-Gal to Glcα1,4Glc to form Galβ1,4Glcα1-4Glc per min at 37°C.

SE-1010 α1, 3-galactosyltransferase (GTB)

Fucα1, 2Galβ1-4Glc + UDP-Gal ⟶ Galα1, 3(Fucα1, 2)Galβ1, 4Glc + UDP

EC: 2.4.1.37

Package: 0.1 U, 1 U

Explanation: *E. coli* recombinant Human blood group B galactosyltransferase From *Homo sapiens.*

Definition: One unit is defined as the amount of enzyme that transfer 1μmol Gal from UDP-Gal to Fucα1,2Galβ1,4Glc to form Gal α1, 3 Fucα1, 2Galβ1, 4Glc per min at 37°C.

SE-1011 α1, 3-N-acetylgalactosaminyltransferase (BgtA)

Fucα1, 2Galβ1, 4Glcβ + UDP-GalNAC ⟶ GalNAcα1, 3 (Fucα1, 2)Galβ1, 4Glc + UDP

EC: 2.4.1.40

Package: 1 U, 5 U, 25 U

Explanation: *E. coli* recombinant α1, 3-N-acetyl galactosaminyltransferase from *Helicobacter mustelae*.

Definition: One unit is defined as the amount of enzyme that transfer 1μmol GalNAc from UDP-GalNAc to Fucα1, 2Galβ1, 4Glc to form GalNAcα1, 3 Fucα1, 2Galβ1, 4Glc per min at 37°C.

SE-1012 β1, 3-galactosyltransferase (WbgO)

GlcNAcOR + UDP-Gal ⟶ Galβ1, 3GlcNAcOR + UDP

EC: 2.4.1.86

Package: 10 U, 100 U, 1000 U

Explanation: *E. coli* recombinant β1, 3-galactosyltransferase from *Escherichia coli O55:H7*.

Definition: One unit is defined as the amount of enzyme that transfer 1μmol Gal from UDP-Gal to GlcNAcOR to form Galβ1, 3GlcNAcOR per min at 37°C.

Glycosyltransferase

SE-1013 α2, 6-sialyltransferase (Pd26ST)

Lactose + CMP-Neu5Ac ⟶ Neu5Acα2, 6Galβ1, 4Glc + CMP

EC: 2.4.99.1

Package: 10 U, 50 U, 100 U

Explanation: *E. coli* recombinant α2, 6-sialyltransferase from *Photobacterium damsela.*

Definition: One unit is defined as the amount of enzyme that transfer 1μmol Neu5Ac from CMP-Neu5Ac to lactose to form Neu5Acα2, 6Galβ1, 4Glc per min at 37°C.

SE-1014 α2, 3-sialyltransferase (PmST1)

Lactose + CMP-Neu5Ac ⟶ Neu5Acα2, 3Galβ1, 4Glc + CMP

EC: 2.4.99.4

Package: 50 U, 250 U, 1000 U

Explanation: *E. coli* recombinant α2, 3-sialyltransferase from *Pasteurella multocida.*

Definition: One unit is defined as the amount of enzyme that transfer 1μmol Neu5Ac from CMP-Neu5Ac to lactose to form Neu5Acα2, 3Galβ1, 4Glc per min at 37°C.

SE-1015 α2, 8-sialyltransferase (CstⅡ)

Neu5Acα2, 3/6Galβ1, 4Glc + CMP-Neu5Ac ⟶ (Neu5Acα2, 8)Neu5Acα2, 3/6Galβ1, 4Glc + CMP

EC: 2.4.99.8

Package: 10 U, 50U, 250 U

Explanation: *E. coli* recombinant α2, 8-sialyltransferase from *Campylobacter jejuni.*

Definition: One unit is defined as the amount of enzyme that transfer 1μmol Neu5Ac from CMP-Neu5Ac to Siaα2,3Lac to form (Neu5Acα2, 8) Neu5Acα2, 3/6Galβ1, 4Glc per min at 37°C.

SE-1016 α2, 3-sialyltransferase (PmST3)

Galβ1, 4GlcβSph + CMP-Neu5Ac ⟶ Neu5Acα2, 3Galβ1, 4GlcβSph + CMP

EC: 2.4.99.4

Package: 10 U, 50U, 250 U

Explanation: *E.coli* recombinant α2, 3-sialyltransferase for oligosaccharides and glycolipids from *Pasteurella multocida.*

Definition: One unit is defined as the amount of enzyme that transfer 1μmol Neu5Ac from CMP-Neu5Ac to lac-Sph to form Neu5Acα2, 3Galβ1, 4Glc per min at 37°C.

Glycosyltransferase

SE-1017 α2, 3-sialyltransferase (Pphα2,3SiaT)

Gal-OR + CMP-Neu5Ac ⟶ Neu5Acα2, 3Gal-OR + CMP

EC: 2.4.99.4

Package: 10 U, 50 U, 250 U

Explanation: *E. coli* recombinant α2, 3-sialyltransferase from *Photobacterium phosphoreum.*

Definition: One unit is defined as the amount of enzyme that transfer 1μmol Neu5Ac from CMP-Neu5Ac to lactose to form Neu5Acα2, 3Lac per min at 37°C.

SE-1018 α1, 3-fucosyltransferase (α1, 3FucT)

Gal β1, 4GlcNAcβOR + GDP-Fuc ⟶ Gal β1, 4(Fuα1, 3)GlcNAcβOR + GDP

EC: 2.4.1.65

Package: 1 U, 5 U

Explanation: *E. coli* recombinant α1, 3-fucosyltransferase from *Helicobacter pylori.*

Definition: One unit is defined as the amount of enzyme that transfer 1μmol fucose from GDP-Fuc to Gal β1, 4GlcNAc to form Gal β1, 4 (Fucα1, 3)GlcNAc per min at 37°C.

SE-1019 α1, 2-fucosyltransferase (α1, 2FucT)

Galβ1, 4GlcOR + GDP-Fuc ⟶ Fucα1, 2Galβ1, 4GlcOR + GDP

EC: 2.4.1.69

Package: 1 U, 5 U, 25 U

Explanation: *E. coli* recombinant α1, 2-fucosyltransferase from *Helicobacter mustelae.*

Definition: One unit is defined as the amount of enzyme that transfer 1μmol fucose from GDP-Fuc to lactose to form Fucα1,2Lac per min at 37°C.

SE-1020 α1, 3/4-fucosyltransferase (α1, 3/4FucT)

ROH Acceptor + GDP-Fuc ⟶ Fucα3/4OR + GDP

EC: 2.4.1.65

Package: 10 mU, 100 mU

Explanation: *E. coli* recombinant α1, 3/4-fucosyltransferase from *Helicobacter pylori.*

Definition: One unit is defined as the amount of enzyme that catalyzes the transfer of 1 μmol fucose from GDP-Fuc to acceptor per minute at 37°C.

Glycosyltransferase

SE-1021 β1,3-galactosyltransferase (Cvβ3GalT)

GlcNAcβ1, 3Galβ1, 4Glc + UDP-Gal ⟶ Galβ1, 3GlcNAcβ1, 3Galβ1, 4Glc + UDP

EC: 2.4.1.62

Package: 10 mU, 100 mU

Explanation: *E. coli* recombinant β1,3-galactosyltransferase from *Chromobacterium violaceum*.

Definition: One unit is defined as the amount of enzyme that catalyzes the transfer of 1 μmol gal from UDP-Gal to GlcNAcβ3Galβ4Glc per minute at 37°C.

SE-1022 β1,4-galactosyltransferase (Hpβ1,4GalT)

GlcNAc + UDP-Gal ⟶ Galβ1, 4GlcNAc + UDP

EC: 2.4.1.22

Package: 10 mU, 100 mU

Explanation: *E. coli* recombinant β1,4-Galactosyltransferase from *Helicobacter pylori.*

Definition: One unit is defined as the amount of enzyme that catalyzes the transfer of 1 μmol gal from UDP-Gal to GlcNAc per minute at 37°C.

SE-1023 β1,3-N-acetylglucosaminyltransferase (HpB3GlcNAcT)

UDP-GlcNAc + Galβ1, 4GlcNAc ⟶ GlcNAcβ1, 3Galβ1, 4GlcNAc + UDP

EC: 2.4.1.56

Package: 10 mU, 100 mU

Explanation: *E. coli* recombinant β1,3-N-acetylglucosaminyltransferase from *Helicobacter pylori.*

Definition: One unit is defined as the amount of enzyme that catalyzes the transfer of 1 μmol gal from UDP-GlcNAc to Galβ1, 4GlcNAc per minute at 37°C.

SE-1026 β1,3-galactosyltransferase (Pfβ3GalT)

GlcNAcβ1, 3Galβ1, 4Glc + UDP-Gal ⟶ Galβ1, 3GlcNAcβ1, 3Galβ1, 4Glc + UDP

EC: 2.4.1.62

Package: 10 mU, 100 mU

Explanation: *E.coli* recombinant β1,3-galactosyltransferase from *Pseudogulbenkiania ferrooxidans.*

Definition: One unit is defined as the amount of enzyme that catalyzes the transfer of 1 μmol gal from UDP-Gal to GlcNAcβ1,3Galβ1,4Glc per minute at 37°C.

Glycosyltransferase

SE-1027 α1,2-fucosyltransferase (WbgL)

Galβ1, 4Glc + GDP-Fuc ⟶ Fucα1, 2Galβ1, 4Glc + GDP

EC: 2.4.1.69

Package: 100 mU, 1 U

Explanation: *E.coli* recombinant α1,2-fucosyltransferase from *E.coli* O126.

Definition: One unit is defined as the amount of enzyme that transfer 1μmol Fucose from GDP-Fuc to lactose to form Fucα1, 2Lac per min at 37°C.

SE-1028 α1,2-fucosyltransferase (HspBKHT)

Galβ1, 4Glc + GDP-Fuc ⟶ Fucα1, 2Galβ1, 4Glc + GDP

EC: 2.4.1.69

Package: 100 mU, 1 U

Explanation: *E.coli* recombinant α1,2-fucosyltransferase from *Helicobacter Sp.*

Definition: One unit is defined as the amount of enzyme that transfer 1μmol Fucose from GDP-Fuc to lactose to form Fucα1,2Lac per min at 37°C.

SE-1029 α-1,3-fucosyltransferase (AmCafF)

Gal β1, 4Glc + GDP-Fuc ⟶ Fucα1, 3Galβ1, 4Glc + GDP

EC: 2.4.1.65

Package: 100 mU, 1 U

Explanation: *E.coli* recombinant α-1,3-fucosyltransferase from *Australian magpie.*

Definition: One unit is defined as the amount of enzyme that transfer 1μmol Fucose from GDP-Fuc to Gal β1,4Glc to form Fuα1,3Galβ1,4Glc per min at 37°C.

SE-1030 β1,3-galactosyltransferase (C1GalT1)

GalNAcα1-O-Bn + UDP-Gal ⟶ Galβ1, 3GalNAcα1-O-Bn

EC: 2.4.1.122

Package: 10 mU, 100 mU

Explanation: *Pichia pastoris* recombinant β1,3-galactosyltransferase from *Drosophila melanogaster.*

Definition: The amount of enzyme required to transfer 1.0μmol Gal per minute from UDP-Gal to GalNAc-OBn for the synthesis of Galβ 1-3GalNAcα-O-Bn at 30°C.

Sugar-nucleotide synthase

SE-2001 CMP-sialic acid synthetase (NmCSS)

Neu5Ac + CTP ⟶ CMP-Neu5Ac + PPi

EC: 2.7.7.43

Package: 500 U, 2500 U

Explanation: *E. coli* recombinant sialyltransferase from *Neisseria meningitidis.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol CMP-Neu5Ac from CTP and Neu5Ac per minute at 37°C.

SE-2002 L-fucokinase/GDP-fucose pyrophosphorylase (FKP)

L-Fuc + ATP ⟶ Fuc-1-P + ADP or Fuc-1-P + GTP ⟶ GDP-Fuc + PPi

EC: 2.7.1.52/2.7.7.30

Package: 5 U, 25 U, 200 U

Explanation: *E. coli* recombinant L-fucokinase/GDP-fucose pyrophosphorylase from *Bacteroides fragilis.*

Definition:One unit is defined as the amount of enzyme that consume 1 μmol ATP and L-Fuc to form Fuc-1-P per min at 37°C.

SE-2003 UDP-sugar pyrophosphorylase (BIUSP)

Gal-1-P + UTP ⟶ UDP-Gal + PPi

EC: 2.7.7.64

Package: 10 U, 50 U, 200 U

Explanation: *E. coli* recombinant UDP-sugar pyrophosphorylase lase from *Bifidobacterium longum.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of UDP-Gal from Gal-1-P and UTP per minute at 37°C.

SE-2004 N-acetylglucosamine-1-P uridyltransferase (AGX1)

GlcNAc-1-P + UTP ⟶ UDP-GlcNAc + PPi

EC: 2.3.1.157

Package: 5 U, 25 U, 200 U

Explanation: *E. coli* recombinant N-acetylglucosamine-1-P uridyltransferase from *Homo sapiens.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of UDP-GlcNAc from GlcNAc-1-P and 1 μmol UTP per minute at 37°C.

Sugar-nucleotide synthase

SE-2005 UDP-sugar pyrophosphorylase (AtUSP)

Gal-1-P + UTP ⟶ UDP-Gal + PPi

EC: 2.7.7.64

Package: 10 U, 50 U, 200 U

Explanation: *E. coli* recombinant UDP-sugar pyrophosphorylase from *Arabidopsis thaliana*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of UDP-Gal from Gal-1-P and UTP per minute at 37°C.

SE-2006 GDP-mannose pyrophosphorylase (PH0925-DN350)

Man-1-P + GTP ⟶ GDP-Man + PPi

EC: 2.7.7.13

Package: 10 U, 100 U

Explanation: *E. coli* recombinant GDP-mannose pyrophosphorylase from *Pyrococcus horikoshii*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol GDP-Man from Man-1-P and GTP per minute at 37°C.

SE-2007 GlcNAc-1-P uridyltransferase (PmGlmU)

GlcNAc-1-P + UTP ⟶ UDP-GlcNAc + PPi

EC: 2.3.1.157

Package: 1 U, 5 U, 25 U

Explanation: *E. coli* recombinant GlcNAc-1-P uridyltransferase From *Pasteurella multocida*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol UDP-GlcNAc from GlcNAc-1-P and UTP per minute at 37°C.

SE-2008 GlcNAc-1-P uridyltransferase (CjGlmU)

GlcNAc-1-P + UTP ⟶ UDP-GlcNAc + PPi

EC: 2.3.1.157

Package: 1 U, 5 U, 25 U

Explanation: *E.coli* recombinant GlcNAc-1-P uridyltransferase from *Campylobacter jejuni*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol UDP-GlcNAc from GlcNAc-1-P and UTP per minute at 37°C.

Sucrose synthase

SE-2009 Sucrose synthase (OcSUS1)

Sucrose + UDP ⟶ Fructose + UDP-glucose

EC: 2.4.1.13

Package: 1 U, 5 U, 25 U

Explanation: *E. coli* recombinant sucrose synthase from *Oraithogalum caudatum*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol UDP-glucose from sucrose and UDP per minute at 37°C.

SE-2010 UDP-glucuronic acid decarboxylase (AtUXS3)

UDP-GlcA ⟶ UDP-xylose+CO_2

EC: 4.1.1.35

Package: 1 U, 5 U, 25 U

Explanation: *E.coli* recombinant UDP-glucuronic acid decarboxylase from *Arabidopsis thaliana*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol UDP-xylose from UDP-GlcA per minute at 37°C.

SE-2011 Glucose-1-phosphate thymidyltransferase (EcRmlA)

α-D-glucose 1-phosphate + dTTP ⟶ diphosphate + dTDP-α-D-glucose

EC: 2.7.7.24

Package: 1 U, 5 U, 25 U

Explanation: *E. coli* recombinant glucose-1-phosphate thymidyltransferase from *Escherichia coli* K-12.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol dTDP-α-D-glucose from α-D-glucose 1-phosphate and dTTP per minute at 37°C.

SE-2013 UDP-Glc pyrophosphorylase (LmUGP)

α-D-glucose 1-phosphate + UTP ⟶ diphosphate + UDP-α-D-glucose

EC: 2.7.7.9

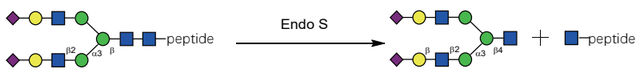
Package: 1 U, 5 U, 25 U

Explanation: *E. coli* recombinant UDP-Glc pyrophosphorylase from *Leishmania major*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol UDP-α-D-glucose from α-D-glucose 1-phosphate and UTP per minute at 37°C.

Hydrolase

SE-3001 Endo-β-N-acetylglucosaminidase(Double antenna complex type) (Endo S)



EC: 3.2.1.96

Package: 1000 U, 5000 U

Explanation: *E. coli* recombinant Endo-β-N-acetylglucosaminidase (Double antenna complex type)from *Streptococcus pyogenes*.

Definition: One unit is defined as the amount of enzyme required to remove > 95% of the carbohydrate from 5 μg of native mouse monoclonal IgG in 1 hour at 37°C in a total reaction volume of 10 μl.

SE-3002 Endo-β-N-acetylglucosaminidase (high-mannose, hybrid, bisect complex-type N-glycan) (Endo S2)

EC: 3.2.1.96

Package: 200 U, 2 KU

Explanation: *E. coli* recombinant Endo-β-N-acetylglucosaminidase (high-mannose, hybrid, bisect complex-type N-glycan) from *Streptococcus pyogenes*.

Definition: One unit is defined as the amount of enzyme required to remove > 95% of the carbohydrate from 5 μg of native mouse monoclonal IgG in 1 hour at 37°C in a total reaction volume of 10 μl.

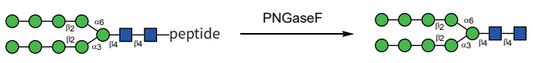
SE-3018 Endo-β-N-acetylglucosaminidase (high-mannose, hybrid, bisect complex-type N-glycan);Endo S2(D184M)

EC: 3.2.1.96

Explanation: Endo S2(D184M) can be used to transfer N-glycan oxazoline to GlcNAc-peptide.

Definition: One unit is defined as the amount of enzyme required to remove > 95% of the carbohydrate from 5 μg of native mouse monoclonal IgG in 1 hour at 37°C in a total reaction volume of 10 μl.

SE-3003 Peptide-N-Glycosidase F (high mannose, hybrid, and complex oligosaccharides from N-linked glycoproteins) (PNGase F)



EC: 3.5.1.52

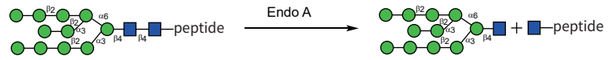
Package: 1500 U, 7500 U, 50000 U

Explanation: *E. coli* recombinant Peptide-N-Glycosidase F (high mannose, hybrid, and complex oligosaccharides from N-linked glycoproteins)from *Flavobacterium meningosepticum*.

Definition: One unit is defined as the amount of enzyme required to remove > 95% of the carbohydrate from 10 μg of denatured RNase B in 1 hour at 37°C in a total reaction volume of 10 μl.

Hydrolase

SE-3004 Endo-β-N-acetylglucosaminidase (high-mannose, hybrid N-glycan) (Endo A)



EC: 3.2.1.96

Package: 200 U, 1 kU

Explanation: *E. coli* recombinant Endo-β-N-acetylglucosaminidase (high-mannose, hybrid N-glycan))from *Arthrobacter protophormiae*.

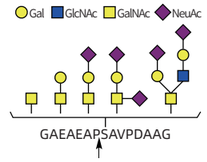
Definition: One unit is defined as the amount of enzyme required to remove > 95% of the carbohydrate from 10 μg of denatured RNase B in 1 hour at 37°C in a total reaction volume of 10 μl.

SE-3005 Glycopeptidase (IMPa)

EC: 5.3.1.52

Package: 1 U, 10 U

Explanation: *E. coli* recombinant peptidase from *Pseudomonas aeruginosa*.



Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol GalNAc from O-GalNAcylatedpeptides per minute at 37°C.

SE-3006 Endoglycoceramidase II (EGCaseII)

GM1-F + Sph ⟶ GM1-sph + F

EC: 3.2.1.123

Package: 1U, 5 U, 25 U

Explanation: *E. coli* recombinant endoglycoceramidase II from *Lactobacillus casei*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of GM1-sph from 1 μmol sphingosine and GM1-F per minute at 37°C.

SE-3007 Endoglycoceramidases Ⅰ (EGCaseI)

GM1-sph ⟶ GM1 + Sph

EC: 3.2.1.123

Package: 100 U

Explanation: *E. coli* recombinant endoglycoceramidases Ⅰ from *Rhodococcus sp*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol GM1 from GM1-sph per minute at 37°C.

Hydrolase

SE-3008 Purine nucleoside hydrolase (TblAGNH)

Adenosine ⟶ D-ribose + Adenine

EC: 3.2.2.1

Package: 100 U , 1000 U

Explanation: *E. coli* recombinant nucleoside hydrolase from *Trypanosoma brucei brucei.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol adenine from adenosine per minute at 37°C.

SE-3009 Alkaline phosphatase (Apase)

AMP ⟶ Adenosine + Pi

EC: 3.1.3.1

Package: 100 U, 1 kU

Explanation: *E. coli* recombinant alkaline phosphatase from *Shewanella .sp*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol adenosine from AMP per minute at 37°C.

SE-3010 Sialidase isoenzyme S (Ganglioside sialidase) (AuSialidase S)

Neu5Acα2, 3Galβ1, 4Glc ⟶ Galβ1, 4Glc + Neu5Ac

EC: 3.2.1.18

Package: 1 U, 5 U, 25 U

Explanation: *E. coli* recombinant Sialidase isoenzyme S from *Arthrobacter ureafaciens*.

Definition: One unit is defined as the amount of enzyme that catalyze the 6'SL generation of 1 μmol lactose and Neu5Ac per minute at 37°C.

SE-3011 Sialidase isoenzyme M2 (AuSialidase M2)

Neu5Acα2, 3Galβ1, 4Glc-Ceramide ⟶ Galβ1, 4Glc-Ceramide + Neu5Ac

EC: 3.2.1.18

Package: 1 mg, 10 mg

Explanation: *E.coli* recombinant Sialidase isoenzyme M2 from *Arthrobacter ureafaciens*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol Neu5Ac from Neu5Acα2, 3Galβ1, 4Glc Ceramide per minute at 37°C.

Hydrolase

SE-3012 α2, 3/6-sialidase (BiNanH2)

Neu5Acα2, 3/6 Galβ1, 4Glc ⟶ Galβ1, 4Glc + Neu5Ac

EC: 3.2.1.18

Package: 1 kU, 5 kU

Explanation: α2, 3/6 Sialidase catalyzes the hydrolysis of α2, 3, α2, 6 linked sialic acid residues from glycoproteins and oligosaccharides,*E. coli* recombinant α 2, 3, 6 sialidase from *Bifidobacterium longum subsp. Infantis*.

Definition: One unit is defined as the amount of enzyme that catalyze the Neu5Acα2,6Galβ1,4Glc generation of 1 μmol lactose and Neu5Ac per minute at 37°C.

SE-3013 α2, 3/6/8 sialidase (SpNanA)

Neu5Acα2, 3/6/8 Neu5Ac ⟶ Neu5Ac

EC: 3.2.1.18

Package: 1 kU, 5 kU

Explanation: *E.coli* recombinant α 2,3/6/8 -sialidasesialidase from *Streptococcus pneumoniae*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol Neu5Ac from Neu5Acα2, 3/6/8 Neu5Ac per minute at 37°C.

SE-3014 α2, 6-sialidase (Ps26PSia)

Neu5Acα2,6Galβ1,4Glc ⟶ Galβ1,4Glc+ Neu5Ac

EC: 3.2.1.18

Package: 100U, 1000 U

Explanation: α2,6-sialidase catalyzes the hydrolysis of α2,6-linked sialic acid residues from glycoproteins and oligosaccharides,*E. coli* recombinant α2,6- sialidase from *Photobacterium sp*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol Neu5Ac from Neu5Acα2,6Galβ1,4Glc per minute at 37°C.

SE-3015 β - Galactosidase (EcLacZ)

Galβ1, 4Glc ⟶ Gal+Glc

EC: 3.2.1.123

Package: 100 U, 1000 U

Explanation: β-galactosidase catalyzes the hydrolysis of Galβ1,4Glc,*E. coli* recombinant β-galactosidase from *E. coli*.

Definition: One unit is defined as the amount of enzyme that catalyzes the hydrolysis of 1 μmol Galβ1,4Glc per minute at 37°C.

Hydrolase

SE-3016 α1, 3/4-fucosidase (BbAfcB)

Galβ1,4(Fucα1,3)Glc ⟶ Galβ1,4Glc+Fuc

EC: 3.2.1.111

Package: 1 U, 10 U

Definition: One unit is defined as the amount of enzyme that catalyzes the hydrolysis of 1 μmol Galβ1,4(Fucα1,3)Glc per minute at 37°C.

Explanation: α1,3/4-fucosidase catalyzes the hydrolysis of α1,3-linked fucose residues from Galβ1,4(Fucα1,3)Glc,*E. coli* recombinant α1,3/4-fucosidase from *Bifidobacterium bifidum*.

SE-3017 α1, 2-fucosidase (BbAfcA)

Fucα1,2Galβ1,4Glc ⟶ Galβ1,4Glc+Fuc

EC: 3.2.1.111

Package: 1 U, 10 U

Definition: One unit is defined as the amount of enzyme that catalyzes the hydrolysis of 1 μmol Fucα1,2Galβ1,4Glc per minute at 37°C.

Explanation: α 1-2 fucosidase catalyzes the hydrolysis of α 1-2 linked fucose residues from Fucα1,2Galβ1,4Glc,*E. coli* recombinant α 1-2 fucosidase from *Bifidobacterium bifidum*.

SE-3019 Inorganic pyrophosphatase (PmPPA)

$P2O7^{-4}+H_2O \longrightarrow 2HPO_4^{-2}$

EC: 3.6.1.1

Package: 100 U, 1 kU

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol inorganic phosphate from inorganic pyrophosphate per minute at 37°C.

Explanation: *E.coli* recombinant inorganic pyrophosphatase from *Pasteurella multocida*.

SE-3024 Cyclomaltodextrinase (TsCDase)

β-cyclodextrin ⟶ $(Glcα1,4)_6Glc$

EC: 3.2.1.54

Package: 1 kU ,5 kU

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol (Glca1,4)6Glc fromβ-cyclodextrin minute at 80°C, pH 5.0.

Explanation: *E.coli* recombinant cyclomaltodextrinase from *Thermococcus sp.* Strain B1001.

Hydrolase

SE-3025 α-glucosidase (TmAglA)

Maltose+H_2O ⟶ 2Glucose

EC: 3.2.1.20

Package: 10 U,100 U

Definition: Enzyme activity is defined as the amount of enzyme required to hydrolyze 1μmol maltose per minute to produce Gluose at 80°C.

Explanation: *E.coli* recombinant α-glucosidase from *Thermotoga maritima*.

SE-3026 β-N-acetylhexosaminidase (SpStrH)

EC: 3.2.1.52

Package: 1 U， 10 U

Definition: The enzyme activity unit is defined as the amount of enzyme required to hydrolyze GlcNAcβ1,2Manα1,3 (GlcNAcβ1,2Manα1,6) Manβ1,4GlcNAc to release 1μmol GlcNAc per hour at 37°C.

Explanation: *E.coli* recombinant β-N-acetylhexosaminidase from *Streptococcus pneumoniae*.

SE-3027 Sucrose phosphorylase (BlSuP)

Phosphate + sucrose ⟶ alpha-D-glucose 1-phosphate + D-fructose

EC: 2.4.1.7

Package: 10 U, 100 U

Definition: One unit is defined as the amount of enzyme required to catalyze the hydrolysis of 1μmol sucrose per minute at 37°C.

Explanation: *E.coli* recombinant Sucrose phosphorylase from *Bifidobacterium longum*.

SE-3028 α 1,2-Fucosidase (Bli2Fuc)

Fucα1,2Galβ1,4Glc ⟶ Galβ1,4Glc + Fuc

EC: 3.2.1.111

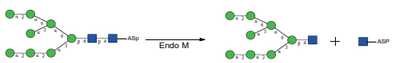
Package: 1 U, 10 U

Definition: One unit is defined as the amount of enzyme that catalyzes the hydrolysis of 1 μmol Fucα1,2Galβ1,4Glc per minute at 37°C.

Explanation: *E.coli* recombinant α 1,2-Fucosidase from *Bifidobacterium longum.*

Hydrolase

SE-3029 Endo-β-N-acetylglucosaminidase M (EndoM)



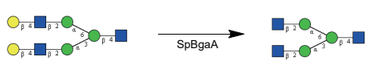
EC: 3.2.1.96

Package: 1 kU, 5 kU

Explanation: *E.coli* recombinant Endo-β-N-acetylglucosaminidase M from *Mucor hiemalis*.

Definition: One unit is defined as the amount of enzyme required to remove > 95% of the carbohydrate from 10 μg of denatured RNase B in 1 hour at 37°C in a total reaction volume of 10 μl.

SE-3030 β-Galactosidase (SpBgaA)



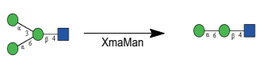
EC: 3.2.1.23

Package: 10 U, 100 U

Explanation: *E.coli* recombinant β-Galactosidase from *Streptococcus pneumoniae*

Definition: One unit is defined as the amount of enzyme that catalyzes the hydrolysis of 1 μmol LacNAc per minute at 37°C.

SE-3031 α1, 3-Mannosidase (XmaMan)



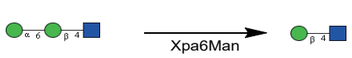
EC: 3.2.1.114

Package: 10 U, 100 U

Explanation: *E.coli* recombinant α1,3-Mannosidase from *Xanthomonas manihotis.*

Definition: The enzyme activity unit is defined as the amount of enzyme required to hydrolyze 1nmol Manα1,6(Manα1,3)Manβ1,4GlcNAc in a 10ul system at 37°C to Manα1,6Manβ1,4GlcNAc per hour.

SE-3032 α1, 6-Mannosidase (Xpα6Man)



EC: 3.2.1.24

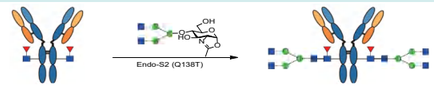
Package: 10 U, 100 U

Explanation: *E.coli* recombinant α l,6-mannosidase from *Xanthomonas phaseoli.*

Definition: The enzyme activity unit is defined as the amount of enzyme required to hydrolyze 1nmol Manα1,6Manβ1,4GlcNAc to Manβ1,4 GlcNAc per hour in a 10ul system at 37°C.

Hydrolase

SE-3033 Endo-β-N-acetylglucosaminidase mutant; Endo S2 (T138Q)



EC: 3.2.1.96

Package: 10 kU, 100 kU

Explanation: *E.coli* recombinant Endo S2 mutant T138Q from *Streptococcus pyogenes*.

Definition: One unit is defined as the amount of enzyme required to remove > 95% of the G0N1 transferred from G0N1-oxa to 5 μg of required enzyme amount on the hydrolyzed trastuzumab in 1 hour at 37°C in a total reaction volume of 10 μl.

SE-3034 Endo-β-N-acetylglucosaminidase F2 (Endo F2)

EC: 3.2.1.96

Package: 5 kU, 50 kU

Explanation: *E.coli* recombinant Endo-β-N-acetylglucosaminidase F2 from *Elizabethkingia meningosepticum*.

Definition: One unit is defined as the amount of enzyme required to remove > 95% of the carbohydrate from 10 μg of denatured Porcine Fibrinogen in 1 hour at 37°C in a total reaction volume of 10 μl.

SE-3035 β-Glucosidase (CoGH1A)

pNP-β-D-glucose ⟶ glucose + pNP

EC: 3.2.1.21

Package: 10 U, 100 U

Explanation: *E.coli* recombinant β-Glucosidase from *Caldicellulosiruptor owensensis*.

Definition: One unit is defined as the amount of enzyme that catalyzes the hydrolysis of 1 μmol pNP-β-D-glucose per minute at 80°C.

SE-3036 Maltohexaose-forming α-amylase (KpG6A)

Starch ⟶ maltohexaose

EC: 3.2.1.98

Package: 1 U, 10 U

Explanation: *E.coli* recombinant Maltohexaose-forming α-amylase from *Klebsiella pneumoniae.*

Definition: Enzyme activity is defined as the amount of enzyme required to catalyze the formation of 1μmol maltohexose at 35°C for 1 hour.

Hydrolase

SE-3038 Inorganic pyrophosphatase (ScPPA)

$P_2O_7^{-4}+H_2O \longrightarrow 2HPO_4^{-2}$

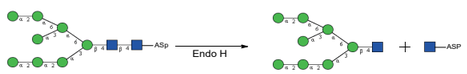
EC: 3.6.1.1

Package: 1000 U

Explanation: *E.coli* recombinant Inorganic pyrophosphatase from *Saccharomvces cerevisiae*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol inorganic phosphate from inorganic pyrophosphate per minute at 37°C.

SE-3040 Endo-β-N-acetylglucosaminidase H (Endo H)



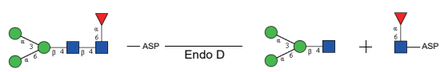
EC: 3.2.1.96

Package: 50 kU, 500 kU

Explanation: *E. coli* recombinant Endo-β-N-acetylglucosaminidase H from *Streptomyces plicatus*.

Definition: At 37°C, with a total reaction volume of 10μl, the amount of enzyme required for the cleavage of cleavage of >95% carbohydrates of 10 μg human RNase B in 1 hour is defined as one unit.

SE-3041 Endo-β-N-acetylglucosaminidase D (Endo D)



EC: 3.2.1.96

Package: 100 U, 1000 U

Explanation: *E. coli* recombinant Endo-β-N-acetylglucosaminidase D from *Streptococcus pneumoniae*.

Definition: At 37°C, with a total reaction volume of 10μl, the amount of enzyme required for the cleavage of > 95% carbohydrates of 10 μg denatured Fetuin within 1 hour is defined as one unit.

SE-3042 Endo-β-N-acetylglucosaminidase F3 (Endo F3)

EC: 3.2.1.96

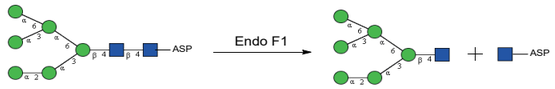
Package: 100 U, 1000 U

Explanation: *E.coli* recombinant Endo-β-N-acetylglucosaminidase F3 from *Flavobacterium meningosepticum*.

Definition: At 37°C, with a total reaction volume of 10μl, the amount of enzyme required to cleave > 95% carbohydrates of 10 μg human IgG within 1 hour is defined as one unit.

Hydrolase

SE-3043 Endo-β-N-acetylglucosaminidaseF1 (Endo F1)



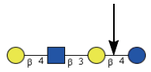
EC: 3.2.1.96

Package: 300 U, 1000 U

Explanation: *E.coli* recombinant Endo-β-N-acetylglucosaminidase F1 from *Elizabethkingia meningoseptica*.

Definition: The amount of enzyme required to remove more than 95% of carbohydrates from 5 μg RNaseB at 37°C for 1 hour in a reaction system of 10 μl.

SE-3044 Endo-β-galactosidase (BfEndoβGal)



EC: 3.2.1.103

Package: 200 U, 20000 U

Explanation: *E. coli* recombinant Endo-β-galactosidase from *Bacteroides fragilis*.

Definition: One unit is defined as the amount of enzyme releasing 1nmol of reducing sugar from LNnT per hour at 37°C, pH 5.8.

SE-3046 α1-3,4,6 Galactosidase (CaαGal)

EC: 3.2.1.22

Package: 2000 U, 20000 U

Explanation: *E. coli* recombinant α1-3,4,6 Galactosidase from *Coffea arabica*.

Definition: One unit is defined as the amount of enzyme releasing 1nmol galactose per hour from Galα1,3Galβ1,4 Glc at 37°C and pH 5.5.

SE-3047 α1-3,6 Galactosidase (Xmα36Gal)

EC: 3.2.1.22

Package: 10 U, 100 U

Explanation: *E.coli* recombinant α1-3,6 Galactosidase from *Xanthomonas manihotis*.

Definition: One unit is defined as the amount of enzyme releasing 1nmol galactose per hour from Galα1,3Galβ1,4Glc at 37°C, pH 5.5.

Hydrolase

SE-3048 β1-3 Galactosidase (Spβ13Gal)

EC: 3.2.1.23

Package: 100 U, 1000 U

Explanation: *E.coli* recombinant β1-3 Galactosidase from *Streptococcus pneumoniae*.

Definition: One unit is defined as the amount of enzyme that releases 1nmol galactose per minute from Galβ1,3GlcNAcβ1,3Galβ1,4Glc at 37°C and pH 5.0.

SE-3049 β1-3,6 Galactosidase (Amβ36Gal)

EC: 3.2.1.23

Package: 400 U, 4000 U

Explanation: *E. coli* recombinant β1-3,6 Galactosidase from *Akkermansia muciniphila*.

Definition: One unit is defined as the amount of enzyme that releases 1nmol galactose per minute from Galβ1,3GlcNAcβ1,3Galβ1,4 Glc at 37°C and pH 5.0.

SE-3050 β1-3,4,6 Galactosidase

EC: 3.2.1.23

Package: 100 U, 1000 U

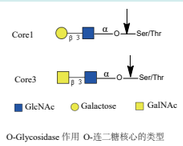
Explanation: Mixture of β1-3,6 Galactosidase and β1-4 Galactosidase.

Definition: One unit is defined as the amount of enzyme that releases 1nmol galactose per minute from Galβ1,3GlcNAcβ1,3Galβ1,4Glc at 37°C and pH 5.0.

SE-3051 O-Glycosidase (SpEng)

EC: 3.2.1.97

Package: 10000 U, 100 kU



Explanation: *E.coli* recombinant O-Glycosidase from *Streptococcus pneumoniae*.

Definition: One unit is defined as the amount of enzyme required to catalyze the release of 1nmol Galβ1,3GalNAc per minute at 37°C, pH 5.5.

Hydrolase

SE-3052 CMP N-glycosidase (SrMilB)

dCMP ⟶ 2' - deoxyribo - 5' - phosphate + cytosine

EC: 3.2.1.96

Package: 100 U, 1000 U

Explanation: *E.coli* recombinant CMP N-glycosidase from *Streptomyces rimofaciens*.

Definition: One unit is defined as the amount of enzyme required to hydrolyze 1μmol dCMP per minute at 37°C.

SE-3053 β-N-acetylhexosaminidase (SnHEX)

EC: 3.2.1.52

Package: 100 U, 1000 U

Explanation: *E. coli* recombinant β-N-acetylhexosaminidase from *Stackebrandtia nassauensis*.

Definition: One unit is defined as the amount of enzyme required to hydrolyze the 1μmol GlcNacβ1,3Galβ1,4Glc per minute at 37°C.

SE-3054 α-N-acetylgalactosaminidase (CpAagA)

EC: 3.2.1.49

Package: 10 U, 100 U

Explanation: *E. coli* recombinant α-N-acetylgalactosaminidase from *Clostridium perfringens*.

Definition: One unit is defined as the amount of enzyme required to hydrolyze 1μmol Blood type A trisacharide per minute at 37°C.

SE-3055 β-fructosidase (TmBfrA)

EC: 3.2.1.26

Package: 10 U, 100 U

Explanation: *E.coli* recombinant β-fructosidase from *Thermotoga maritima*.

Definition: One unit is defined as the amount of enzyme required to hydrolyze 1μmol sucrose per minute at 60°C.

Hydrolase

SE-3056 Cellobiose phosphorylase (CgCBP)

D-cellobiose + phosphate ⟶ alpha-D-glucose 1-phosphate + D-glucose

EC: 2.4.1.20

Package: 100 U, 1000 U

Explanation: *E.coli* recombinant cellobiose phosphorylase from *Cellulomonas gilvus*.

Definition: One unit is defined as the amount of enzyme required to hydrolyze 1 μmol cellobiose per minute at 37°C.

SE-3057 1,4-β-mannosyl-N-acetylglucosamine phosphorylase (BtMPase)

4-O-beta-D-mannopyranosyl-N-acetyl-D-glucosamine + phosphate ⟶ alpha-D-mannose 1-phosphate + N-acetyl-D-glucosamine

EC: 2.4.1.320

Package: 400 U, 4000 U

Explanation: *E. coli* recombinant 1,4-β-mannosyl-N-acetylglucosamine phosphorylase from *Bacteroides thetaiotaomicron.*

Definition: One unit is defined as the amount of enzyme required to hydrolyze 1μmol 4-O-beta-D-mannopyranosyl-N-acetyl-D-glucosamine per minute at 37°C.

SE-3058 N,N'-diacetylchitobiose phosphorylase (VpChBP)

N,N'-diacetylchitobiose + phosphate ⟶ N-acetyl-alpha-D-glucosamine 1-phosphate + N-acetyl-D-glucosamine

EC: 2.4.1.280

Package: 100 U, 1000 U

Explanation: *E. coli* recombinant N,N'-diacetylchitobiose phosphorylase from *Vibrio proteolyticus.*

Definition: One unit is defined as the amount of enzyme required to hydrolyze 1μmol N,N'-diacetylchitobiose per minute at 37°C.

SE-3059 α1-4 Galactosidase (Bfα4Gal)

EC: 3.2.1.22

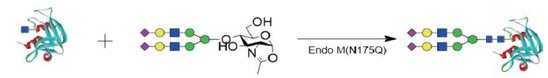
Package: 100 U, 1000 U

Explanation: *E.coli* recombinant α1-4 Galactosidase from *Bacteroides fragilis*.

Definition: One unit is defined as the amount of enzyme releasing 1nmol galactose per hour from Galα1,4Galβ1,4Glc at 37°C and pH 4.5.

Hydrolase

SE-3060 Endo-M (N175Q)



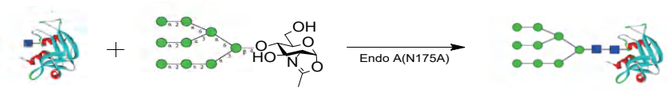
EC: 3.2.1.96

Package: 1 mg, 10 mg

Explanation: *E.coli* recombinant Endo M mutant N175Q from *Mucor hiemalis*.

Definition: The amount of enzyme required to transfer 95% of G0N1 from GoN1-oxazoline to 5ug hydrolyzed SGP in a reaction system of 10 μl at 37°C for 1 hour.

SE-3061 Endo-A (N171A)



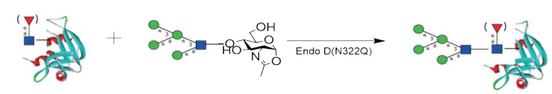
EC: 3.2.1.96

Package: 1 mg, 10 mg

Explanation: *E. coli* recombinant Endo M mutant N175Q from *Arthrobacter protophormiae*.

Definition: The amount of enzyme required to transfer 95% of Man9 from Man9-oxazoline to 5ug hydrolyzed SGP in a reaction system of 10 μl at 37°C for 1 hour.

SE-3062 SpEndo-D (N322Q)



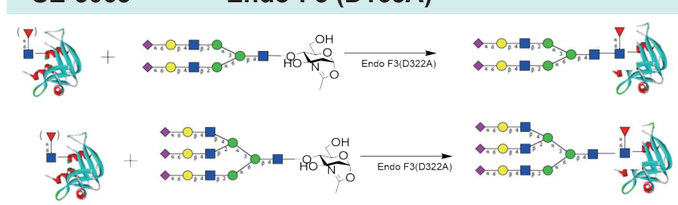
EC: 3.2.1.96

Package: 1 mg, 10 mg

Explanation: *E. coli* recombinant Endo D mutant N322Q from *Streptococcus pneumoniae*.

Definition: The amount of enzyme required to transfer 95% of Man5 from Man5-oxazoline to 5ug hydrolyzed SGP in a reaction system of 10 μl at 37°C for 1 hour.

SE-3063 Endo-F3 (D165A)



EC: 3.2.1.96

Package: 1 mg, 10 mg

Explanation: *E.coli* recombinant Endo F3 mutant D165A from *Flavobacterium meningosepticum*.

Definition: The amount of enzyme required to transfer 95% of triantennary N-glycan from triantennary N-glycan-oxazoline to 5ug hydrolyzed IgG in a reaction system of 10 μl at 37°C for 1 hour.

Generic type

SE-4001 UDP-Glc dehydrogenase (UGDH)

UDP-glucose + NAD^+ ⟶ UDP-glucuronic + NADH

EC: 1.1.1.22

Package: 1 U, 5 U, 10 U

Explanation: *E. coli* recombinant UDP-Glc dehydrogenase from *Streptococcus pyogenes*.

Definition: One unit will oxidize 1.0 μmol of UDP-glucose to UDP-glucuronic acid per minute at pH 8.7 at 25°C.

SE-4002 Glucose dehydrogenase (BsGDH)

D-glucose + $NADP^+$ ⟶ D-Glucuronic + NADPH

EC: 1.1.1.47

Package: 1 U, 5 U, 25 U

Explanation: *E. coli* recombinant glucose dehydrogenase from *Bacillus subtilis*.

Definition: One unit is defineded as the amount of enzyme that consume 1μmol $NADP^+$ to form D-Glucuronic acid and NADPH per min at 37°C.

SE-4003 Adenosine deaminase (RnADA)

Adenosine+H_2O ⟶ Inosine+NH_3

EC: 3.5.4.4

Package: 1 kU, 5 kU

Explanation: *E. coli* recombinant adenosine deaminase from *Rattus norvegicus*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol inosine from adenosine per minute at 37°C.

SE-4004 UDP-Glc 4-epimerase (EcGalE)

UDP-Glc ⟶ UDP-Gal

EC: 5.1.3.2

Package: 50 U, 500 U

Explanation: *E.coli* recombinant UDP-Glc 4-epimerase from *E. coli*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of UDP-Gal from UDP-Glc per minute at 37°C.

Generic type

SE-4005 D-Mannose isomerase (PsMaSeAF)

D-fructose ⟶ D-mannose

EC: 5.3.1.7

Package: 1 U, 5 U

Explanation: *E. coli* recombinant D-mannose isomerase from *Pseudomonas syringae*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol D-mannose from D-fructose per minute at 37°C.

SE-4006 Sphingolipid ceramide N-deacylase (SCDase)

GM1-sph + fatty acids C18 ⟶ GM1-Cer

EC: 3.5.1.69

Package: 100 mU, 1 U

Explanation: *E. coli* recombinant sphingolipid ceramide N-deacylase from *Shewanella alga*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol GM1-Cer from GM1sph and fatty acids C18 per minute at 37°C.

SE-4007 Hyaluronan synthase (PmHAS)

UDP-GlcNAc + UDP-GlcA ⟶ (GlcNAcβ1, 4GlcA)n

EC: 2.4.1.212

Package: 1 U, 5 U, 10 U

Explanation: *E.coli* recombinant hyaluronan synthase from *Pasteurella multocida*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol Hyaluronan from UDP-GlcNAc and UDP-GlcA per minute at 37°C.

SE-4008 Creatine kinase (OcCK)

ATP + creatine ⟶ ADP + phosphocreatine

EC: 2.7.3.2

Package: 50 U, 500 U

Explanation: *E. coli* recombinant creatine kinase from *Oryctolagus cuniculus*.

Definition: One unit is defined as the amount of enzyme that consume 1μmol ATP to form phosphocreatine and ADP per min at 37°C.

Generic type

SE-4009 Acetate kinase (ACK)

ADP + Acetyl-phosphate ⟶ ATP + Acetate

EC: 2.7.2.1

Package: 100 U, 1 kU

Explanation: *E.coli* recombinant acetate kinase from *E.coli*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol ATP from ADP and acetyl phosphate per minute at 37°C.

SE-4010 α1, 6-fucosidase (LpAlfC)

GlcNAc-peptide + Fuc-F ⟶ Fucα1,6GlcNAc-peptide

EC: 3.2.1.51

Package: 1 U, 5 U

Explanation: *E.coli* recombinant α 1, 6-fucosidase from *Lacticaseibacillus paracasei.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 nmol Fucα1,6GlcNAc-peptides from GlcNAc-peptides and GDP-Fuc per hour at 37°C.

SE-4012 Sialic acid aldolase (CgNal)

ManNAc + Pyuvate ⟶ Neu5Ac

EC: 4.1.3.3

Package: 10 U, 50 U

Explanation: *E. coli* recombinant sialic acid aldolase from *Corynebacterium glutamicum*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol Neu5Ac from ManNAc and Pyuvate per minute at 37°C.

SE-4013 N-acetylhexosamine kinase (NahK)

GlcNAc/ GalNAc + ATP ⟶ GlcNAc-1-P/ GalNAc-1-P + ADP

EC: 2.7.1.162

Package: 10 U, 50 U, 100 U

Explanation: *E. coli* recombinant N-acetylhexosamine kinase from *Bifidobacterium longum*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of GlcNAc-1-P from GlcNAc and ATP per minute at 37°C.

Generic type

SE-4014 Galactokinase (BiGalK)

Gal + ATP ⟶ Gal-1-P + ADP

EC: 2.7.1.6

Package: 100 U, 1000 U

Explanation: *E. coli* recombinant galactokinase from *Bifidobacterium infantis*.

Definition: One unit is defined as the amount of enzyme that consume 1μmol ATP to form Gal-1-P and ADP per min at 37°C.

SE-4015 Glucuronokinase (AtGlcAK)

ATP + GlcA ⟶ GlcA-1-P + ADP

EC: 2.1.7.43

Package: 1 U, 5 U, 25 U

Explanation: *E. coli* recombinant glucuronokinase from *Arabidopsis thaliana*.

Definition: One unit is defined as the amount of enzyme that consume 1μmol ATP and GlcA to form GlcA-1-P and ADP per min at 37°C.

SE-4016 Galcuronokinase (AtGalAK)

ATP + GalA ⟶ GalA-1-P + ADP

EC: 2.7.1.44

Package: 1 U, 5 U, 25 U

Explanation: *E. coli* recombinant galcuronokinase from *Arabidopsis thaliana*.

Definition: One unit is defined as the amount of enzyme that consume 1μmol ATP and GalA to form GalA-1-P and ADP per min at 37°C.

SE-4017 Hexokinase (HsHKI)

Glucose+ATP ⟶ Glucose-6-P+ADP

EC: 2.7.1.1

Package: 1 U, 5 U, 25 U

Explanation: *E.coli* recombinant hexokinase from *Homo sapiens*.

Definition: One unit is defined as the amount of enzyme that consume 1μmol ATP and glucose to form Glucose-6-P and ADP per min at 37°C.

Generic type

SE-4018 GlcNAc kinase (EcNagK)

GlcNAc + ATP ⟶ GlcNAc-6-P + ADP

EC: 2.7.1.59

Package: 10 U, 50 U, 100 U

Explanation: *E.coli* recombinant GlcNAc kinase from *E. coli*.

Definition: One unit is defined as the amount of enzyme that consume 1μmol ATP and GlcNAc to form GlcNAc-6-P and ADP per min at 37°C.

SE-4019 Galactose dehydrogenase (PfGalDH)

Galactose + NAD^+ ⟶ galacturonic acid + NADH

EC: 1.1.1.48

Package: 10 U, 50 U, 100 U

Explanation: *E.coli* recombinant galactose dehydrogenase from *Pseudomonas fluorescens*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol NADH from Galactose and NAD per minute at 37°C.

SE-4020 N-acylhexosamine oxidase (RsHexNAcO)

N-acetyl-D-glucosamine + O_2 + H_2O ⟶ N-acetyl-D-glucosaminate + H_2O_2

EC: 1.1.3.29

Package: 10 U, 50 U 100 U

Explanation: *E. coli* recombinant N-acylhexosamine oxidase from *Ralstonia solanacearum*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol H_2O_2 per minute at 37°C.

SE-4021 Phosphopentomutase (EcDeoB)

Ribose-5-P ⟶ Ribose-1-P

EC: 5.4.2.7

Package: 10 U, 50 U, 100 U

Explanation: *E. coli* recombinant phosphopentomutase from *E. coli*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol Ribose-1-P per minute at 37°C.

Generic type

SE-4022 Fructose dehydrogenase (FDH)

D-fructose ⟶ keto-D-fructose

EC: 1.1.99.11

Package: 25 U, 250 U, 2500 U

Explanation: D-Fructose dehydrogenase extracted from *Gluconobacter sp*.

Definition: One unit is defined as the amount of enzyme that transfer 1μmol D-fructose to 5-ketofructose per min at pH 4.5 at 37°C.

SE-4023 Sialic acid aldolase (EcNPL)

ManNAc + Pyruvate ⟶ Neu5Ac

EC: 4.1.3.3

Package: 10 U, 50 U

Explanation: *E. coli* recombinant sialic acid aldolase from *E. coli*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol Neu5Ac from ManNAc and Pyruvate per minute at 37°C.

SE-4024 D-galactosyl-β1, 3-N-acetyl-D-hexosamine phosphorylase (BiGalHexNAcP)

GlcNAcOR+ Gal-1-P ⟶ Galβ1, 3GlcNAcOR + PPi

EC: 2.4.1.211

Package: 5 U, 25 U, 200 U

Explanation: *E.coli* recombinant D-galactosyl-β1-3-N-acetyl-D-hexosamine phosphorylase from *Bifidobacterium infantis*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of Galβ1,3GlcNac from Gal-1-P and 1 μmol GlcNAc per minute at 37°C.

SE-4025 Ketohexokinase (KHK-C)

fructose+ATP ⟶ fructose-1-P+ADP

EC: 2.7.1.3

Package: 50 U, 250 U, 1 kU

Explanation: *E. coli* recombinant ketohexokinase from *Homo sapiens*.

Definition: One unit is defined as the amount of enzyme that consume 1μmol ATP and fructose to form fructose-1-P per min at 37°C.

Generic type

SE-4026 L-arabinose isomerase (BlAI)

L -arabinose ⟶ L -ribulose

EC: 5.3.1.4

Package: 200 U，1000 U，5000 U

Explanation: *E.coli* recombinant L-arabinose isomerase from *Bifidobacterium longum.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 umol of L -ribulose from L -arabinose and Gal per min at 32°C.

SE-4027 Ribokinase (RbsK)

ATP + D-ribose ⟶ ADP + D-ribose 5-phosphate

EC: 2.7.1.15

Package: 100 U，1kU

Explanation: *E.coli* recombinant ribokinase from *Escherichia coli.*

Definition: Enzyme activity is defined as the amount of enzyme required to catalyze the production of 1 umol D-Ribose-5-phosphate from 1μM ATP and D-ribose per minute at 37°C.

SE-4029 Nucleoside diphosphate kinase (EcNDK)

2'-Deoxyribonucleoside 5'-diphosphate + ATP ⟶ 2'-Deoxyribonucleoside 5'-triphosphate + ADP

EC: 2.7.4.6

Package: 100 U，1 kU

Explanation: *E.coli* recombinant nucleoside diphosphate kinase from *Escherichia coli* .

Definition: Enzyme activity is defined as the amount of enzyme required to catalyze the production of 2'-deoxyribonucleoside 5'-triphosphate from 1μM ATP and 2'-deoxyribonucleoside 5'-diphosphate per minute at 37°C.

SE-4030 Xylose isomerase

D-xylose ⟶ D-xylulose

EC: 5.3.1.5

Package: 1 mg，100 mg

Explanation: *E.coli* recombinant xylose isomerase from *Streptomyces rubiginosus.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 mg fructose from glucose at 60°C，pH7.5，with 10mM $MgCl_2$.

Generic type

SE-4031 Cytidine deaminase (EcCdd)

Cytidine + H^+ + H_2O ⟶ NH_4^+ + uridine

EC: 3.5.4.5

Package: 100 U, 1 kU

Explanation: *E.coli* recombinant cytidine deaminase from *Escherichia coli* .

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of uridine from cytidine per min at 37°C.

SE-4032 Galactose oxidase (FgGalOx-M1)

Galactose + O_2 ⟶ D-galacto-hexodialdose + H_2O_2

EC: 1.1.3.9

Package: 100 U, 1 kU

Explanation: *E.coli* recombinant galactose oxidase from *Fusarium graminearum.*

Definition: Enzyme activity is defined as the amount of enzyme required to catalyze 2μmol ABST per minute at 37 ° C. (2μmol ABST is equivalent to 1μmol O_2).

SE-4033 ATP-Sulfurylase (AnSAT)

ATP+SO_4^{2+} ⟶ APS

EC: 2.7.7.4

Package: 100 U, 1 kU

Explanation: *E.coli* recombinant ATP-Sulfurylase from *Anacystis nidulans*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 umol of APS from ATP per min at 37°C.

SE-4034 UDP D-glucose 4,6-dehydratase (ApmUGD)

UDP-D-glucose ⟶ UDP-4-keto-6-deoxy-D-glucose+H_2O

EC: 1.1.1.22

Package: 1 U, 10 U

Explanation: *E.coli* recombinant UDP-D-glucose 4,6-dehydratase from *Acanthamoeba polyphaga*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of UDP-4-Keto-6-deoxy-D-glucose from UDP-D-glucose at 37°C.

Generic type

SE-4035 UDP-4-keto-6-deoxy-D-glucose 3,5-epimerase/4-reductase (ApmUGER)

UDP-4-Keto-6-deoxy-D-glucose+NADPH ⟶ UDP-L-rhamnose+$NADP^+$

EC: 5.3.1.4

Package: 1 U, 10 U

Explanation: *E.coli* recombinant UDP-4-keto-6-deoxy-D-glucose 3,5-epimerase/4-reductase from *Acanthamoeba polyphaga.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of UDP-L-rhamnose from UDP-4-Keto-6-deoxy-D-glucose at 37°C.

SE-4036 D-xylose dehydrogenase (CvXylB)

D-xylose + NAD^+ ⟶ D-xylono-1,5-lactone + H^+ + NADH

EC: 1.1.1.175

Package: 1 U, 10 U

Explanation: *E.coli* recombinant D-xylose dehydrogenase from *Caulobacter vibrioides.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of D-xylono-1,5-lactone from D-xylose at 37°C.

SE-4037 D-xylonolactone lactonase (CvXylC)

D-xylono-1,5-lactone + H_2O ⟶ D-xylonate + H^+

EC: 3.1.1.110

Package: 1 U, 10 U

Explanation: *E.coli* recombinant D-xylonolactone lactonase from *Caulobacter vibrioides*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 umol of D-xylonate from D-xylono-1,5-lactone at 37°C.

SE-4038 Guanosine kinase (EaGSK)

ATP + guanosine ⟶ ADP + GMP + H^+

EC: 2.7.1.73

Package: 100 U, 1 kU

Explanation: *E.coli* recombinant guanosine kinase from *Exiguobacterium aurantiacum.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of GMP from ATP and guanosine at 37°C.

Generic type

SE-4039 Purine nucleoside phosphorylase (EaPNP)

Inosine + phosphate ⟶ Alpha-D-ribose 1-phosphate + hypoxanthine

EC: 2.4.2.1

Package: 100 U, 1 kU

Explanation: *E.coli* recombinant purine nucleoside phosphorylase from *Enterobacter aerogenes.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of hypoxanthine from inosine at 37°C.

SE-4040 Adenine deaminase (EcAdeD)

Adenine + H^+ + H_2O ⟶ Hypoxanthine + $NH4^+$

EC: 3.5.4.2

Package: 100 U, 1 kU

Explanation: *E.coli* recombinant adenine deaminase from *E.coli.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of adenine from hypoxanthine at 37°C.

SE-4041 Adenylyl-sulfate kinase (EcCysC)

Adenosine 5'-phosphosulfate + ATP ⟶ 3'-phosphoadenylyl sulfate + ADP + H^+

EC: 2.7.1.25

Package: 100 U, 1 kU

Explanation: *E.coli* recombinant adenylyl-sulfate kinase from *E.coli*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of 3'-phosphoadenylyl sulfate from adenosine 5'-phosphosulfate and ATP at 37°C.

SE-4042 Thymidine phosphorylase (EcDeoA)

Phosphate + thymidine ⟶ 2-deoxy-alpha-D-ribose 1-phosphate + thymine

EC: 2.4.2.4

Package: 100 U, 1 kU

Explanation: *E.coli* recombinant thymidine phosphorylase from *E.coli*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of thymine from thymidine at 37°C.

Generic type

SE-4043 Purine nucleoside phosphorylase (EcDeoD)

A purine D-ribonucleoside + phosphate ⟶ A purine nucleobase + alpha-D-ribose 1-phosphate

EC: 2.4.2.1

Package: 100 U, 1 kU

Explanation: *E.coli* recombinant purine nucleoside phosphorylase from *E.coli.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of alpha-D-ribose 1-phosphate from a purine D-ribonucleoside at 37°C.

SE-4044 Polyphosphate kinase (RsPPK)

[Phosphate](n) + ATP ⟶ [Phosphate](n+1) + ADP

EC: 2.7.4.1

Package: 100 U, 1 kU

Explanation: *E.coli* recombinant polyphosphate kinaseK from *Rhodobacter sphaeroides.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of ADP from ATP and [Phosphate](n) at 37°C.

SE-4045 Polyphosphate kinase (EcPPK)

[Phosphate](n) + ATP ⟶ [Phosphate](n+1) + ADP

EC: 2.7.4.1

Package: 100 U, 1 kU

Explanation: *E.coli* recombinant polyphosphate kinase from *Escherichia coli*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of ADP from ATP and [phosphate](n) at 37°C.

SE-4046 Polyphosphate kinase (HbPPK2)

[Phosphate](n) + ATP ⟶ [Phosphate](n+1) + ADP

EC: 2.7.4.1

Package: 100 U, 1 kU

Explanation: *E.coli* recombinant polyphosphate kinase from *Hydrogenophilaceae bacterium.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of ADP from ATP and [phosphate](n) at 37°C.

Generic type

SE-4047 Polyphosphate kinase (AsPPK2)

[Phosphate](n) + ATP ⟶ [Phosphate](n+1) + ADP

EC: 2.7.4.1

Package: 100 U, 1 kU

Explanation: *E.coli* recombinant polyphosphate kinase from *Acidibacillus sulfuroxidans.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of ADP and [Phosphate](n+1) from ATP and [phosphate](n) at 37°C.

SE-4048 Glutamate decarboxylase (EcGadB)

L-glutamate ⟶ 4-aminobutanoate + CO_2

EC: 4.1.1.15

Package: 1 U, 10 U

Explanation: *E.coli* recombinant glutamate decarboxylase from *E.coli.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of 4-aminobutanoate from L-glutamate at 37°C.

SE-4049 Nicotinamide adenine dinucleotide (NADH) oxidase (SmNox)

$NADH+O_2 \longrightarrow NAD^+ + H_2O$

EC: 1.6.99.3

Package: 1 U, 10 U

Explanation: *E.coli* recombinant NADH oxidase from *Streptococcus mutans*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of NADH from NAD^+ at 37°C.

SE-4050 Guanylate kinase (ScGMK)

ATP + GMP ⟶ ADP + GDP

EC: 2.7.4.8

Package: 100 U, 1 kU

Explanation: *E.coli* recombinant guanylate kinase from *Saccharomyces cerevisiae*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of GDP from GMP and ATP at 37°C.

Generic type

SE-4051 Uridylate kinase (ScURA6)

ATP + UMP ⟶ ADP + UDP

EC: 2.7.4.14

Package: 100 U, 1 kU

Explanation: *E.coli* recombinant uridylate kinase from *Saccharomyces cerevisiae.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of UDP from UMP and ATP at 37°C.

SE-4055 Phosphoglucomutase/Phosphomannomutase (SsPgmG)

Glucose 6-phosphate ⟶ Glucose 1-phosphate

EC: 1.1.3.9

Package: 100 U, 1 kU

Explanation: *E.coli* recombinant phosphoglucomutase/ phosphomannomutase from *Sphingomonas sanxanigenens.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of glucose-6-phosphate from glucose 1-phosphate at 37°C.

SE-4058 Fructose-1, 6-diphosphatese (FBP)

beta-D-fructose 1,6-bisphosphate + H_2O ⟶ beta-D-fructose 6-phosphate + phosphate

EC: 3.1.3.11

Package: 100 U, 1 kU

Explanation: *E.coli* recombinant fructose-1, 6-diphosphatese from *Saccharomyces cerevisiae*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of beta-D-fructose 6-phosphatefrom from beta-D-fructose 1,6-bisphosphate at 37°C.

SE-4056 Inorganic polyphosphate/ATP-glucomannokinase (AspPPGK)

D-glucose + polyphosphate(n) ⟶ D-glucose 6-phosphate + polyphosphate(n-1)

EC: 2.7.1.63

Package: 100 U, 1 kU

Explanation: *E.coli* recombinant inorganic polyphosphate/ ATP-glucomannokinase from *Arthrobacter sp*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of D-glucose 6-phosphate from D-glucose+ polyphosphate(n) at 37°C.

Generic type

SE-4057 UDP-GlcNAc 4-epimerase (BsGalE)

UDP-GlcNAc ⟶ UDP-GalNAc

EC: 5.1.3.7

Package: 10 U, 100 U

Explanation: *E.coli* recombinant UDP-GlcNAc 4-epimerase from *Bacillus subtilis.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of UDP-GalNAc from UDP-GlcNAc per minute at 37ºC.

SE-4059 L-arabinokinase (PbAraK)

ATP + L-arabinose ⟶ ADP + L-arabinose 1-phosphate

EC: 2.7.1.46

Package: 10 U, 100 U

Explanation: *E.coli* recombinant L-arabinokinase from *Paludisphaera borealis.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of L-arabinose 1-phosphate from L-arabinose and ATP per minute at 37ºC.

SE-4060 D-xylose kinase (ScGalK)

ATP + D-xylose ⟶ ADP + D-xylose 1-phosphate

EC: 2.7.1.6

Package: 1 U, 10 U

Explanation: *E.coli* recombinant D-xylose kinase from *Solitalea canadensis*.

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of D-xylose 1-phosphate from D-xylose and ATP per minute at 37ºC.

SE-4061 Formate dehydrogenase (PsFDH)

Formate + NAD^+ ⟶ CO_2 + NADH

EC: 1.17.1.11

Package: 1 U, 10 U

Explanation: *E.coli* recombinant formate dehydrogenase from *Pseudomonas sp.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of NADH from formate and NAD^+ per minute at 37ºC.

Generic type

SE-4062 Aldehyde dehydrogenase (ALDH)

$Acetaldehyde + H_2O + NADP^+ \longrightarrow Acetate + 2H^+ + NADPH$

EC: 1.2.1.4

Package: 100 U, 1 kU

Explanation: Extracted from *Saccharomyces cerevisiae.*

Definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 μmol of acetate from acetaldehyde and $NADP^+$ per minute at 37°C.

真核细胞表达的糖工具酶——助力糖生物科学发展

背景介绍

糖基化修饰是一种普遍存在的蛋白质翻译后修饰的类型，主要发生在内质网和高尔基体中，在细胞生长、分化和代谢，蛋白质折叠和降解，病毒和细菌识别，信号传递以及受精等生命过程中发挥重要作用。

正确的蛋白质糖基化影响蛋白质自身的稳定性、免疫原性、代谢特性以及生物活性等。目前，蛋白质糖基化和糖蛋白功能特性的研究已成为糖生物学领域研究的前沿热点。

我们的优势

武汉糖智药业拥有先进的真核表达技术平台，可以提供各种真核来源的糖基转移酶、糖苷酶等，助力蛋白糖基化修饰、糖肽合成及各种O-糖和N-糖合成、ADC（糖链定点偶联药物）等应用。

我们拥有酵母、杆状病毒-昆虫细胞、哺乳动物细胞等真核表达系统，能合成具有高生物活性的酶，并能应用生物反应器进行放大生产，满足科研和工业上的需要。

Galactose transferase

GE-1001 beta-1,4-Galactosyltransferase 1 (B4GalT1)

$D\text{-glucose} + UDP\text{-alpha-}D\text{-galactose} \longrightarrow H^+ + lactose + UDP$

EC: 2.4.1.22

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human beta-1,4-Galactosyltransferase 1/B4GalT1 protein.

Definition: Measured by its ability to transfer galactose from UDP-galactose to N-Acetyl-alpha -D-glucosamine.

GE-1002 beta-1,4-Galactosyltransferase 1 (B4GalT1 (Y285L))

GlcNAc+UDP-GalNAc ⟶ GalNAc(β1–4）GlcNAc+UDP

EC: 2.4.1-

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human beta-1,4-Galactosyltransferase 1/B4GALT1 protein.

Definition: Measured by its ability to transfer N-Acetyl-D-galactosamine from UDP-GalNAc to N-Acetyl-D-glucosamine.

Galactose transferase

GE-1003 Beta-1,3-galactosyltransferase 5 (B3GalT5)

globoside Gb4Cer (d18:1(4E)) + UDP-alpha-D-galactose ⟶ globoside GalGb4Cer (d18:1(4E)) + H^+ + UDP

EC: 2.4.1-

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human B3GalT5 protein.

Definition: Measured by its ability to transfer galactose from UDP-galactose to N-Acetyl-alpha -D-glucosamine.

GE-1004 beta-1,4-Galactosyltransferase 2 (B4GalT2)

D-glucose + UDP-alpha-D-galactose ⟶ H^+ + lactose + UDP

EC: 2.4.1.22

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human beta-1,4-Galactosyltransferase 2/B4GalT2 protein.

Definition: Measured by its ability to transfer galactose from UDP-galactose to glucose.

GE-1005 beta-1,4-Galactosyltransferase 7 (B4GalT7)

3-O-(beta-D-xylosyl)-L-seryl-[protein] + UDP-alpha-D-galactose ⟶ 3-O-(beta-D-galactosyl-(1->4)-beta-D-xylosyl)-L-seryl-[protein] + H^+ + UDP

EC: 2.4.1.133

Package: 1 mg / 定制

Explanation: Human embryonic kidney cell, HEK293-derived human Beta-1,4-Galactosyltransferase 7/B4GalT7 protein.

Definition: Measured by its ability to transfer galactose from UDP-Galactose to D-Xylose.

GE-1006 Bovine beta-1,4-Galactosyltransferase 1 (Y289L) /Bovine B4GALT1 (Y289L)

GlcNAc + UDP-GalNAc ⟶ GalNAc(β1–4)GlcNAc + UDP

EC: 2.4.1-

Package: 1 mg / 定制

Explanation: Human embryonic kidney cell, HEK293-derived Bovine beta-1,4-Galactosyltransferase 1 (Y289L)/B4GALT1 (Y289L) protein.

Definition: Measured by its ability to transfer N-Acetyl-D-galactosamine from UDP-GalNAc to N-Acetyl-D-glucosamine.

Galactose transferase

GE-1007 Bovine beta-1,4-Galactosyltransferase 1 (Bovin B4GALT1)

N-acetyl-beta-D-glucosaminyl derivative + UDP-alpha-D-galactose = beta-D-galactosyl-(1->4)-N-acetyl-beta-D-glucosaminyl derivative + H^+ + UDP

EC: 2.4.1.38

Package: 1 mg / 定制

Explain: *Trichoplusia ni*, High Five(baculovirus)-derived Bovine beta-1,4-Galactosyltransferase 1/B4GALT1 protein.

Definition: Measured by its ability to transfer galactose from UDP-galactose to N-Acetyl-alpha -D-glucosamine.

GE-1008 Mouse beta-1,4-Galactosyltransferase 1 (Y286L) / (Mouse B4GalT1 (Y286L))

GlcNAc + UDP-GalNAc = GalNAc(β1–4)GlcNAc + UDP

EC: 2.4.1-

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived Mouse beta-1,4-Galactosyltransferase 1/B4GALT1 protein.

Definition: Measured by its ability to transfer N-Acetyl-D-galactosamine from UDP-GalNAc to N-Acetyl-D-glucosamine.

GalNAc transferase

GE-1101 UDP-GalNAc:beta-1,3-N-acetylgalactosaminyltransferase 2 (B3GALNT2)

3-O-(N-acetyl-beta-D-glucosaminyl-(1->4)-alpha-D-mannosyl)-L-threonyl-[protein] + UDP-N-acetyl-alpha-D-galactosamine = 3-O-[beta-D-GalNAc-(1->3)-beta-D-GlcNAc-(1->4)-alpha-D-Man]-L-Thr-[protein] +H^++UDP

EC: 2.4.1.313

Definition: Measured by its ability to transfer GalNAc from UDP-GalNAc to benzyl-GlcNAc.

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human B3GALNT2 protein.

GE-1102 Polypeptide N-acetylgalactosaminyltransferase 1 (GALNT1)

L-seryl-[protein] + UDP-N-acetyl-alpha-D-galactosamine = 3-O-[N-acetyl-alpha-D-galactosaminyl]-L-seryl-[protein] + H^+ + UDP

EC: 2.4.1.41

Definition: Measured by its ability to transfer GalNAc from UDP-GalNAc to peptide EA2 .

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human Polypeptide GalNac Transferase 1/GALNT1 protein.

GE-1103 Polypeptide N-acetylgalactosaminyltransferase 2 (GALNT2)

L-seryl-[protein] + UDP-N-acetyl-alpha-D-galactosamine = 3-O-[N-acetyl-alpha-D-galactosaminyl]-L-seryl-[protein] + H^+ + UDP

EC: 2.4.1.41

Definition: Measured by its ability to transfer GalNAc from UDP-GalNAc to peptide EA2.

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human GALNT2 protein.

GE-1104 Polypeptide N-acetylgalactosaminyltransferase 3 (GALNT3)

GlcNAc+UDP-GalNAc ⟶ GalNAc(β1–4）GlcNAc+UDP

EC: 2.4.1.41

Definition: Measured by its ability to transfer GalNAc from UDP-GalNAc to peptide EA2.

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human Polypeptide GalNac Transferase 3/GALNT3 protein.

GalNAc transferase

GE-1105 Polypeptide N-acetylgalactosaminyltransferase 4 (GALNT4)

gL-seryl-[protein] + UDP-N-acetyl-alpha-D-galactosamine = 3-O-[N-acetyl-alpha-D-galactosaminyl]-L-seryl-[protein] + H^+ + UDP

EC: 2.4.1.41

Definition: Measured by its ability to transfer GalNAc from UDP-GalNAc to peptide EA2.

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human Polypeptide GalNac Transferase 4/GALNT4 protein.

GE-1106 Polypeptide N-acetylgalactosaminyltransferase 7 (GALNT7)

L-seryl-[protein] + UDP-N-acetyl-alpha-D-galactosamine = 3-O-[N-acetyl-alpha-D-galactosaminyl]-L-seryl-[protein] + H^+ + UDP

EC: 2.4.1.41

Definition: Measured by its ability to transfer GalNAc from UDP-GalNAc to peptide MUC5AC-3/13 .

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human Polypeptide GalNac Transferase 7/GALNT7 protein.

GE-1107 Polypeptide N-acetylgalactosaminyltransferase 10 (GALNT10)

L-seryl-[protein] + UDP-N-acetyl-alpha-D-galactosamine = 3-O-[N-acetyl-alpha-D-galactosaminyl]-L-seryl-[protein] + H^+ + UDP

EC: 2.4.1.41

Definition: Measured by its ability to transfer GalNAc from UDP-GalNAc to peptide MUC5AC-3/13 .

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human Polypeptide GalNac Transferase 10/GALNT10 protein.

GE-1108 Polypeptide N-acetylgalactosaminyltransferase 11 (GALNT11)

L-seryl-[protein] + UDP-N-acetyl-alpha-D-galactosamine = 3-O-[N-acetyl-alpha-D-galactosaminyl]-L-seryl-[protein] + H^+ + UDP

EC: 2.4.1.41

Definition: Measured by its ability to transfer GalNAc from UDP-GalNAc to peptide EA2.

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Polypeptide GalNac Transferase 11/GALNT11 protein.

GalNAc transferase

GE-1109 Polypeptide N-acetylgalactosaminyltransferase 12 (GALNT12)

L-seryl-[protein] + UDP-N-acetyl-alpha-D-galactosamine = 3-O-[N-acetyl-alpha-D-galactosaminyl]-L-seryl-[protein] + H^+ + UDP

EC: 2.4.1.41

Definition: Measured by its ability to transfer GalNAc from UDP-GalNAc to peptide EA2.

Package: 1 mg / 定制

Explain: Chinese Hamster Ovary cell line, CHO-derived human Polypeptide GalNac Transferase 12/GALNT12 protein.

GE-1110 Polypeptide N-acetylgalactosaminyltransferase 13 (GALNT13)

L-seryl-[protein] + UDP-N-acetyl-alpha-D-galactosamine = 3-O-[N-acetyl-alpha-D-galactosaminyl]-L-seryl-[protein] + H^+ + UDP

EC: 2.4.1.41

Definition: Measured by its ability to transfer GalNAc from UDP-GalNAc to peptide EA2.

Package: 1 mg / 定制

Explanation: Human embryonic kidney cell, HEK293-derived human Polypeptide GalNac Transferase 13/GALNT13 protein.

GE-1111 Polypeptide N-acetylgalactosaminyltransferase 14 (GALNT14)

L-seryl-[protein] + UDP-N-acetyl-alpha-D-galactosamine = 3-O-[N-acetyl-alpha-D-galactosaminyl]-L-seryl-[protein] + H^+ + UDP

EC: 2.4.1.41

Definition: Measured by its ability to transfer GalNAc from UDP-GalNAc to peptide EA2.

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Polypeptide GalNac Transferase 14/GALNT14 protein.

GE-1112 Polypeptide N-acetylgalactosaminyltransferase 16 (GALNTL1)

L-seryl-[protein] + UDP-N-acetyl-alpha-D-galactosamine = 3-O-[N-acetyl-alpha-D-galactosaminyl]-L-seryl-[protein] + H^+ + UDP

EC: 2.4.1.41

Definition: Measured by its ability to transfer GalNAc from UDP-GalNAc to peptide EA2.

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human GALNTL1 protein.

GalNAc transferase

GE-1113 Beta-1,4-N-acetylgalactosaminyltransferase (TnGalNAcT)

EC: 2.4.1.41

Definition: Measured by its ability to transfer N-Acetyl-D-galactosamine from UDP-GalNAc to N-Acetyl-D-glucosamine.

Package: 1 mg / 定制

Explain: Human embryonic kidney cell, HEK293-derived TnGalNAcT protein.

GlcNAc transferase

GE-1201 Alpha-1,4-N-Acetylglucosaminyltransferase 4 (A4GNT)

Catalyzes the transfer of N-acetylglucosamine (GlcNAc) to core 2 branched O-glycans

Package: 1 mg / 定制

Definition: Measured by its ability to transfer GlcNAc from UDP-GlcNAc to galactose.

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Alpha-1,4-N-Acetylglucosaminyltransferase 4/A4GNT protein.

GE-1202 Beta-1,3-N-Acetylglucosaminyltransferase 2 (B3GNT2)

a beta-D-galactosyl-(1->4)-N-acetyl-beta-D-glucosaminyl derivative + UDP-N-acetyl-alpha-D-glucosamine = an N-acetyl-beta-D-glucosaminyl-(1->3)-beta-D-galactosyl-(1->4)-N-acetyl-beta-D-glucosaminyl derivative + H^+ + UDP

EC: 2.4.1.149

Definition: Measured by its ability to transfer GlcNAc from UDP-GlcNAc to N-Acetyl-D-Lactosamine.

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human Beta-1,3-N-Acetylglucosaminyltransferase 2/B3GNT2 protein.

GE-1203 Beta-1,3-N-Acetylglucosaminyltransferase 4 (B3GNT4)

a beta-D-galactosyl-(1->4)-N-acetyl-beta-D-glucosaminyl derivative + UDP-N-acetyl-alpha-D-glucosamine = an N-acetyl-beta-D-glucosaminyl-(1->3)-beta-D-galactosyl-(1->4)-N-acetyl-beta-D-glucosaminyl derivative + H^+ + UDP

EC: 2.4.1.41

Definition: Measured by its ability to transfer N-acetylglucosamine from UDP-GlcNAc to beta -lactose.

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Polypeptide GalNac Transferase 11/GALNT11 protein.

GalNAc transferase

GE-1204 Beta-1,3-N-Acetylglucosaminyltransferase 6 (B3GNT6)

3-O-[N-acetyl-alpha-D-galactosaminyl]-L-threonyl-[protein] + UDP-N-acetyl-alpha-D-glucosamine = 3-O-[N-acetyl-beta-D-glucosaminyl-(1->3)-N-acetyl-alpha-D-galactosaminyl]-L-threonyl-[protein] + H^+ + UDP

EC: 2.4.1.147

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Beta-1,3-N-Acetylglucosaminyltransferase 6/B3GNT6 protein.

Definition: Measured by its ability to transfer GlcNAc from UDP-GlcNAc to 4-nitrophenyl-alpha -D-galactosaminide.

GE-1206 Glucosaminyl (N-acetyl) Transferase 4 Core 2 (C2GNT3/GCNT4)

O3-[beta-D-galactosyl-(1->3)-N-acetyl-alpha-D-galactosaminyl]-L-seryl-[protein] + UDP-N-acetyl-alpha-D-glucosamine = 3-O-{beta-D-galactosyl-(1->3)-[N-acetyl-beta-D-glucosaminyl-(1->6)]-N-acetyl-alpha-D-galactosaminyl}-L-seryl-[protein] + H^+ + UDP

EC: 2.4.1.102

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human C2GNT3/GCNT4 protein.

Definition: Measured by its ability to transfer GlcNAc from UDP-GlcNAc to B1-3 galactosyl-N-acetyl galactosamine.

GE-1207 Glucosaminyl (N-acetyl) Transferase 1 (GCNT1)

O3-[beta-D-galactosyl-(1->3)-N-acetyl-alpha-D-galactosaminyl]-L-seryl-[protein] + UDP-N-acetyl-alpha-D-glucosamine = 3-O-{beta-D-galactosyl-(1->3)-[N-acetyl-beta-D-glucosaminyl-(1->6)]-N-acetyl-alpha-D-galactosaminyl}-L-seryl-[protein] + H^+ + UDP

EC: 2.4.1.102

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human Glucosaminyl (N-acetyl) Transferase 1/GCNT1 protein.

Definition: Measured by its ability to transfer GlcNAc from UDP-GlcNAc to B1-3 galactosyl-N-acetyl galactosamine.

GE-1208 Glucosaminyl (N-acetyl) Transferase 2 (GCNT2)

a beta-D-Gal-(1->4)-beta-D-GlcNAc-(1->3)-beta-D-Gal-(1->4)-beta-D-GlcNAc derivative + UDP-N-acetyl-alpha-D-glucosamine = a beta-D-Gal-(1->4)-beta-D-GlcNAc-(1->3)-[beta-D-GlcNAc-(1->6)]-beta-D-Gal-(1->4)-N-acetyl-beta-D-glucosaminyl derivative + H^+ + UDP

EC: 2.4.1.150

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human Glucosaminyl (N-acetyl) Transferase 2 protein.

Definition: Measured by its ability to transfer GlcNAc from UDP-GlcNAc to Cy5-labeled Extended G2.

GlcNAc transferase

GE-1209 N-Acetylglucosaminyltransferase1 (MGAT1)

N4-(alpha-D-Man-(1->3)-[alpha-D-Man-(1->3)-[alpha-D-Man-(1->6)]-alpha-D-Man-(1->6)]-beta-D-Man-(1->4)-beta-D-GlcNAc-(1->4)-beta-D-GlcNAc)-L-asparaginyl-[protein] (N-glucan mannose isomer 5A1,2) + UDP-N-acetyl-alpha-D-glucosamine = H^+ + N4-{beta-D-GlcNAc-(1->2)-alpha-D-Man-(1->3)-[alpha-D-Man-(1->3)-[alpha-D-Man-(1->6)]-alpha-D-Man-(1->6)]-beta-D-Man-(1->4)-beta-D-GlcNAc-(1->4)-beta-D-GlcNAc}-L-asparaginyl-[protein] + UDP

EC: 2.4.1.101

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human N-Acetylglucosaminyltransferase I/MGAT1 protein.

Definition: Measured by its ability to transfer N-Acetyl-D-Glucosamine from UDP-GlcNAc to alpha 1-3, alpha 1-6-Mannotriose.

GE-1210 N-Acetylglucosaminyltransferase 2 (MGAT2)

N4-{beta-D-GlcNAc-(1->2)-alpha-D-Man-(1->3)-[alpha-D-Man-(1->6)]-beta-D-Man-(1->4)-beta-D-GlcNAc-(1->4)-beta-D-GlcNAc}-L-asparaginyl-[protein] + UDP-N-acetyl-alpha-D-glucosamine = H^+ + N4-{beta-D-GlcNAc-(1->2)-alpha-D-Man-(1->3)-[beta-D-GlcNAc-(1->2)-alpha-D-Man-(1->6)]-beta-D-Man-(1->4)-beta-D-GlcNAc-(1->4)-beta-D-GlcNAc}-L-asparaginyl-[protein] + UDP

EC: 2.4.1.143

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human N-Acetylglucosaminyltransferase 2/MGAT2 protein.

Definition: Measured by its ability to modify the glycan Cy5-labeled M1N1f and thereby creating a band shift.

GE-1211 N-Acetylglucosaminyltransferase III (MGAT3)

N4-{beta-D-GlcNAc-(1->2)-alpha-D-Man-(1->3)-[beta-D-GlcNAc-(1->2)-alpha-D-Man-(1->6)]-beta-D-Man-(1->4)-beta-D-GlcNAc-(1->4)-beta-D-GlcNAc}-L-asparaginyl-[protein] + UDP-N-acetyl-alpha-D-glucosamine = H + N4-{beta-D-GlcNAc-(1->2)-alpha-D-Man-(1->3)-[beta-D-GlcNAc-(1->4)]-[beta-D-GlcNAc-(1->2)-alpha-D-Man-(1->6)]-beta-D-Man-(1->4)-beta-D-GlcNAc-(1->4)-beta-D-GlcNAc}-L-asparaginyl-[protein] + UDP

EC: 2.4.1.144

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human N-Acetylglucosaminyltransferase III/MGAT3 protein.

Definition: Measured by its ability to transfer N-Acetyl-alpha -D-glucosamine from UDP-N-Acetyl-alpha -D-glucosamine to a biantennary N-linked core pentasaccharide in a CD39L3 coupled assay.

GE-1212 N-Acetylglucosaminyltransferase V (MGAT5)

N4-{beta-D-GlcNAc-(1->2)-[beta-D-GlcNAc-(1->4)]-alpha-D-Man-(1->3)-[beta-D-GlcNAc-(1->2)-alpha-D-Man-(1->6)]-beta-D-Man-(1->4)-beta-D-GlcNAc-(1->4)-beta-D-GlcNAc}-L-asparaginyl-[protein] + UDP-N-acetyl-alpha-D-glucosamine = H+ + N4-{beta-D-GlcNAc-(1->2)-[beta-D-GlcNAc-(1->4)]-alpha-D-Man-(1->3)-[beta-D-GlcNAc-(1->2)-[beta-D-GlcNAc-(1->6)]-alpha-D-Man-(1->6)]-beta-D-Man-(1->4)-beta-D-GlcNAc-(1->4)-beta-D-GlcNAc}-L-asparaginyl-[protein] + UDP

EC: 2.4.1.155

Package: 1 mg / 定制

Explanation: Human embryonic kidney cell, HEK293-derived N-Acetylglucosaminyltransferase V/MGAT5.

Definition: Measured by its ability to transfer N-Acetyl-alpha -D-glucosamine from UDP-N-Acetyl-alpha -D-glucosamine to a biantennary N-linked core pentasaccharide in a CD39L3 coupled assay.

GlcNAc transferase

GE-1213 N-Acetylglucosaminyltransferase IV (MGAT4A)

N4-{beta-D-GlcNAc-(1->2)-alpha-D-Man-(1->3)-[alpha-D-Man-(1->6)]-beta-D-Man-(1->4)-beta-D-GlcNAc-(1->4)-beta-D-GlcNAc}-L-asparaginyl-[protein] + UDP-N-acetyl-alpha-D-glucosamine = H^+ + N4-{beta-D-GlcNAc-(1->2)-[beta-D-GlcNAc-(1->4)]-alpha-D-Man-(1->3)-[alpha-D-Man-(1->6)]-beta-D-Man-(1->4)-beta-D-GlcNAc-(1->4)-beta-D-GlcNAc}-L-asparaginyl-[protein] + UDP

EC: 2.4.1.145

Package: 1 mg / 定制

Explanation: Human embryonic kidney cell, HEK293-derived N-Acetylglucosaminyltransferase IV/MGAT4A.

Definition: Measured by its ability to transfer GlcNAc from UDP-GlcNAc to a biantennary N-linked core pentasaccharide.

Sialyltransferases

GE-1301 ST3 beta-Gal alpha-2,3-Sialyltransferase 1 (ST3GAL1)

a beta-D-galactosyl-(1->3)-N-acetyl-alpha-D-galactosaminyl derivative + CMP-N-acetyl-beta-neuraminate = an N-acetyl-alpha-neuraminyl-(2->3)-beta-D-galactosyl-(1->3)-N-acetyl-alpha-D-galactosaminyl derivative + CMP + H^+

EC: 2.4.3.4

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human ST3 beta-Gal alpha-2,3-Sialyltransferase 1/ST3GAL1 protein.

Definition: Measured by its ability to transfer Neu5Ac from CMP-Neu5Ac to bovine B1-3 galactosyl-N-acetyl galactosamine.

GE-1302 ST3 beta-Gal alpha-2,3-Sialyltransferase 2 (ST3GAL2)

a beta-D-galactosyl-(1->3)-N-acetyl-alpha-D-galactosaminyl derivative + CMP-N-acetyl-beta-neuraminate = an N-acetyl-alpha-neuraminyl-(2->3)-beta-D-galactosyl-(1->3)-N-acetyl-alpha-D-galactosaminyl derivative + CMP + H^+

EC: 2.4.3.4

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human ST3 beta-Gal alpha-2,3-Sialyltransferase 2/ST3GAL2 protein.

Definition: Measured by its ability to transfer Neu5Ac from CMP-Neu5Ac to bovine B1-3 galactosyl-N-acetyl galactosamine.

Sialyltransferases

GE-1303 ST3 beta-Gal alpha-2,3-Sialyltransferase 3 (ST3GAL3)

a beta-D-galactosyl-(1->4)-N-acetyl-beta-D-glucosaminyl derivative + CMP-N-acetyl-beta-neuraminate = an N-acetyl-alpha-neuraminyl-(2->3)-beta-D-galactosyl-(1->4)-N-acetyl-beta-D-glucosaminyl derivative + CMP + H^+

EC: 2.4.3.6

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human ST3GAL3 protein.

Definition: Measured by its ability to transfer Neu5Ac from CMP-Neu5Ac to N-Acetyllactosamine.

GE-1304 ST3 beta-Gal alpha-2,3-Sialyltransferase 4 (ST3GAL4)

a beta-D-galactosyl-(1->3)-N-acetyl-beta-D-galactosaminyl derivative + CMP-N-acetyl-beta-neuraminate = an N-acetyl-alpha-neuraminyl-(2->3)-beta-D-galactosyl-(1->3)-N-acetyl-beta-D-galactosaminyl derivative + CMP + H^+

EC: 2.4.3.2

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human ST3GAL4 protein.

Definition: Measured by its ability to transfer Neu5Ac from CMP-Neu5Ac to alpha -lactose.

GE-1305 ST3 beta-Gal alpha-2,3-Sialyltransferase 5 (ST3GAL5/GM3 Synthase (Mouse))

a beta-D-Gal-(1->4)-beta-D-Glc-(1<->1)-Cer(d18:1(4E)) + CMP-N-acetyl-beta-neuraminate = CMP + ganglioside GM3 (d18:1(4E)) + H^+

EC: 2.4.3.9

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived mouse ST3GAL5/GM3 Synthase protein.

Definition: Measured by its ability to transfer Neu5Ac from CMP-Neu5Ac to alpha -lactose.

GE-1306 ST3 beta-Gal alpha-2,3-Sialyltransferase 6 (ST3GAL6)

Involved in the synthesis of sialyl-paragloboside, a precursor of sialyl-Lewis X determinant. Has a alpha-2,3-sialyltransferase activity toward Gal-beta1,4-GlcNAc structure on glycoproteins and glycolipids. Has a restricted substrate specificity, it utilizes Gal-beta1,4-GlcNAc on glycoproteins, and neolactotetraosylceramide and neolactohexaosylceramide, but not lactotetraosylceramide, lactosylceramide or asialo-GM1.

EC: 2.4.99.

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human ST3GAL6 protein.

Definition: Measured by its ability to transfer Neu5Ac from CMP-Neu5Ac to N-Acetyllactosamine.

Sialyltransferases

GE-1307 ST6 Gal Sialyltransferase 1 (ST6GAL1)

a beta-D-galactoside + CMP-N-acetyl-beta-neuraminate = an N-acetyl-alpha-neuraminyl-(2->6)-beta-D-galactosyl derivative + CMP + H^+

EC: 2.4.3.1

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human ST6 Gal Sialyltransferase 1/ST6GAL1 protein.

Definition: Measured by its ability to transfer Neu5Ac from CMP-Neu5Ac to N-Acetyllactosamine.

GE-1308 ST6 Gal Sialyltransferase 2 (ST6GAL2)

a beta-D-galactoside + CMP-N-acetyl-beta-neuraminate = an N-acetyl-alpha-neuraminyl-(2->6)-beta-D-galactosyl derivative + CMP + H^+

EC: 2.4.3.1

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human ST6 Gal Sialyltransferase 2/ST6GAL2 protein.

Definition: Measured by its ability to transfer Neu5Ac from CMP-Neu5Ac to fetuin of fetal calf serum.

GE-1309 ST6 Sialyltransferase 1 (ST6GALNAC1)

a beta-D-galactosyl-(1->3)-N-acetyl-alpha-D-galactosaminyl derivative + CMP-N-acetyl-beta-neuraminate = a beta-D-galactosyl-(1->3)-[N-acetyl-alpha-neuraminyl-(2->6)]-N-acetyl-alpha-D-galactosaminyl derivative + CMP + H^+

EC: 2.4.3.3

Package: 1 mg / 定制

Explanation: Human embryonic kidney cell, HEK293-derived human ST6 Sialyltransferase 1/ST6GALNAC1 protein.

Definition: Measured by its ability to transfer Neu5Ac from CMP-Neu5Ac to fetuin of fetal calf serum.

GE-1310 ST6 Sialyltransferase 2 (ST6GALNAC2)

a beta-D-galactosyl-(1->3)-N-acetyl-alpha-D-galactosaminyl derivative + CMP-N-acetyl-beta-neuraminate = a beta-D-galactosyl-(1->3)-[N-acetyl-alpha-neuraminyl-(2->6)]-N-acetyl-alpha-D-galactosaminyl derivative + CMP + H^+

EC: 2.4.3.3

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived mouse ST6 Sialyltransferase 2/ST6GALNAC2 protein.

Definition: Measured by its ability to transfer Neu5Ac from CMP-Neu5Ac to fetuin of fetal calf serum.

Sialyltransferases

GE-1311 ST6 Sialyltransferase 4 (ST6GALNAC4)

an alpha-Neu5Ac-(2->3)-beta-D-Gal-(1->3)-D-GlcNAc derivative + CMP-N-acetyl-beta-neuraminate = an alpha-Neu5Ac-(2->3)-beta-D-Gal-(1->3)-[alpha-Neu5Ac-(2->6)]-D-GlcNAc-R + CMP + H^+

EC: 2.4.3.7

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human ST6GALNAC4 protein.

Definition: Measured by its ability to transfer Neu5Ac from CMP-Neu5Ac to fetuin of fetal calf serum.

GE-1312 ST6 Sialyltransferase 5 (ST6GALNAC5)

CMP-N-acetyl-beta-neuraminate + ganglioside GM1b (d18:1(4E)) = a ganglioside GD1alpha (d18:1(4E)) + CMP + H^+

EC: N/A

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human ST6 GalNAc alpha-2,6-sialyltransferaseV/ST6GALNAC5 protein.

Definition: Measured by its ability to transfer Neu5Ac from CMP-Neu5Ac to fetuin of fetal calf serum.

GE-1313 ST6 Sialyltransferase 6 (ST6GALNAC6)

CMP-N-acetyl-beta-neuraminate + ganglioside GM1b (d18:1(4E)) = a ganglioside GD1alpha (d18:1(4E)) + CMP + H^+

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human ST6 Sialyltransferase 6/ST6GALNAC6 protein.

Definition: Measured by its ability to transfer Neu5Ac from CMP-Neu5Ac to fetuin of fetal calf serum.

GE-1314 ST8 alpha-2,8-Sialyltransferase 8A (ST8SIA1)

an N-acetyl-alpha-neuraminyl-(2->3)-beta-D-galactosyl derivative + CMP-N-acetyl-beta-neuraminate = an N-acetyl-alpha-neuraminyl-(2->8)-N-acetyl-alpha-neuraminyl-(2->3)-beta-D-galactosyl derivative + CMP + H^+

EC: 2.4.3.8

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human ST8 alpha-2,8-Sialyltransferase 8A/ST8SIA1 protein.

Definition: Measured by its ability to transfer Neu5Ac from CMP-Neu5Ac to fetuin of fetal calf serum.

Sialyltransferases

GE-1315 ST8 alpha-2,8-Sialyltransferase 8B (ST8SIA2)

May transfer sialic acid through alpha-2,8-linkages to the alpha-2,3-linked and alpha-2,6-linked sialic acid of N-linked oligosaccharides of glycoproteins and may be involved in PSA (polysialic acid) expression.

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human ST8 alpha-2,8-Sialyltransferase 8B/ST8SIA2 protein.

Definition: Measured by its ability to transfer sialic acid from CMP-NeuAc to Recombinant Human NCAM□1/CD56 120 isoform.

GE-1316 ST8 alpha-2,8-Sialyltransferase 4 (ST8SIA4)

Catalyzes the polycondensation of alpha-2,8-linked sialic acid required for the synthesis of polysialic acid (PSA), which is present on the embryonic neural cell adhesion molecule (N-CAM), necessary for plasticity of neural cells.

EC: 2.4.99.-

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human ST8 alpha-2,8-Sialyltransferase 4/ST8SIA4 protein.

Definition: Measured by its ability to transfer sialic acid from CMP-NeuAc to Recombinant Human NCAM□1/CD56 120 isoform.

GE-1317 ST8 alpha-2,8-Sialyltransferase 6 (ST8SIA6)

CMP-N-acetyl-beta-neuraminate + ganglioside GM3 = CMP + ganglioside GD3 + H^+

EC: 2.4.99.-

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human ST8 alpha-2,8-Sialyltransferase 6/ST8SIA6 protein.

Definition: Measured by its ability to transfer Neu5Ac from CMP-Neu5Ac to fetuin of fetal calf serum.

Fucosyltransferases

GE-1401 Fucosyltransferase 2 (FUT2)

a beta-D-galactosyl-(1->3)-N-acetyl-beta-D-glucosaminyl derivative + GDP-beta-L-fucose = an alpha-L-Fuc-(1->2)-beta-D-Gal-(1->3)-beta-D-GlcNAc derivative + GDP + H^+

EC: 2.4.1.69

Package: 1 mg / 定制

Explanation: Human embryonic kidney cell, HEK293-derived human Fucosyltransferase 2/FUT2 protein.

Definition: Measured by its ability to transfer fucose from GDP-fucose to lactose.

GE-1402 Fucosyltransferase 3 (FUT3)

a beta-D-galactosyl-(1->3)-N-acetyl-beta-D-glucosaminyl derivative + GDP-beta-L-fucose = a beta-D-galactosyl-(1->3)-[alpha-L-fucosyl-(1->4)]-N-acetyl-beta-D-glucosaminyl derivative + GDP + H^+

EC: 2.4.1.65

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human Fucosyltransferase 3/FUT3 protein. Arg35-Thr361, with an N-terminal 6-His tag.

Definition: Measured by its ability to transfer fucose from GDP-fucose to N-Acetyllactosamine.

GE-1403 Fucosyltransferase 5 (FUT5)

a beta-D-galactosyl-(1->3)-N-acetyl-beta-D-glucosaminyl derivative +GDP-beta-L-fucose = a beta-D-galactosyl-(1->3)-[alpha-L-fucosyl-(1->4)]-N-acetyl-beta-D-glucosaminyl derivative + GDP + H^+

EC: 2.4.1.65

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human Fucosyltransferase 5/FUT5 protein.

Definition: Measured by its ability to transfer fucose from GDP-fucose to N-Acetyllactosamine.

GE-1404 Fucosyltransferase 6 (FUT6)

EC: 2.4.1.152

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human Fucosyltransferase 6/FUT6 protein.

Definition: Measured by its ability to transfer fucose from GDP-fucose to fetal bovine fetuin.

Fucosyltransferases

GE-1405 Fucosyltransferase 7 (FUT7)

an N-acetyl-alpha-neuraminyl-(2->3)-beta-D-galactosyl-(1->4)-N-acetyl-beta-D-glucosaminyl derivative + GDP-beta-L-fucose = an alpha-Neu5Ac-(2->3)-beta-D-Gal-(1->4)-[alpha-L-Fuc-(1->3)]-beta-D-GlcNAc derivative + GDP + H^+

EC: 2.4.1.-

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Fucosyltransferase 7/FUT7 protein.

Definition: Measured by its ability to transfer fucose from GDP-fucose to fetal bovine fetuin.

GE-1406 SFucosyltransferase 8 (FUT8)

GDP-beta-L-fucose + N4-{beta-D-GlcNAc-(1->2)-alpha-D-Man-(1->3)-[beta-D-GlcNAc-(1->2)-alpha-D-Man-(1->6)]-beta-D-Man-(1->4)-beta-D-GlcNAc-(1->4)-beta-D-GlcNAc}-L-asparaginyl-[protein] = GDP + H^+ + N4-{beta-D-GlcNAc-(1->2)-alpha-D-Man-(1->3)-[beta-D-GlcNAc-(1->2)-alpha-D-Man-(1->6)]-beta-D-Man-(1->4)-beta-D-GlcNAc-(1->4)-[alpha-L-Fuc-(1->6)]-beta-D-GlcNAc}-L-asparaginyl-[protein]

EC: 2.4.1.68

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Fucosyltransferase 8/FUT8 protein.

Definition: Measured by its ability to transfer fucose from GDP-fucose to N-Acetyllactosamine.

GE-1407 Fucosyltransferase 9 (FUT9)

a beta-D-galactosyl-(1->4)-N-acetyl-beta-D-glucosaminyl derivative + GDP-beta-L-fucose = a beta-D-galactosyl-(1->4)-[alpha-L-fucosyl-(1->3)]-N-acetyl-beta-D-glucosaminyl derivative + GDP + H^+

EC: 2.4.1.152

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Fucosyltransferase 9/FUT9 protein.

Definition: Measured by its ability to transfer fucose from GDP-fucose to N-Acetyllactosamine.

GE-1408 Fucosyltransferase 11 (FUT11)

Has fucosyltransferase activity toward biantennary N-glycan acceptors. Does not fucosylate GlcNAc residue within type 2 lactosamine unit.

EC: 2.4.1.-

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Fucosyltransferase 11/FUT11 protein.

Definition: Measured by its ability to transfer fucose from GDP-fucose to N-Acetyllactosamine.

Fucosyltransferases

GE-1409 Protein O-Fucosyltransferase 1 (POFUT1)

GDP-beta-L-fucose + L-seryl-[protein] = 3-O-(alpha-L-fucosyl)-L-seryl-[protein] + GDP + H^+

E.C.: 2.4.1.221

Package: 20 ug, 100 ug, 1 mg

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human Protein O-Fucosyltransferase 1/POFUT1 protein.

Definition: Measured by its ability to hydrolyze the donor substrate GDP-fucose.

Carbohydrate Sulfotransferases

GE-1501 Carbohydrate Sulfotransferase 1 (CHST1)

3'-phosphoadenylyl sulfate + keratan = adenosine 3',5'-bisphosphate + keratan 6'-sulfate.

E.C.: 2.8.2.21

Package: 20 ug, 100 ug, 1 mg

Explanation: Human embryonic kidney cell, HEK293-derived human Carbohydrate Sulfotransferase 1/CHST1 protein.

Definition: Measured by its ability to transfer sulfate from PAPS to alpha -Lactose under the described conditions.

GE-1502 Carbohydrate Sulfotransferase 2 (CHST2)

3'-phosphoadenylyl sulfate + 3-O-{N-acetyl-beta-D-glucosaminyl-(1->3)-beta-D-galactosyl-(1->3)-N-acetyl-alpha-D-galactosaminyl}-L-threonyl-[protein] = 3-O-{6-O-sulfo-N-acetyl-beta-D-glucosaminyl-(1->3)-beta-D-galactosyl-(1->3)-N-acetyl-alpha-D-galactosaminyl}-L-threonyl-[protein] + adenosine 3',5'-bisphosphate + H^+

EC: 2.8.2.-

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Carbohydrate Sulfotransferase 2/CHST2 protein.

Definition: Measured by its ability to transfer fucose from GDP-fucose to fetal bovine fetuin.

GE-1503 Carbohydrate Sulfotransferase 3 (CHST3)

n 3'-phosphoadenylyl sulfate + chondroitin beta-D-glucuronate = n adenosine 3',5'-bisphosphate + chondroitin 6'-sulfate + 2 H^+

EC: 2.8.2.17

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Carbohydrate Sulfotransferase 3/CHST3 protein.

Definition: Measured by its ability to transfer sulfate from PAPS to chondroitin sulfate under the described conditions.

Carbohydrate Sulfotransferases

GE-1504 Carbohydrate Sulfotransferase 4 (CHST4)

3'-phosphoadenylyl sulfate + 3-O-{N-acetyl-beta-D-glucosaminyl-(1->3)-beta-D-galactosyl-(1->3)-N-acetyl-alpha-D-galactosaminyl}-L-threonyl-[protein] = 3-O-{6-O-sulfo-N-acetyl-beta-D-glucosaminyl-(1->3)-beta-D-galactosyl-(1->3)-N-acetyl-alpha-D-galactosaminyl}-L-threonyl-[protein] + adenosine 3',5'-bisphosphate + H^+

EC: 2.8.2.-

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Carbohydrate Sulfotransferase 4/CHST4 protein.

Definition: Measured by its ability to transfer sulfate from PAPS to N-acetyl-D-glucosamine under the described conditions.

GE-1505 Carbohydrate Sulfotransferase 5 (CHST5)

Sulfotransferase that utilizes 3'-phospho-5'-adenylyl sulfate (PAPS) as sulfonate donor to catalyze the transfer of sulfate to position 6 of non-reducing N-acetylglucosamine (GlcNAc) residues and O-linked sugars of mucin-type acceptors.

EC: 2.8.2.-

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived mouse Carbohydrate Sulfotransferase 5/CHST5 protein.

Definition: Measured by its ability to transfer sulfate from PAPS to N-acetyl-D-glucosamine under the described conditions.

GE-1506 Carbohydrate Sulfotransferase 6 (CHST6)

3'-phosphoadenylyl sulfate + keratan = adenosine 3',5'-bisphosphate + keratan 6'-sulfate.

EC: 2.8.2.21

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Carbohydrate Sulfotransferase 6/CHST6 protein.

Definition: Measured by its ability to transfer sulfate from PAPS to N-acetyl-D-glucosamine under the described conditions.

GE-1507 Carbohydrate Sulfotransferase 7 (CHST7)

n 3'-phosphoadenylyl sulfate + chondroitin beta-D-glucuronate = n adenosine 3',5'-bisphosphate + chondroitin 6'-sulfate + 2 H^+

EC: 2.8.2.17

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived mouse Carbohydrate Sulfotransferase 7/CHST7 protein.

Definition: Measured by its ability to transfer sulfate from PAPS to N-acetyl-D-glucosamine under the described conditions.

Carbohydrate Sulfotransferases

GE-1508 Carbohydrate Sulfotransferase 10 (CHST10)

3'-phosphoadenylyl sulfate + 3-O-{beta-D-GlcA-(1->[3)-alpha-D-Xyl-(1->3)-beta-D-GlcA-(1->](n)-4)-beta-D-Xyl-(1->4)-Rib-ol-P-Rib-ol-P-3-beta-D-GalNAc-(1->3)-beta-D-GlcNAc-(1->4)-O-6-P-alpha-D-Man}-L-Thr-[protein] = 3-O-{O-3-S-beta-D-GlcA-(1->[3)-alpha-D-Xyl-(1->3)-beta-D-GlcA-(1->](n)-4)-beta-D-Xyl-(1->4)-Rib-ol-P-Rib-ol-P-3-beta-D-GalNAc-(1->3)-beta-D-GlcNAc-(1->4)-O-6-P-alpha-D-Man}-L-Thr-[protein] + adenosine 3',5'-bisphosphate + H^+

E.C.: 2.8.2.-

Package: 20 ug, 100 ug, 1 mg

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Carbohydrate Sulfotransferase 10/CHST10 protein.

Definition: Measured by its ability to transfer sulfate from PAPS to phenolpthalein glucuronic acid under the described conditions.

GE-1509 Carbohydrate Sulfotransferase 15 (CHST15)

n 3'-phosphoadenylyl sulfate + dermatan 4'-sulfate = n adenosine 3',5'-bisphosphate + dermatan 4',6'-bissulfate + n H^+

EC: 2.8.2.33

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human Carbohydrate Sulfotransferase 15/CHST15 protein.

Definition: Measured by its ability to transfer sulfate from PAPS to chondroitin sulfate under the described conditions.

GE-1510 Galactose-3-O-sulfotransferase 2 (GAL3ST2)

Catalyzes the transfer of sulfate to the C2-position of selected hexuronic acid residues within the maturing heparan sulfate (HS)

EC: 2.8.2.-

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Galactose-3-O-sulfotransferase 2/GAL3ST2 protein.

Definition: Measured by its ability to transfer sulfate from PAPS to heparan sulfate under the described conditions.

GE-1511 Heparan Sulfate 2-O-Sulfotransferase 1 (HS2ST1)

n 3'-phosphoadenylyl sulfate + chondroitin beta-D-glucuronate = n adenosine 3',5'-bisphosphate + chondroitin 6'-sulfate + 2 H^+

EC: 2.8.2.17

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Heparan Sulfate 2-O-Sulfotransferase 1/HS2ST1 protein.

Definition: Measured by its ability to transfer sulfate from PAPS to chondroitin sulfate under the described conditions.

Carbohydrate Sulfotransferases

GE-1512 Heparan Sulfate 3-O-Sulfotransferase 1 (HS3ST1)

3'-phosphoadenylyl sulfate + alpha-D-glucosaminyl-[heparan sulfate](n) = 3-sulfo-alpha-D-glucosaminyl-[heparan sulfate](n) + adenosine 3',5'-bisphosphate + H^+

EC: 2.8.2.23

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Heparan Sulfate 3-O-Sulfotransferase 1/HS3ST1 protein.

Definition: Measured by its ability to transfer sulfate from PAPS to heparan sulfate. The specific activity is >30 pmol/min/μg, as measured under the described conditions.

GE-1513 Heparan Sulfate 3-O-Sulfotransferase 4 (HS3ST4)

3'-phosphoadenylyl sulfate + alpha-D-glucosaminyl-[heparan sulfate](n) = 3-sulfo-alpha-D-glucosaminyl-[heparan sulfate](n) + adenosine 3',5'-bisphosphate + H^+

EC: 2.8.2.23

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Heparan Sulfate 3-O-Sulfotransferase 4/HS3ST4 protein.

Definition: Measured by its ability to transfer sulfate from PAPS to heparan sulfate under the described conditions.

GE-1514 Heparan Sulfate 6-O-Sulfotransferase 1 (HS6ST1)

3'-phosphoadenylyl sulfate + alpha-D-glucosaminyl-[heparan sulfate](n) = 6-sulfo-alpha-D-glucosaminyl-[heparan sulfate](n) + adenosine 3',5'-bisphosphate + H^+

EC: 2.8.2.-

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Heparan Sulfate 6-O-Sulfotransferase 1/HS6ST1 protein.

Definition: Measured by its ability to transfer sulfate from PAPS to heparan sulfate under the described conditions.

GE-1515 Heparan Sulfate 6-O-Sulfotransferase 3 (HS6ST3)

3'-phosphoadenylyl sulfate + alpha-D-glucosaminyl-[heparan sulfate](n) = 6-sulfo-alpha-D-glucosaminyl-[heparan sulfate](n) + adenosine 3',5'-bisphosphate + H^+

EC: 2.8.2.-

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Heparan Sulfate 6-O-Sulfotransferase 3/HS6ST3 protein.

Definition: Measured by its ability to transfer sulfate from PAPS to heparan sulfate under the described conditions.

Carbohydrate Sulfotransferases

GE-1516 Heparan Sulfate Glucosamine 3-O-Sulfotransferase 3 (HS3ST3B1)

3'-phosphoadenylyl sulfate + alpha-D-glucosaminyl-[heparan sulfate](n) = 3-sulfo-alpha-D-glucosaminyl-[heparan sulfate](n) + adenosine 3',5'-bisphosphate + H^+

EC: 2.8.2.30

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Heparan Sulfate Glucosamine 3-O-Sulfotransferase 3 protein.

Definition: Measured by its ability to transfer sulfate from PAPS to heparan sulfate under the described conditions.

GE-1517 N-Deacetylase/N-Sulfotransferase 1 (NDST1)

3'-phosphoadenylyl sulfate + alpha-D-glucosaminyl-[heparan sulfate](n) = adenosine 3',5'-bisphosphate + 2 H^+ + N-sulfo-alpha-D-glucosaminyl-[heparan sulfate](n)

EC: 2.8.2.8

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human N-Deacetylase/N-Sulfotransferase 1/NDST1 protein.

Definition: Measured by its ability to transfer sulfate from PAPS to heparan sulfate under the described conditions.

GE-1518 N-Deacetylase/N-Sulfotransferase 2 (NDST2)

3'-phosphoadenylyl sulfate + alpha-D-glucosaminyl-[heparan sulfate](n) = adenosine 3',5'-bisphosphate + 2 H^+ + N-sulfo-alpha-D-glucosaminyl-[heparan sulfate](n)

EC: 2.8.2.8

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Galactose-3-O-sulfotransferase 2/GAL3ST2 protein.

Definition: Measured by its ability to transfer sulfate from PAPS to heparan sulfate under the described conditions.

GE-1519 Galactose-3-O-sulfotransferase 1 (GAL3ST1)

3'-phosphoadenylyl sulfate + a beta-D-galactosyl-(1<->1')-N-acylsphing-4-enine = adenosine 3',5'-bisphosphate + H^+ + N-acyl-1-beta-D-(3-O-sulfo)-galactosyl-sphing-4-enine

EC: 2.8.2.11

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived Galactose-3-O-sulfotransferase 1/GAL3ST1 protein.

Definition: Measured by its ability to transfer sulfate from PAPS to alpha -Lactose under the described conditions.

Glucuronosyltransferases

GE-1601 Protein O-Glucosyltransferase 1 (POGLUT1)

L-seryl-[EGF-like domain protein] + UDP-alpha-D-xylose = 3-O-(beta-D-xylosyl)-L-seryl-[EGF-like domain protein] + H^+ + UDP

EC: 2.4.2.63

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Protein O-Glucosyltransferase 1/POGLUT1 protein.

Definition: Measured by its ability to hydrolyze UDP-Glucose.

Glucuronosyltransferases

GE-1602 beta-1,3-Glucuronyltransferase 1 (B3GAT1)

3-O-(beta-D-galactosyl-(1->3)-beta-D-galactosyl-(1->4)-beta-D-xylosyl)-L-seryl-[protein] + UDP-alpha-D-glucuronate = 3-O-(beta-D-GlcA-(1->3)-beta-D-Gal-(1->3)-beta-D-Gal-(1->4)-beta-D-Xyl)-L-seryl-[protein] + H+ + UDP

EC: 2.4.1.135

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human beta-1,3-Glucuronyltransferase 1/B3GAT1 protein.

Definition: Measured by its ability to transfer GlcA from UDP-GlcA to lactose.

GE-1603 beta-1,4-Glucuronyltransferase 1 (B4GAT1)

3-O-[beta-D-Xyl-(1->4)-Rib-ol-P-Rib-ol-P-3-beta-D-GalNAc-(1->3)-beta-D-GlcNAc-(1->4)-(O-6-P-alpha-D-Man)]-Thr-[protein] + UDP-alpha-D-glucuronate = 3-O-[beta-D-GlcA-(1->3)-beta-D-Xyl-(1->4)-Rib-ol-P-Rib-ol-P-3-beta-D-GalNAc-(1->3)-beta-D-GlcNAc-(1->4)-(O-6-P-alpha-D-Man)]-Thr-[protein] + H+ + UDP

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human beta-1,4-Glucuronyltransferase 1/B4GAT1 protein.

Definition: Measured by its ability to transfer GlcA from UDP-GlcA to Xylose.

Glycosidases

GE-2001 alpha-Galactosidase A (GLA)

Hydrolysis of terminal, non-reducing alpha-D-galactose residues in alpha-D-galactosides, including galactose oligosaccharides, galactomannans and galactolipids. globoside Gb3Cer (d18:1(4E)) + H_2O = a beta-D-Gal-(1->4)-beta-D-Glc-(1<->1)-Cer(d18:1(4E)) + D-galactose

EC: 3.2.1.22

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human alpha-Galactosidase A/GLA protein.

Definition: Measured by its ability to hydrolyze 4-methylumbelliferyl-alpha -D-galactopyranoside.

GE-2002 alpha-N-acetylgalactosaminidase (NAGA)

Cleavage of non-reducing alpha-(1->3)-N-acetylgalactosamine residues from human blood group A and AB mucin glycoproteins, Forssman hapten and blood group A lacto series glycolipids.

EC: 3.2.1.49

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human alpha-N-acetylgalactosaminidase/NAGA protein.

Definition: Measured by its ability to cleave alpha -N-acetylgalactosaminyl from 4-Nitrophenyl N-acetyl-alpha -D-galactosaminide.

GE-2003 Tissue alpha-L-Fucosidase (FUCA1)

an alpha-L-fucoside + H_2O = an alcohol + L-fucose

EC: 3.2.1.51

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human Tissue alpha-L-Fucosidase/FUCA1 protein.

Definition: Measured by its ability to cleave a fluorogenic substrate 4-methylumbelliferyl-alpha -L-fucopyranoside.

GE-2004 Galactosylceramidase/GALC (GALC)

a beta-D-galactosyl-(1<->1')-N-acylsphing-4-enine + H_2O = an N-acylsphing-4-enine + D-galactose

EC: 3.2.1.46

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Galactosylceramidase/GALC protein.

Definition: Measured by its ability to cleave a fluorogenic substrate, 4-Methylumbelliferyl-beta -D-galactopyranoside.

Glycosidases

GE-2005 Glucosylceramidase (GBA)

a beta-D-glucosyl-(1<->1')-N-acylsphing-4-enine + H_2O = an N-acylsphing-4-enine + D-glucose

EC: 3.2.1.45

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Glucosylceramidase/GBA protein.

Definition: Measured by its ability to hydrolyze 4-methylumbelliferyl-beta -D-glucopyranoside.

GE-2006 Heparanase (HPSE)

endohydrolysis of (1->4)-beta-D-glycosidic bonds of heparan sulfate chains in heparan sulfate proteoglycan.

EC: 3.2.1.166

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Heparanase/HPSE protein.

Definition: Measured by its ability to release biotinylated heparan sulfate from Recombinant Human Syndecan□4.

GE-2007 Hyaluronidase 2 (HYAL2)

Random hydrolysis of (1->4)-linkages between N-acetyl-beta-D-glucosamine and D-glucuronate residues in hyaluronate.

EC: 3.2.1.35

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Hyaluronidase 2/HYAL2 protein.

Definition: Measured by its ability to digest Cy5-Labeled Hyaluronan (Low MW) to dp1-dp4.

GE-2008 alpha-L-Iduronidase (IDUA)

Hydrolysis of unsulfated alpha-L-iduronosidic linkages in dermatan sulfate.

EC: 3.2.1.76

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human alpha-L-Iduronidase/IDUA protein.

Definition: Measured by its ability to cleave a fluorogenic substrate, 4-Methylumbelliferyl alpha -L-iduronide under the described conditions.

Glycosidases

GE-2009 Lysosomal alpha-Glucosidase (GAA)

Hydrolysis of terminal, non-reducing (1->4)-linked alpha-D-glucose residues with release of alpha-D-glucose.

EC: 3.2.1.20

Package: 1 mg / 定制

Explanation: Human embryonic kidney cell, HEK293-derived human Lysosomal alpha-Glucosidase protein.

Definition: Measured by its ability to release glucose from starch under the described conditions.

GE-2010 Mannosyl-oligosaccharide 1,2-alpha-mannosidase IA (MAN1A1)

Involved in the maturation of Asn-linked oligosaccharides. Progressively trim alpha-1,2-linked mannose residues from Man9GlcNAc2 to produce Man5GlcNAc2.

EC: 3.2.1.113

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human MAN1A1 protein.

Definition: Measured by its ability to remove alpha -mannose from the high mannose glycan Man-9 under the described conditions.

GE-2011 alpha-N-acetylglucosaminidase (NAGLU)

Hydrolysis of terminal non-reducing N-acetyl-D-glucosamine residues in N-acetyl-alpha-D-glucosaminides.

EC: 3.2.1.50

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human alpha-N-acetylglucosaminidase/NAGLU protein.

Definition: Measured by its ability to hydrolyze 4-Nitrophenyl-N-acetyl-alpha -D-glucosaminide under the decribed conditions.

GE-2012 Lysosomal alpha-mannosidase (MAN2B1)

Hydrolysis of terminal, non-reducing alpha-D-mannose residues in alpha-D-mannosides.

EC: 3.2.1.24

Package: 1 mg / 定制

Explanation: Human embryonic kidney cell, HEK293-derived human MAN2B1 protein.

Definition: Measured by its ability to hydrolyze 4-methylumbelliferyl-alpha -D-mannopyranoside under the described conditions.

Sulfatases

GE-2101 Arylsulfatase A (ARSA)

H_2O + N-acyl-1-beta-D-(3-O-sulfo)-galactosyl-sphing-4-enine = a beta-D-galactosyl-(1<->1')-N-acylsphing-4-enine + H^+ + sulfate

EC: 3.1.6.8

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human Arylsulfatase A/ARSA protein.

Definition: Measured by its ability to hydrolyze the substrate 4-Nitrocatechol Sulfate (PNCS).

GE-2102 Arylsulfatase B (ARSB)

Hydrolysis of the 4-sulfate groups of the N-acetyl-D-galactosamine 4-sulfate units of chondroitin sulfate and dermatan sulfate.

EC: 3.1.6.12

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Arylsulfatase B/ARSB protein.

Definition: Measured by its ability to hydrolyze the substrate 4-Nitrocatechol Sulfate (PNCS) under the described conditions.

GE-2103 Arylsulfatase G (ARSG)

an aryl sulfate + H2O = a phenol + H^+ + sulfate

EC: 3.1.6.1

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived mouse Arylsulfatase G/ARSG protein.

Definition: Measured by its ability to hydrolyze the substrate 4-Nitrocatechol Sulfate (PNCS) under the described conditions.

GE-2104 Glucosamine (N-acetyl)-6-Sulfatase (GNS)

Hydrolysis of the 6-sulfate groups of the N-acetyl-D-glucosamine 6-sulfate units of heparan sulfate and keratan sulfate.

EC: 3.1.6.14

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Glucosamine (N-acetyl)-6-Sulfatase/GNS protein.

Definition: Measured by its ability to hydrolyze the substrate 4-Nitrocatechol Sulfate (PNCS) under the described conditions.

Sulfatases

GE-2105 Iduronate 2-Sulfatase (IDS)

Hydrolysis of the 2-sulfate groups of the L-iduronate 2-sulfate units of dermatan sulfate, heparan sulfate and heparin.

EC: 3.1.6.13

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human Iduronate 2-Sulfatase/IDS protein.

Definition: Measured by its ability to hydrolyze the substrate 4-Nitrocatechol Sulfate (PNCS) under the described conditions.

GE-2106 N-Acetylgalactosamine-6-Sulfatase (GALNS)

Hydrolysis of the 6-sulfate groups of the N-acetyl-D-galactosamine 6-sulfate units of chondroitin sulfate and of the D-galactose 6-sulfate units of keratan sulfate.

EC: 3.1.6.4

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human N-Acetylgalactosamine-6-Sulfatase/GALNS protein.

Definition: Measured by its ability to hydrolyze the substrate 4-Nitrocatechol Sulfate (PNCS) under the described conditions.

GE-2107 Sulfamidase (SGSH)

H_2O + N-sulfo-D-glucosamine = D-glucosamine + sulfate

EC: 3.10.1.1

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human Sulfamidase/SGSH protein.

Define: Measured by its ability to hydrolyze the substrate 4-Nitrocatechol Sulfate (PNCS) under the described conditions.

Protein Sulfotransferases

GE-3001 Tyrosylprotein Sulfotransferase 1 (TPST1)

3'-phosphoadenylyl sulfate + L-tyrosyl-[protein] = adenosine 3',5'-bisphosphate + H + O-sulfo-L-tyrosine-[protein]

EC: 2.8.2.20

Package: 1 mg / 定制

Explanation: *Trichoplusia ni*, High Five(baculovirus)-derived human Tyrosylprotein Sulfotransferase 1/TPST1 protein.

Definition: Measured by its ability to transfer sulfate from PAPS to PSGL-1 peptide (Gln-Ala-Thr-Glu-Tyr-Glu-Tyr-Leu-Asp-Tyr-Asp-Phe-Leu-Pro-Glu-Thr) under the described conditions.

GE-3002 Tyrosylprotein Sulfotransferase 2 (TPST2)

3'-phosphoadenylyl sulfate + L-tyrosyl-[protein] = adenosine 3',5'-bisphosphate + H^+ + O-sulfo-L-tyrosine-[protein]

EC: 2.8.2.20

Package: 1 mg / 定制

Explanation: Chinese Hamster Ovary cell line, CHO-derived human Tyrosylprotein Sulfotransferase 2/TPST2 protein.

Definition: Measured by its ability to transfer sulfate from PAPS to PSGL-1 peptide (Gln-Ala-Thr-Glu-Tyr-Glu-Tyr-Leu-Asp-Tyr-Asp-Phe-Leu-Pro-Glu-Thr) under the described conditions.

Other Glycobiology-related Enzymes

GE-3003 6-Phosphogluconate Dehydrogenase (PGD)

6-phospho-D-gluconate + $NADP^+$ = CO_2 + D-ribulose 5-phosphate + NADPH

EC: 1.1.1.44

Package: 1 mg / 定制

Explanation: E. coli-derived human 6-Phosphogluconate Dehydrogenase/PGD protein.

Definition: Measured by its ability to dehydrogenate 6-phosphogluconic acid under the described conditions.

GE-3004 GlcNAc-1-Phosphotransferase (GNPTAB & GNPTG)

6-phospho-D-gluconate + $NADP^+$ = CO_2 + D-ribulose 5-phosphate + NADPH

Package: 1 mg / 定制

备忘录