

Product Information

**β -(1 \rightarrow 3,4,6)-Galactosidase, Positionally specific,
a mixture from *Streptococcus pneumoniae* and *Xanthomonas sp.*, recombinant,
expressed in *E. coli***

Product Number **G 1288**
Storage Temperature 2–8 °C

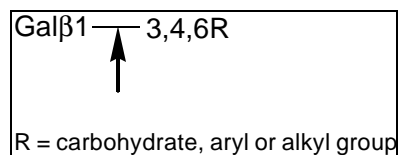
CAS# 9031-11-2
EC 3.2.1.23

Synonyms: Lactase; β -D-Galactoside galactohydrolase;
 β -D-Galactopyranosidase; β -Lactosidase

Product Description

Two major classes of oligosaccharides (glycans) may be attached to glycoproteins. N-Linked glycans are attached to the amide side-chain of some asparagine (Asn) residues, which form part of the consensus sequence AsnXaaSer/Thr, while O-linked glycans may be added to the hydroxyl side chain of serine or threonine residues. The terminal residues on the glycan chains are commonly sialic acids, which can be removed by the use of a broad-spectrum neuraminidase enzyme. After removal of sialic acids, the galactose residues are exposed. These may be linked to the core glycan in several different positions, the most common of which is via a β -1 \rightarrow 4 bond.

Recombinant β -(1 \rightarrow 3,4,6)-galactosidase, expressed in *Escherichia coli*, is a highly purified enzyme, which releases β -1 \rightarrow 3, β -1 \rightarrow 4, and β -1 \rightarrow 6 linked galactose from the non-reducing end of glycans and glycoproteins. However, the presence of fucose linked to the penultimate N-acetylglucosamine will block cleavage of the galactose residue attached to the same N-acetylglucosamine.



Due to its broad specificity, this enzyme is an extremely useful reagent for detailed structural analysis of glycans in conjunction with other positionally specific galactosidase enzymes.

Components

β -(1 \rightarrow 3,4,6)-galactosidase (Product No. G 1288) - The enzyme is supplied in 20 mM Tris HCl, pH 7.5, containing 25 mM NaCl.

Unit Definition: One unit will hydrolyze 1 μ mole of p-nitrophenyl β -D-galactopyranoside per minute at pH 5.0 at 37 °C.

Protease activity was not detected.

5X Reaction Buffer (Product No. E 5879) – 250 mM sodium phosphate, pH 5.0

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

It is recommended to store the product at 2–8 °C.
Do Not Freeze

Procedure

Add 2 μ l of enzyme to 100 μ g of asialoglycoprotein or 1 nmole of oligosaccharide. Add 50 mM sodium phosphate buffer, pH 5.0, and incubate for 1 hour at 37 °C.

References

1. Paulson, J., *et al.*, J. Biol. Chem., **253**, 5617-56242 (1978).

AE,MAM 03/05-1

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.