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ProductInformation

b-(1® 4)-Galactosidase, Positionally specific, from *Streptococcus pneumoniae*, recombinant expressed in *E. coli*

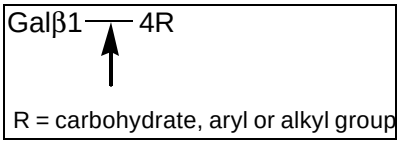
Product Number **G 0413**
Storage Temperature 2–8 °C

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→4 bond.

Recombinant β-(1→4)-galactosidase, expressed in *Escherichia coli*, is a highly purified enzyme, which releases β-1→4 linked galactose from the non-reducing end of glycans and glycoproteins. The enzyme is highly specific for terminal Gal-β-(1→4)-GlcNAc or Gal-β-(1→4)-GalNAc linkages.[1] This bond specificity is only evident at enzyme concentrations below 0.1 unit/ml. Use of higher enzyme concentrations may result in cleavage of Gal-β-(1→4) and other positional linkages.



Due to its high selectivity, the enzyme is an extremely useful reagent for the identification of non-reducing terminal β-1→4 linked galactose residues. As such, the enzyme has been extensively used for detailed structural analysis, in conjunction with broader specificity galactosidase enzymes.

Components

β-(1→4)-galactosidase (Product No. G 0413) - The enzyme is supplied in 20 mM Tris HCl, pH 7.5, containing 25 mM NaCl.

Unit Definition: One unit will hydrolyze 1 µmole 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. R 0266) – 250 mM sodium phosphate, pH 6.0

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

References

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

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