Active Recombinant Streptococcus pneumoniae β-(1-4)-galactosidase

Cat. No. β-(1-4)-galactosidase-006S **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Streptococcus pneumoniae β-(1-4)-galactosidase expressed in E. coli
Species	Streptococcus pneumoniae
Source	E. coli
Description	Non-reducing terminal β(1-4)-Galactose. The number of antennae does not affect cleavage rate. Fucose linked to the penultimate N-acetylglucosamine will block the cleavage of the galactose. β Galactosidase from Streptococcus pneumoniae releases only β(1-4) linked, non-reducing terminal galactose from complex carbohydrates and glycoproteins. β(1-4) galactose is by far the most common linkage found in N-linked oligosaccharides. For other galactosidase linkages, β(1-3,4,6)-Galactosidase from Bovine testes is recommended. The enzyme is as active on tetraantennary oligosaccharides as on disaccharides containing β(1-4)-linked galactose. Fucose linked to the penultimate N-acetylglucosamine will block the cleavage of the galactose. Up to 100 µg of asialofetuin can be completely β(1-4)-degalactosylated in less than 1 hour using 3 mU of enzyme.
Form	Sterile-filtered solution
EC	3.2.1.23
Specificity	Non-reducing terminal β(1-4)-galactose. Number of antennae does not affect

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	cleavage rate. Fucose linked to the penultimate N-acetylglucosamine will block cleavage of the galactose.
Contents	β-(1-4) Galactosidase in 20 mM Tris-HCl, 25 mM NaCl (pH 7.5). 5× Reaction Buffer 6.0 (250 mM sodium phosphate, pH 6.0).
Bio-activity	Specific Activity: > 6 U/mg Activity: > 3 U/mL
Molecular Mass	~250 kDa
Suggested usage	1. Add up to 100 µg of asialoglycoprotein or 1 nmol of oligosaccharide to tube. 2. Add water to 14 µL 3. Add 4 µL 5× Reaction Buffer 4. Add 2 µL β(1-4) Galactosidase 5. Incubate at 37 centigrade for 1 hour. For glycoproteins, cleavage may be monitored by SDS-PAGE if the size differential between native and de-galactosylated protein is sufficient for detection. Note: The optimum for cleavage of oligosaccharides is ~ pH 6.0.
Unit Definition	One unit of β Galactosidase is defined as the amount of enzyme required to produce 1 µmole of p-nitrophenol (pNP) in 1 minute at 37 centigrade pH 5 from p-nitrophenyl-β-D-galactopyranoside.
Purity	Each lot of β Galactosidase is tested for contaminating protease as follows; 10 µg of denatured BSA is incubated for 24 hours with 2 µL of enzyme. SDS-PAGE analysis of the treated BSA shows no evidence of degradation. The production host strain has been extensively tested and does not produce any detectable glycosidases.
Stability	Stable at least 12 months when stored properly. Several days exposure to ambient temperatures will not reduce activity.
Storage	Store enzyme at 4 centigrade. Do not freeze.

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Storage Buffer	The enzyme is provided as a sterile-filtered solution in 20 mM Tris-HCl, 25 mM NaCl (pH 7.5).

GENE INFORMATION

Synonyms	β-D-galactoside galactohydrolase; Exo-(1-4)-β-D-galactanase; Lactase

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