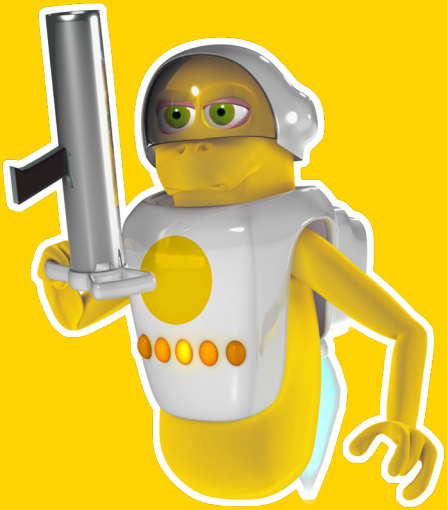
GalactEXO™

FOR RESEARCH
USE ONLY

www.genovis.com

STORE AT
-20°C



SmartEnzymes™

GENOVIS

INSTRUCTIONS FOR PRODUCT

GalactEXO 2000 units (G1-GM1-020)
Digestion of up to 2 mg glycoprotein

Last revised July 2020

1 Prepare GalactEXO

- Reconstitute GalactEXO in 100 µl ddH_2O to a concentration of 20 units/µl

2 Add GalactEXO

- Add 1 unit GalactEXO / 1 µg glycoprotein or 1 pmol oligosaccharides

3 Digestion

- Incubate for 2 h to 18 h at 37°C

PRODUCT DESCRIPTION

GalactEXO is a mix of β-galactosidases for efficient removal of galactose residues on N- and O-glycosylated proteins or oligosaccharides. The mix is composed of two galactosidases for highly efficient hydrolysis of both β1-3 and β1-4 linked galactoses[1]. GalactEXO hydrolyzes glycoproteins under native conditions and displays a high activity in a broad pH range, 5.5 to 7.5. The enzymes in GalactEXO are derived from *Akkermansia muciniphila* and expressed in *E. coli.* The two galactosidases have his tags and the molecular weights of the components are 87 kDa and 109 kDa, respectively.

Unit Definition

One unit of GalactEXO hydrolyzes galactoses from >95 % of 0.15 nmol Gal-β1,3-GalNAc-pNP and 2 nmol Gal-β1,4-GlcNAc-pNP when incubated in 20 mM Tris pH 6.8 at 37°C for 30 min.

Content and Storage

GalactEXO is supplied lyophilized in TBS pH 7.6, with no preservatives added.

GalactEXO is shipped cold and should be stored at -20°C upon arrival.

After reconstitution GalactEXO is stable for 1 month at +4-8°C.

GalactEXO is for R&D use only.

Additional Materials Required

- Reaction buffer[2]: 20 mM Tris pH 6.8

Sample Preparation

- Prepare the glycoprotein of interest in the reaction buffer at a concentration of 0.5-5.0 mg/ml.

Digestion of Glycoproteins

1 Prepare GalactEXO

- Reconstitute GalactEXO in 100 µl ddH_2O to a concentration of 20 units/µl

2 Add GalactEXO

- Add 1 unit GalactEXO / 1 µg glycoprotein[3]

3 Digestion

- Incubate for 2 to 18 h at 37°C

Optimization of enzyme concentrations and incubation time may be needed depending on the substrate.

Digestion of Oligosaccharides

1 Prepare GalactEXO

- Reconstitute GalactEXO in 100 µl ddH_2O to a concentration of 20 units/µl

2 Add GalactEXO

- Add 1 unit GalactEXO / 1 pmol oligosacharides

3 Digestion

- Incubate for 1 h at 37°C

Notes

1. GalactEXO also hydrolyses β1-6 linked galactoses to a certain extent.

2. GalactEXO displays high activity in buffers with pH values from 5.5 to 7.5 and over a wide range of ionic strength. Some optimizations might be required if a buffer other than the recommended reaction buffer is used.

3. A higher enzyme concentration may increase digestion efficiency of individual glycoproteins. This requires optimization.

Quality Control

GalactEXO is tested to meet the specifications and lot-to-lot consistency.

GalactEXO is tested for the absence of microbial contamination using blood agar plates, Sabouraud dextrose agar plates and fluid thioglycollate medium.

Related Products

SialEXO®
For complete removal of α2-3, α2-6 and α2-8 linked sialic acids.

SialEXO® 23
For complete and specific removal of α2-3 linked sialic acids.

Immobilized SialEXO®
Complete removal of sialic acids in a spin column format.

Legal and Disclaimers

SialEXO®

Efficient removal of sialic acids on O-glycosylated and N-glycosylated proteins

SialEXO is a mix of sialidases for efficient removal of sialic acids on O-glycosylated and N-glycosylated proteins. The mix is composed of two sialidases for highly efficient hydrolysis of α2-3, α2-6 or α2-8 bonds.

SialEXO hydrolyzes glycoproteins under native conditions and displays a high activity in a broad pH range, 6.5 to 9.

The enzymes in SialEXO are derived from Akkermansia muciniphila and expressed in E. coli. SialEXO is composed of two sialidases with His-tags and the molecular weights of the components are 42.8 kDa and 65.7 kDa, respectively.

SialEXO® 23

Specific removal of α2-3 linked sialic acids on O- and N-glycans

SialEXO 23 is a sialidase for specific removal of α2-3 linked sialic acids on O- and N-glycans.

SialEXO 23 hydrolyzes sialic acids on glycans under native conditions and displays a high activity in a broad pH range, 7 to 9. The enzyme is derived from Akkermansia muciniphila and expressed in E. coli. The enzyme contains a His-tag and the molecular weight is 66 kDa.

SialEXO 23 can be used for exoglycosidase sequencing by combining results from a reaction with the sialidase product SialEXO, that efficiently hydrolyzes α2-3, α2-6 and α2-8 linked glycosidic bonds.

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