GalNAcEXO™

FOR RESEARCH
USE ONLY
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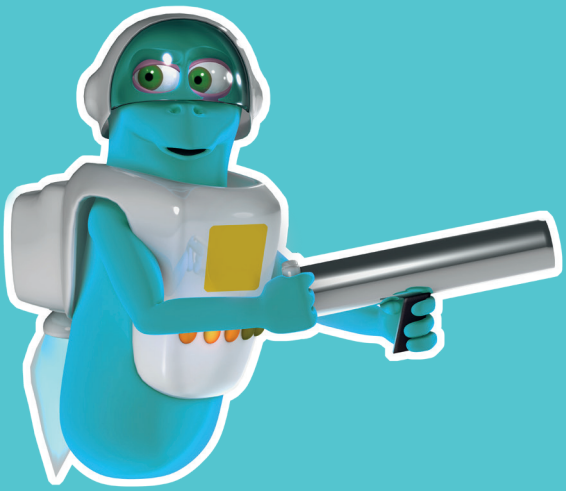
STORE AT
-20°C



SmartEnzymes™

GENOVIS

INSTRUCTIONS FOR PRODUCT

GalNAcEXO 2000 units (G1-NA1-020)
Digestion of up to 2 mg glycoprotein

Last revised September 2020

1 Prepare GalNAcEXO

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

2 Add GalNAcEXO

- Add 1 unit GalNAcEXO / 1 µg glycoprotein

3 Digestion

- Incubate for 2 h to 18 h at 37°C

PRODUCT DESCRIPTION

GalNAcEXO is an exo-α-*N*-Acetylgalactosaminidase for efficient hydrolysis of α-*N*-acetylgalactosamine (GalNAc) linked to serine or threonine residues in glycoproteins (Tn antigen). GalNAcEXO has some activity on other terminal α-linked GalNAc. GalNAcEXO hydrolyzes glycoproteins under native conditions and is highly active in a pH range from 6.0 to 7.6. No cofactors or special buffers are required. The enzyme in GalNAcEXO is derived from *Akkermansia muciniphila*, expressed in *E. coli* with a His-tag, and has a molecular weight of 52 kDa.

Unit Definition

One unit of GalNAcEXO catalyzes the hydrolysis of α-linked GalNAc residues from >95% of 2 nmol 4-Nitrophenyl 2-acetamido-2-deoxy-a-D-galactopyranoside when incubated in 20 mM Tris, 1% EtOH pH 6.8 at 37°C for 30 min.

Content and Storage

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

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

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

GalNAcEXO is for R&D use only.

Additional Materials Required

- Reaction buffer[1]: 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 GalNAcEXO

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

2 Add GalNAcEXO

- Add 1 unit GalNAcEXO / 1 µg glycoprotein[2]

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.

Notes

1. GalNAcEXO displays high activity in buffers with pH values from 6.0 to 7.6 and over a wide range of ionic strength. Some optimizations might be required if a buffer other than the recommended reaction buffer is used.

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

Quality Control

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

GalNAcEXO 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.

GalactEXO™
GalNAcEXO for complete removal of both β1-3 and β1-4 linked galactoses.

OglyZOR®
Specific hydrolysis of core 1 O-glycan disaccharides on native glycoproteins.

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