α-N-Acetylgalactosaminidase 109A, *Elizabethkingia meningoseptica* *Em*Nga109A (GH109)

Catalogue number:

CZ08211, 0.25 mg
CZ08212, 3 × 0.25 mg

Description

*Em*Nga109A (GH109), E.C. number 3.2.1.49, is an enzyme that participates in the cleavage of non-reducing 1,3-α-N-acetylgalactosamine residues from human blood group A and AB mucin glycoproteins from *Elizabethkingia meningoseptica*. Recombinant *Em*Nga109A (GH109), purified from *Escherichia coli*, is a single domain family 109 Glycoside Hydrolase (GH109) (www.cazy.org). The enzyme is provided in 35 mM NaHepes buffer, pH 7.5, 750 mM NaCl, 200 mM imidazol, 3.5 mM $CaCl_2$ and 25% (v/v) glycerol, at a 0.25 mg/mL concentration. Bulk quantities of this product are available on request.

Electrophoretic Purity

*Em*Nga109A (GH109) purity was determined by sodium dodecyl sulfate polyacrylamide gel electrophoresis (SDS-PAGE) followed by BlueSafe staining (MB15201) (Figure 1).

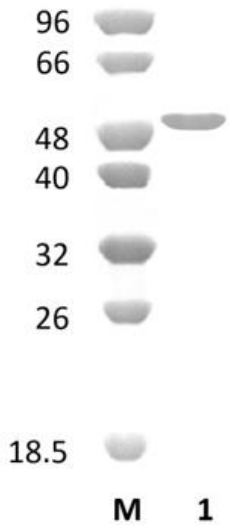

Figure 1. SDS-PAGE analysis of *Em*Nga109A (GH109) (Lane 1). Electrophoresis was performed using a 14% polyacrylamide gel. The Mw of the enzyme is 52.30 kDa. Lane M contains NZYTech Low Molecular Weight (LMW) Protein Marker (MB082).

Storage temperature

This enzyme should be stored at -20 °C.

Substrate specificity

*Em*Nga109A (GH109) hydrolyses blood group A and AB mucin glycoproteins and 4-nitrophenyl-2-acetamido-2-deoxy-α-D-galactopyranosyl (GalNAcα-pNP), 4-nitrophenyl-α-D-galactoside (Galα-pNP), 4-nitrophenyl-β-D-galactoside (Galβ-pNP) and 4-nitrophenyl-β-N-acetylgalactosamine (GalNAcβ-pNP).

Temperature and pH optima

The pH optimum for enzymatic activity is 6.8 while temperature optimum is 26 °C.

Enzyme activity

Substrate specificity and kinetic properties of *Em*Nga109A (GH109) are described in the reference provided below. Follow the instructions described in the paper for the implementation of enzyme assays and to obtain values of specific activity. To measure catalytic activity of GHs, quantify reducing sugars released from polysaccharides through the method described by Miller (1959; Anal. Chem. 31, 426-428).

Reference

Liu *et al.* Nat Biotechnol. 2007 Apr.25(4):454-64.

Quality control assay

Protein purity is ≥90% as judged by SDS-PAGE followed by BlueSafe staining (MB15201).

Certificate of Analysis

Test	Criteria	Result
Protein purity	Purity in line with the stated value	Meets specification

Approved by:

Patrícia Ponte
Senior Manager, Quality Systems

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