

Active Recombinant Human C1GalT1 (Asp45-Pro363) and C1GalT1C1 (Ile28-Asp318) Protein, N-6×His and HA tagged

Cat. No. C1GalT1-01H **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Recombinant Human C1GalT1 (Asp45-Pro363) with N-6×His tag and C1GalT1C1 (Ile28-Asp318) with N-HA fusion protein was expressed in Chinese Hamster Ovary cell line.

Species

Human

Source

CHO

Description

O-glycosylation is a ubiquitous post-translational modification of secreted and membrane bound proteins. The synthesis of mucin-type O-glycans is initiated by the addition of GalNAc to threonine or serine residues on proteins by polypeptide N-acetylgalactosaminyltransferases (GALNTs). The GalNAc alpha 1-O-Ser/Thr structure is then extended by other glycosyltransferases to form eight types of core O-glycans. Core 1 beta-3-galactosyltransferase (C1GalT1), in particular, synthesizes Gal-beta 1-3GalNAc alpha 1-O-Ser/Thr, a precursor for all core 1 and core 2 based mucin-type O-glycans. These glycans play central roles in many processes, such as angiogenesis, thrombopoiesis, and kidney homeostasis. C1GalT1 forms a stable, non-covalent complex with Cosmc chaperone, C1GalT1C1, which is required for the full activity of C1GalT1. Defective C1GalT1 causes a rare autoimmune disease called Tn syndrome as well as susceptibility to IgA nephropathy. The recombinant C1GalT1 is co-purified with C1GalT1C1. The enzymatic activity of recombinant human C1GalT1 was determined using a phosphatase-coupled assay.

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Bio-activity	Measured by its ability to transfer galactose from UDP-galactose to 4-nitrophenyl-alpha -D-galactosaminide. The specific activity is > 2,750 pmol/min/μg, as measured under the described conditions.
Molecular Mass	Predicted Molecular Mass: 38 kDa (C1GalT1) & 35 kDa (C1GalT1C1) SDS-PAGE: 25-42 kDa, reducing conditions
N-terminal Sequence Analysis	His (C1GalT1) & Tyr (C1GalT1C1)
Endotoxin	< 1.0 EU/μg of the protein by the LAL method.
Purity	> 90 %, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 6 months from date of receipt, -20 to -70 centigrade as supplied. 3 months, -20 to -70 centigrade under sterile conditions after opening.
Storage Buffer	Supplied as a 0.2 μm filtered solution in Tris and NaCl.
Shipping	The product is shipped with polar packs.

GENE INFORMATION

Gene Name	C1GALT1 core 1 synthase, glycoprotein-N-acetylgalactosamine 3-beta-galactosyltransferase 1 [Homo sapiens (human)]
Official Symbol	C1GALT1
Synonyms	C1GALT1; core 1 synthase, glycoprotein-N-acetylgalactosamine 3-beta-

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galactosyltransferase 1; C1GALT; T-synthase; glycoprotein-N-acetylgalactosamine 3-beta-galactosyltransferase 1; B3Gal-T8; core 1 O-glycan T-synthase; core 1 UDP-galactose:N-acetylgalactosamine-alpha-R beta 1,3-galactosyltransferase 1; core 1 beta3-Gal-T1; epididymis secretory sperm binding protein; EC 2.4.1.122; B3Gal-T8; Beta-1,3-galactosyltransferase; C1GALT; C1GalT1; Core 1 beta1,3-galactosyltransferase 1; Core 1 Beta3-Gal-T1; Core 1 O-Glycan T-Synthase; core 1 synthase, glycoprotein-N-acetylgalactosamine3-beta-galactosyltransferase, 1; Core 1 UDP-galactose:N-acetylgalactosamine-alpha-R beta1,3-galactosyltransferase 1; EC 2.4.1.122; glycoprotein-N-acetylgalactosamine 3-beta-galactosyltransferase 1; T-synthase

Gene ID [56913](#)

mRNA Refseq [NM_020156](#)

Protein Refseq [NP_064541](#)

MIM [610555](#)

UniProt ID [Q96QH4](#)

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