

Active Recombinant Rat Beta-1,3-Glucuronyltransferase 1 (glucuronosyltransferase P), His-tagged

Cat. No. B3gat1-590R **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Rat B3gat1 protein was expressed in Murine myeloma cell line with an N-terminal humanCD33 signal sequence and a 6-His tag. Asp75-Ile347.
Species	Rat
Source	Mammalian Cells
Protein Length	75-347 a.a.
Description	B3gat1 is a key enzyme involved in human natural killer-1 (HNK-1) epitope synthesis. It adds a glucuronic residue to the terminal lactosamine residue (Galβ1-4GlcNAc-) of a glycoprotein or glycolipid, which can be further sulfated to become the HNK1 epitope, a unique trisaccharide structure, HSO3-3GlcAβ1-3Galβ1-4GlcNAc-. The enzyme activity was found to be enhanced in the presence of sphingomyelin and phosphatidylinositol. The B3gat1 carbohydrate epitope is characteristically expressed on a series of cell adhesion molecules in addition to some glycolipids in the extracellular matrix and on the cell surface in the nervous system, where it is involved in cell-cell and cell-substratum interaction and recognition during the development of the nervous system.
Form	Supplied as a 0.2 μm filtered solution in Tris, NaCl and DTT.
N-terminal Sequence	His
Molecular Weight	32 kDa

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Activity	Measured by its ability to transfer GlcA from UDPGlcA to lactose. The specific activity is > 725 pmol/min/μg, as measured under the described conditions.
Endotoxin Level	< 1.0 EU per 1 μg of the protein by the LAL method.
SDS-PAGE	40-43 kDa, reducing conditions.
Purity	> 80%, by SDS-PAGE under reducing conditions and visualized by Coomassie® Blue stain at 5 μg per lane.
Reconstitution	100 μg/mL in sterile PBS.
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 6 months from date of receipt, -20 to -70°C as supplied. 3 months, -20 to -70°C under sterile conditions after opening.

GENE INFORMATION

Gene Name	B3gat1; beta-1,3-glucuronyltransferase 1 (glucuronosyltransferase P) [<i>Rattus norvegicus</i>]
Official Symbol	B3gat1
Synonyms	B3gat1; beta-1,3-glucuronyltransferase 1 (glucuronosyltransferase P); Hnk-1; galactosylgalactosylxylosylprotein 3-beta-glucuronosyltransferase 1; glcAT-P; glcUAT-P; glucuronosyltransferase P; glucuronosyltransferase-P; UDP-GlcUA:glycoprotein beta-1,3-glucuronyltransferase; EC 2.4.1.135
Gene ID	117108
mRNA Refseq	NM_054003

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Protein Refseq	NP_446455
Chromosome Location	8q13
Pathway	Glycosaminoglycanbiosynthesis - chondroitin sulfate; Glycosaminoglycan biosynthesis - heparansulfate; Glycosaminoglycan biosynthesis, linkage tetrasaccharide;Glycosaminoglycan biosynthesis; Metabolic pathways
Function	UDP-galactose:beta-N-acetylglucosaminebeta-1,3-galactosyltransferase activity; galactosylgalactosylxylosylprotein3-beta-glucuronosyltransferase activity; metal ion binding; transferaseactivity
PDBrendering based on 1v82.	