Recombinant B3GA3 protein (His tag)

Catalog Number	544203
Synonyms	Beta-1,3-glucuronyltransferase 3; Glucuronosyltransferase I; GlcAT-I; UDP-GlcUA:Gal beta-1,3-Gal-R glucuronyltransferase; GlcUAT-I
Species	Human
Expression System	E. coli
Accession	O94766
Molecular Weight	Predictes a molecular mass of 35.67 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 36 kDa band.

Product Information

Sequence Region	29-335
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>87%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 29-335 aa (O94766) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	This recombinant protein product features a stable, soluble fragment (amino acids 29-335) of human Galactosylgalactosylxylosylprotein 3-beta-glucuronosyltransferase 3 (B3GAT3/GlcAT-I), a key enzyme in glycosaminoglycan biosynthesis. This carefully selected fragment is optimized for structural and biochemical studies, providing researchers with a functional unit for investigating proteoglycan assembly mechanisms. Galactosylgalactosylxylosylprotein 3-beta-glucuronosyltransferase 3 (EC 2.4.1.135), also known as Beta-1,3-glucuronyltransferase 3 or GlcAT-I, is a crucial enzyme in glycosaminoglycan biosynthesis. It catalyzes the transfer of a glucuronic acid moiety from UDP-GlcUA to the common linkage region trisaccharide Gal-beta-1,3-Gal-beta-1,4-Xyl, which is covalently bound to serine residues in proteoglycans. This reaction is essential for forming the linkage tetrasaccharide present in both heparan sulfate and chondroitin sulfate. The enzyme demonstrates strict substrate specificity for this trisaccharide structure and also plays a role in the biosynthesis of the HNK-1 carbohydrate epitope on glycoproteins. Additionally, it stimulates 2-phosphoxylose phosphatase activity of PXYLP1 in the presence of UDP-GlcUA during linkage region formation. The full-length protein is localized to the Golgi apparatus membrane, specifically the cis-Golgi network, where it functions as a single-pass type II membrane protein in proteoglycan modification pathways.