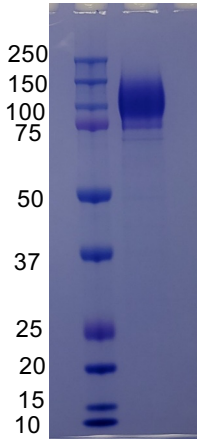


Product Name	Recomb (B3GNT2)	I-acetylglucosaminyltransferase 2
Catalog Number	#0008	
Alternate Names	N-acetyllactosaminide beta-1,3-N-acetylglucosaminyltransferase 2; beta-1,3-N-acetylglucosaminyltransferase bGnT-2; UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 1;beta-1,3-N-acetylglucosaminyltransferase bGnT-1	
Substrate Specificity	Human Beta-1,3-N-Acetylglucosaminyltransferase 2 (B3GNT2) synthesizes polylactosamine chains on <i>N</i> - and <i>O</i> -glycans and glycolipids. Polylactosamine chains are synthesised by the alternative action of an α 1,4-galactosyltransferase and a β 1,3-N-acetylglucosaminyltransferase [1].	
References	References: [1] Togayachi, A. and Narimatsu, H. (2013) "UDP-GlcNAc: BetaGal Beta-1,3-N-Acetylglucosaminyltransferase 2 (B3GNT2)" in Handbook of Glycosyltransferases and Related Genes, 2nd edition.	
Expression Host	HEK293	
Species of expressed protein	Human	
Gene ID	10678	
Protein RefSeq	NP_006568	
Uniprot	Q9NY97	
Region Expressed	AA 35-397	
Expressed Protein Sequence	KNGKGEVIIPKEKFWKISTPPEAYWNREQEKLNRQYNPILSMLTNQTGEAGRLSNISHLNYCE PDRVTSVVTGFNNLPDRFKDFLLYLRCRNYSLLIDQPDKCAKKPFLLLAIKSLTPHFARRQAI RESWGQESNAGNQTVVRVLLGQTPPEDNHPDLSDMLKFESEKHQDILMWNYRDTFFNLS LKEVLFRLWVSTSCPDETFVFKGDDDVFNTHHILNYLNSLSKTKAKDLFIGDVIHNAGPHRD KKLKYYIPEVVYSGLYPPYAGGGGFLYSGHLALRLYHITDQVHLYPIDDVYTGMCCLQKLGLVP EKHKGFRTFDIEEKNKNNICSYVDLMLVHSRKPQEMIDIWSQLQSAHLKC	
Tag(s)	N-terminal 6xHis, GFP	
Specific Activity	Specific Activity is ≥ 0.69 with 1mM donor and 5mM acceptor under the conditions	
Purity (%)	>95%, by SDS_PAGE under reducing conditions and visualized by Coomassie Blue stain.	
Formulation	Supplied as a 0.2 μ m filtered solution in 20mM HEPES and 100mM NaCl buffer, pH 7.0, with 10% Glycerol and 0.05 % NaN ₃ as preservative.	
Concentration	1 μ g/ μ l	
SDS-Page Size	~85kDa has some fuzzynies	
SDS-PAGE image		

Activity Measured by the ability to transfer the sugar from UDP-GlcNAc and generate UDP

Assay Buffer	100mM HEPES, pH 7.4, 1mg/ml BSA, 2mM MnCl ₂
Donor Substrate	UDP-GlcNAc (1mM, Promega)
Acceptor Substate	LNnT (0-10mM, V-Labs)
Detection Kit	UDP-Glo™ Glycosyltransferase Assay (Promega)
Assay Steps	1) Prepare 10µl of reaction mixture containing 100mM HEPES, pH 7.4, 2mM MnCl₂, 1mg/mlBSA, UDP-GlcNAc (1mM) as donor, LNnT (0-10mM) as an acceptor, and purified GFP-B3GNT2 in a microfuge tube. 2) Incubate at 37°C for 60 min. 3) Put the sample on ice immediately and then transfer 5 µLof reaction mixture into 384-well assay plates and add equal volume of UDP Detection Reagent (5µL) 4) Incubate for 60 min at room temperature and read the plate using a GloMax Multi Detection System plate reader (Promega)
Std Curve	Follow protocol for "Generating a Standard Curve for UDP" in the UDP-Glo™ Glycosyltransferase Assay Technical Manual (Promega)
Specific Actifity calc	Specific Activity (umol/min/mg)= UDP released*(umol) / [Incubation time (min) x amount of enzyme (mg)], Specific Activity was calculated using the standard curve plotted in GraphPad Prism 6 (GraphPad Software)
Shipping conditions	This product is shipped as 0.2µm filtered product on dry ice. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage cond 6 months	6 months if stored at -80C. Avoid repeated freeze thaws.