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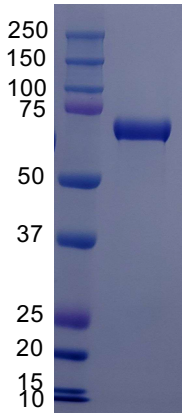
Product Name	Recombi (B4GALT1)
Catalog Number	#0007
Alternate Names	beta-1,4-galactosyltransferase 1; glycoprotein-4-beta-galactosyltransferase 2; lactose synthase; beta-1,4-GalTase 1; UDP-Gal:betaGlcNAc beta 1,4-galactosyltransferase, polypeptide 1; UDP-Gal:beta-GlcNAc beta-1,4-galactosyltransferase 1; UDP-galactose:beta-N-acetylglucosamine beta-1,4-galactosyltransferase 1
Substrate Specificity	Human Beta 1,4-Galactosyltransferase 1 (B4GALT1) transfers galactose from UDP-Gal to N-acetylglucosamine (beta-GlcNAc) to synthesize LacNAc [1].
References	References: [1] Ramakrishnan, B. and Qasba, P.K. (2013) "UDP-Gal: BetaGlcNAc Beta 1,4-Glactosyltransferase, Polypeptide 1 (B4GALT1)" in Handbook of Glycosyltransferases and Related Genes, 2nd edition.
Expression Host	HEK293
Species of expressed protein	Human
Gene ID	2683
Protein RefSeq	NP_001488
Uniprot	P15291
Region Expressed	AA 63-398
Expressed Protein Sequence	GSNSAAAIGQSSGELRTGGARPPPPLGASSQPRPGGDSSPVVDSGPGPASNLTSVPVPHTT ALSLPACPEESPLLVGPMLIEFNMPVDLELVAKQNPNVKMGGRYAPRDCVSPHKVAIIIPFRN RQEHLKYWLYYLHPVLQRQQLDYGIYVINQAGDTIFNRAKLLNVGFQEALKDYDYTCFVFSD VDLIPMNDHNAYRCFSQPRHISVAMDKFGFSLPYVQYFGGVSALSKQQFLTINGFPNNYWG WGGEDDDIFNRLVFRGMSISRPNAVVGRCRMIRHSRDKKNEPNPQRFDRIAHTKETMLSD GLNSLTYQVLDVQRYPLYTQITVDIGTPS
Tag(s)	N-terminal 6xHis, GFP
Specific Activity	Specific Activity is ≥0.8 µmol/min/mg, as measured under the conditions described below.
Purity (%)	>95%, by SDS_PAGE under reducing conditions and visualized by Coomassie Blue stain.
Formulation	Supplied as a 0.2 µm filtered solution in 20mM HEPES and 100mM NaCl buffer, pH 7.0, with 10% Glycerol and 0.05 % NaN_3 as preservative.
Concentration	1 µg/µl
SDS-Page Size	~68-70kDa
SDS-PAGE image	



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

Assay Buffer	Universal Buffer: 100mM each MES, MOPS, TRIS, pH 7.0, 1mg/ml BSA, 5mM MnCl2
Donor Substrate	UDP-Gal (0.2mM, Promega)
Acceptor Substate	β-benzyl-GlcNAc (0.5mM, Carbosynth)
Detection Kit	UDP-Glo™ Glycosyltransferase Assay (Promega)
Assay Steps	
	1) Prepare 10 μl reaction mixture containing Prepare 10 μl reaction mixture containing 100mM each of MES, MOPS, Tris (pH 7.0), UDP-Gal (0.2mM) as donor and β-benzyl-GlcNAc (0.5mM) as acceptor and purified GFP-B4GALT1 in a microfuge tube.
	2) Incubate at 37C° 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 (pmol/min/ug)= [UDP released*(nmol) x (1000 pmol/nmol)] / [Incubation time (min) x amount of enzyme (ug)], 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.