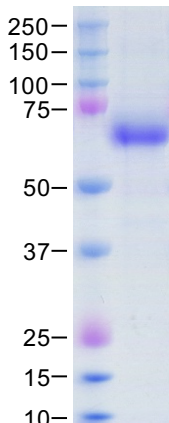


Product Name	Recombinant Human CMP-N-acetylneuraminate-beta-galactosamide-alpha-2,3-sialyltransferase 4 (ST3GAL4)
Catalog Number	#0004
Alternate Names	CMP-N-acetylneuraminate-beta-galactosamide-alpha-2,3-sialyltransferase 4; sialyltransferase 4C (beta-galactoside alpha-2,3-sialyltransferase); alpha-3-N-acetylneuraminytransferase; alpha 2,3-ST 4; alpha 2,3-sialyltransferase IV; beta-galactoside alpha-2,3-sialyltransferase 4; gal-beta-1,4-GalNAc-alpha-2,3-sialyltransferase
Substrate Specificity	Human Beta-Galactoside Alpha-2,3-Sialyltransferase 4 (ST3GAL4) catalyzes the transfer of NeuAc preferentially to Gal β 1-4GlcNAc termini, but also to Gal β 1-3GlcNAc and Gal β 1-3GalNAc termini on glycoproteins and glycolipids. It is important for the formation of sialyl Lex, which is a glycan determinant involved in leukocyte trafficking [1].
References	References: [1] Schnaar, R. (2013) "ST3 Beta-Galactoside Alpha-2,3-Sialyltransferase 4 (ST3GAL4)" in Handbook of Glycosyltransferases and Related Genes, 2nd edition.
Expression Host	HEK293
Species of expressed protein	Human
Gene ID	6484
Protein RefSeq	NP_006269
Uniprot	Q11206
Region Expressed	AA 34-329
Expressed Protein Sequence	EKKEPCLQGEASKSLFGNYSRDQPIFLRLDYFWVKTPSAELPYGTGKGSDDLRLVLAITSSSIPKNIQSLRCRRCVVVGNGHRLRNSSLGDAINKYDVVIRLNNAPVAGYEGDVGSKTTMLRLFYPESAHPKVENNPDTLLVLVAFKAMDFHWIETILSDKKRVRKGFWKQPLIWDVNPQIRILNPFFMEIAADKLLSLPMQQPRKIKQKPTTGLLAITLALHCLDLVHIAGFGYPDAYNKKQTIHYYEQITLKSMAAGSGHNVSQEALAIKRMLEMGAIKNLTSF
Tag(s)	N-terminal 6xHis, GFP
Specific Activity	Specific Activity is ≥ 0.23 $\mu\text{mol}/\text{min}/\text{mg}$, 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 pH 7.0 and 100mM NaCl buffer, with 10% Glycerol and 0.05 % NaN ₃ as preservative.
Concentration	1 $\mu\text{g}/\mu\text{l}$
SDS-Page Size	~60-70kDa
SDS-PAGE image	

Activity Measured by the ability to transfer the sugar from CMP-Neu5Ac and generate CMP

Assay Buffer	50mM MES, pH 6.5
Donor Substrate	CMP-Neu5Ac (300 μ M, Nacalai Tesque Inc.)
Acceptor Substate	LacNAc (2.4mM, Sigma)
Detection Kit	CMP-Glo™ Glycosyltransferase Assay (Promega)
Assay Steps	<ol style="list-style-type: none"> 1) Prepare 10μl reaction mixture containing 50mM MES (pH6.5), CMP-Neu5Ac (300 μM) as donor and LacNAc (2.4mM) as acceptor and purified GFP-ST3GAL4 in a microfuge tube. 2) Incubate at 37C° for 30 min. 3) Put the sample on ice immediately and then transfer 5 μLo of reaction mixture into 384-well assay plates and add equal volume of CMP 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 CMP" in the CMP-Glo™ Glycosyltransferase Assay Technical Manual (Promega)
Specific Activity calc	Specific Activity (pmol/min/ μ g)= [CMP released*(nmol) x (1000 pmol/nmol)] / [Incubation time (min) x amount of enzyme (μ g)], Specific Activity was calculated using the standard curve plotted in GraphPad Prism 6 (GraphPad Software)
Shipping conditions	This product is shipped as 0.2 μ m 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.