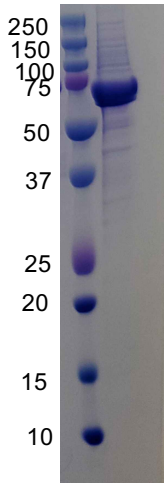


Product Name	4-galactosyl-N-acetylglucosaminide 3-alpha-L-fucosyltransferase 9 (FUT9)
Catalog Number	#0036
Alternate Names	Fucosyltransferase 9 Fucosyltransferase IX (Fuc-TIX) Galactoside 3-L-fucosyltransferase
Substrate Specificity	Catalyzes the transfer of L-fucose, from a GDP-fucose, to the N-acetyl glucosamine (GlcNAc) of a distal lactosamine unit of a glycoprotein or a glycolipid-linked polylactosamine chains through an alpha-1,3 glycosidic linkage and participates in particular to the Lewis x (Lex)/CD15 epitope biosynthesis in neurons which allows cell differentiation, cell adhesion, and initiation of neurite outgrowth. Also fucosylates di-, tri- and tetraantennary N-glycans linked to glycoproteins and the inner lactosamine unit of the alpha2,3-sialylated polylactosamine resulting in sLex (CD15s) epitope synthesis.
References	https://pubmed.ncbi.nlm.nih.gov/10386598/ https://pubmed.ncbi.nlm.nih.gov/10622713/ https://pubmed.ncbi.nlm.nih.gov/18395013/
Expression Host	HEK293
Species of expressed protein	Human
Gene ID	10690
Protein RefSeq	NP_006572.2
Uniprot	Q9Y231
Region Expressed	AA 39-359
Expressed Protein Sequence	SPMESASSVLKMKNNFFSTKTDYFNETTILVWVWPFQGTDFLTSCQAMFNIQGGCHLTDDRSLY NKSHAVLIHHRDISWDLTNLPQQARPPFQKWIWMNLESPTHTPQKSGIEHLFNLTLYRRDS DIQVPYGFGLTVSTNPFVFEVPSKEKLVCVVSNWNPEHARVKYYNELSKSIEIHTYGQAFGE YVNDKNLIPTISACKFYLSFENSIHKDYITEKLYNAFLAGSVPPVLGSPRENYENYIPADSFIV EDYNPSSELA KYLKEVDKNNKLYSYFNWRKDFTVNLPRFWESHACLACDHVKRHQEYKS VGNLEKWFWN
Tag(s)	N-terminal 6xHis, GFP
Specific Activity	
Purity (%)	>95%, by SDS-PAGE as visualized by Coomassie Blue Staining
Formulation	Supplied as a 0.2µm filtered solution in 20mM HEPES pH 7.0 and 100mM NaCl buffer, with 10% Glycerol and 0.05 % NaN ₃ as preservative.
Concentration	1 mg/ml
SDS-Page Size	~70 kDa
SDS-PAGE image	

Activity	Measured by the ability to transfer the sugar from GDP-Fucose and generate GDP
Assay Buffer	Universal Buffer: 250mM each MES, MOPS, TRIS, pH 7.5
Donor Substrate	GDP-Fucose (200mM, from Carbosynth)
Acceptor Substate	1mM LNnT (Acceptor can be Type 2, H type2, Sialyl Type 2)
Coupling Enzyme	GDP-Glo™ Glycosyltransferase Assay (Promega)
Detection Kit	Prepare 10µl of reaction mixture containing 250mM of Universal Buffer(MES, MOPS, TRIS), pH 7.5, GDP-Fuc (200mM) as donor, 1 mM of an acceptor and purified GFP-FUT6 in a microfuge tube.
Assay Steps	1) Incubate at 37°C for 30 min. 2) Put the sample on ice immediately and then transfer 5 µL of reaction mixture into 384-well assay plates and add equal volume of GDP Detection Reagent (5µL) 3) Incubate for 60 min at room temperature and read the plate using a GloMax Multi Detection System plate reader (Promega) 4) Follow protocol for "Generating a Standard Curve for GDP" in the GDP-Glo™ Glycosyltransferase Assay Technical Manual (Promega) Note: Use Universal buffer (250mM each MES, MOPS, TRIS, pH 7.5).
Specific Activity calc	Specific Activity (umol/min/mg)= GDP 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.