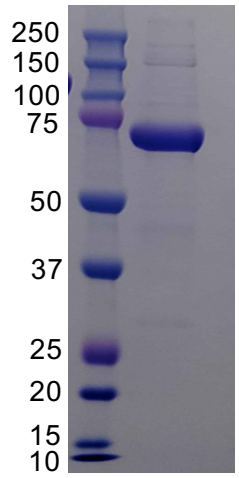
BioF:GREAT
Glycoscience
Research,Education
and Training
biofgreat.org

Product Name	Alpha-N-acetylneuraminide alpha-2,8-sialyltransferase (ST8Sia I)
Catalog Number	#0029
Alternate Names	ST8SIA1, SIAT8, SIAT8A, Alpha-2,8-sialyltransferase 8A, Ganglioside GD3 synthase, Ganglioside GT3 synthase, Sialyltransferase 8A (SIAT8-A), Sialyltransferase St8Sia I (ST8SiaI)
Substrate Specificity	Catalyzes the addition of sialic acid in alpha 2,8-linkage to the sialic acid moiety of the ganglioside GM3 to form ganglioside GD3; gangliosides are a subfamily of complex glycosphinglolipds that contain one or more residues of sialic acid, Can catalyze the addition of a second alpha-2,8-sialic acid to GD3 to form GT3, Can use GM1b, GD1a and GT1b as acceptor substrates to synthesize GD1c, GT1a and GQ1b respectively, Can synthesize unusual tetra- and pentasialylated lactosylceramide derivatives identified as GQ3 (II3Neu5Ac4-Gg2Cer) and GP3 (II3Neu5Ac5-Gg2Cer) in breast cancer cells.
References	https://doi.org/10.1016/j.bbrc.2008.03.029 https://doi.org/10.1111/j.1432-1033.1996.0647w.x https://doi.org/10.1007/978-4-431-54240-7_118
Expression Host	HEK293
Species of expressed pr	Human
Gene ID	6489
Protein RefSeq	NP_003025
Uniprot	Q92185
Region Expressed	AA 50-356
Expressed Protein Sequ	RLPNEKEIVQGVLQQGTAWRRNQTAARAFRKQMEDCCDPAHLFAMTKMNSP MGKSMWYDGEFLYSFTIDNSTYSLFPQATPFQLPLKKCAVVGNGGILKKSGCG RQIDEANFVMRCNLPPLSSEYTKDVGSKSQLVTANPSIIRQRFQNLLWSRKTF VDNMKIYNHSYIYMPAFSMKTGTEPSLRVYYTLSDVGANQTVLFANPNFLRSIG KFWKSRGIHAKRLSTGLFLVSAALGLCEEVAIYGFWPFSVNMHEQPISHHYYD NVLPFSGFHAMPEEFLQLWYLHKIGALRMQLDPCEDTSLQPTS
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

Assay Buffer	25-100 mM sodium cacodylate pH 6.5, 10 mM MgCl,, 0.15-0.4% Triton CF-54
Donor Substrate	CMP-NeuAc
Acceptor Substate	GM3; GM1b/GD1a/GT1b
Detection Kit	
Assay Steps	Reaction mixtures were incubated at 37 °C for 2–3 h in a volume of 100 µl, buffered by 25 mM sodium cacodylate, pH 6.5. The reaction solution contained 10 mM MgCl, 0.15% Triton CF-54, 10 nmol donor substrate CMP-Neu5Ac (Sigma) and acceptor substrate GM3 (Matreya Inc., Pleasant Hill, PA) 55,000 cpm of CMP-[14C] NeuAc (Perkin-Elmer, Waltham, MA), and 10–20 µl culture media. The reaction was terminated on ice. After partitioning with ether, the aqueous phase containing radioactive glycolipid was applied to a Sep-Pak C18 cartridge (Waters, Milford, MA) previously equilibrated with 0.1 M KCl, the column was washed with 25 ml of distilled water, and the sample was eluted with 5 ml of chloroform/methanol, 2:1 (v/v). The eluent was dried under nitrogen, and the radioactivity was measured by liquid scintillation counting. (Please refer to reference https://doi.org/10.1016/j.bbrc.2008.03.029)
Std Curve	
Specific Actifity calculation	
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 conditions:

6 months	6 months if stored at -80ºC. Avoid repeated freeze thaws.