ST6GAL1 Cell Lysate – Tissue Lysate

PRODUCT OVERVIEW

Product Name	ST6GAL1, Cell Lysate
Full Product Name	Human ST6GAL1 HEK293 Overexpression Lysate
Product Gene Name	ST6GAL1 cell lysate
Product Synonym Names	Human ST6GAL1/ST6GAL-I HEK293 Cell Lysate (WB positive control); ST6 beta-galactosamide alpha-2, 6-sialyltranferase 1; Human SIAT1 Overexpression Lysate; Human ST6GalI Overexpression Lysate; Human ST6N Overexpression Lysate
Sequence	Lys27-Cys4 06
Host	HEK293 Cells
Form/Format	1x Sample Buffer (1x modified RIPA buffer+1x SDS loading buffer). Modified RIPA Lysis Buffer: 50 mM Tris-HCl pH 7.4, 150 mM NaCl, 1mM EDTA, 1% Triton X-100, 0.1% SDS, 1% Sodium deoxycholate, 1mM PMSF.
Preparation and Storage	Store at 4 degree C for up to twelve months from date of receipt. After re-dissolution, aliquot and store at -80 degree C for up to twelve months. Avoid repeated freeze-thaw cycles. Samples are stable for up to twelve months from date of receipt.
Molecular Weight	46,605 Da
Sequence Positions	400aa
Chromosome Location	Chromosome: 3; NC_000003.11 (186648315..186796341). Location: 3q27-q28
OMIM	109675
3D Structure	ModBase 3D Structure for P15907
Species	Human
Recommend Usage	1. Centrifuge the tube for a few seconds and ensure the pellet at the bottom of the tube.**2. Re-dissolve the pellet using 200uL pure water and boil for 2-5 min.**
Sequence Construction	A DNA sequence encoding the human ST6GAL1 (P15907) (Lys 27-Cys 406) was expressed, with a polyhistidine tag at the N-terminus.
Preparation Method	Cell lysate was prepared by homogenization of the over-expressed cells in ice-cold modified RIPA Lysis Buffer with cocktail of protease inhibitors. Cell debris was removed by centrifugation. Protein concentration was determined by Bradford assay (protein assay, Microplate Standard assay). The cell lysate was boiled for 5 min in 1 x SDS loading buffer (50mM Tris-HCl pH 6.8, 12.5% glycerol, 1% sodium dodecylsulfate, 0.01% bromophenol blue) containing 5% b-mercaptoethanol, and lyophilized.
Applications Tested/Suitable for ST6GAL1 cell lysate	Western Blot (WB)
Application Notes for ST6GAL1 cell lysate	WB: Use at an assay dependent dilution.

Related Product Information for ST6GAL1 cell lysate	Beta-galactoside alpha-2, 6-sialyltransferase 1, also known as B-cell antigen CD75, Sialyltransferase 1, CMP-N-acetylneuraminate-beta-galactosamide-alpha-2, 6-sialyltransferase 1, ST6GAL1 and SIAT1, is a single-pass type II membrane protein that belongs to the glycosyltransferase 29 family. Sialyltransferases are key enzymes in the biosynthesis of sialoglycoconjugates that catalyze the transfer of sialic residue from its activated form to an oligosaccharidic acceptor. ST6GAL1/SIAT1 is normally found in the Golgi but can be proteolytically processed to a soluble form. It is involved in the generation of the cell-surface carbohydrate determinants and differentiation antigens HB-6, CDw75, and CD76. beta-Galactoside alpha2, 6-sialyltransferases ST6GAL1 and ST6GAL2 are the two unique members of the ST6GAL family described in higher vertebrates. ST6GAL1/SIAT1 transfers sialic acid from the donor of substrate CMP-sialic acid to galactose containing acceptor substrates. This Human ST6GAL1 overexpression lysate was created in HEK293 Cells and intented for use as a Western blot (WB) positive control. Purification of ST6GAL1 protein from the overexpression lysate was verified.
Product References and Citations for ST6GAL1 cell lysate	Collins, B.E. et al., 2006, Nat Immunol. 7(2):199-206. Videira, P.A. et al., 2008, Glycoconj J. 25(3): 259-68. Petit, D. et al., 2010, J Biol Chem. 285(49): 38399-414. Kroes, R.A. et al., 2010, Proc Natl Acad Sci USA.107(28):12646-51.
Other Notes	Small volumes of ST6GAL1 cell lysate vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for ST6GAL1 purchase	MBS8114596 is a cell lysate targeting ST6GAL1. Also known as Human ST6GAL1 HEK293 Overexpression Lysate. Host: HEK293 Cells.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for ST6GAL1. It may not necessarily be applicable to this product.

NCBI GI #	4506949
NCBI GeneID	6480
NCBI Accession #	NP_003023.1
UniProt Primary Accession #	P15907
UniProt Secondary Accession #	A8KA14; D3DNV3
UniProt Related Accession #	P15907
GenBank Nucleotide #	NM_003032.2
NCBI Official Full Name	beta-galactoside alpha-2,6-sialyltransferase 1 isoform a
NCBI Official Synonym Full Names	ST6 beta-galactosamide alpha-2,6-sialyltranferase 1
NCBI Official Symbol	ST6GAL1
NCBI Official Synonym Symbols	ST6N; SIAT1; ST6GalI
UniProt Protein Name	Beta-galactoside alpha-2,6-sialyltransferase 1
UniProt Synonym Protein Names	B-cell antigen CD75; CMP-N-acetylneuraminate-beta-galactosamide-alpha-2,6-sialyltransferase 1; ST6Gal I; ST6GalI; Sialyltransferase 1
Protein Family	Beta-galactoside alpha-2,6-sialyltransferase
UniProt Gene Name	ST6GAL1
UniProt Synonym Gene Names	SIAT1; Alpha 2,6-ST 1; ST6GalI
UniProt Entry Name	SIAT1_HUMAN
NCBI Protein Information	beta-galactoside alpha-2,6-sialyltransferase 1; ST6Gal I; alpha 2,6-ST 1; B-cell antigen CD75; sialyltransferase 1 (beta-galactoside alpha-2,6-sialyltransferase); CMP-N-acetylneuraminate beta-galactosamide alpha-2,6-sialyltransferase; CMP-N-acetylneuramin

NCBI Summary for ST6GAL1	This gene encodes a member of glycosyltransferase family 29. The encoded protein is a type II membrane protein that catalyzes the transfer of sialic acid from CMP-sialic acid to galactose-containing substrates. The protein, which is normally found in the Golgi but can be proteolytically processed to a soluble form, is involved in the generation of the cell-surface carbohydrate determinants and differentiation antigens HB-6, CD75, and CD76. This gene has been incorrectly referred to as CD75. Three transcript variants encoding two different isoforms have been described. [provided by RefSeq, Aug 2009]
UniProt Comments for ST6GAL1	SIAT1: a type II membrane protein that catalyzes the transfer of sialic acid from CMP-sialic acid to galactose-containing substrates. Is normally found in the trans cisternae of the Golgi but which can be proteolytically processed to a soluble form, is involved in the generation of the cell-surface carbohydrate determinants and differentiation antigens HB-6, CDw75, and CD76. This protein is a member of glycosyltransferase family 29. Three transcript variants encoding two different isoforms have been found. Protein type: EC 2.4.99.1; Membrane protein, integral; Glycan Metabolism - N-glycan biosynthesis; Transferase Chromosomal Location of Human Ortholog: 3q27.3 Cellular Component: Golgi membrane; integral to Golgi membrane Molecular Function: sialyltransferase activity; beta-galactoside alpha-2,6-sialyltransferase activity Biological Process: protein amino acid O-linked glycosylation; cellular protein metabolic process; O-glycan processing; dolichol-linked oligosaccharide biosynthetic process; protein amino acid N-linked glycosylation via asparagine; post-translational protein modification; N-acetylneuraminate metabolic process; humoral immune response
Research Articles on ST6GAL1	**1.** These results indicated that gastric cancer tissues expressed high levels of alpha 2,3-linked sialic acid residues, ST3Gal IV, and ST6Gal I.
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