



Sialyltransferase 7F (m): 293T Lysate: sc-127538

BACKGROUND

Sialyltransferase 7F, also known as SIAT7F and ST6GalNAc VI, is a 333 amino acid Golgi type II transmembrane glycosyltransferase expressed in the proximal tubule epithelial cells of kidney. Sialyltransferase 7F belongs to the ST6GalNAc family of sialyltransferases involved in the biosynthesis of α -series gangliosides. Gangliosides are glycosphingolipids with sialic acids in the carbohydrate portion and are critical components to a variety of cellular events including cell adhesion, protein targeting, cell-cell interaction and mediation of invasion of vectors. Sialyltransferase 7F acts on the substrates GD1a, GT1b and GM1b, and is responsible for the biosynthesis of DSGG (disialylgalactosylgloboside) from MSGG (monosialylgalactosylgloboside) in kidney. In addition, Sialyltransferase 7E can catalyze the synthesis of disialyl Lc4 from sialyl Lc4, leading to the synthesis of disialyl Lewis a.

REFERENCES

- Okajima, T., Chen, H.H., Ito, H., Kiso, M., Tai, T., Furukawa, K., Urano, T. and Furukawa, K. 2000. Molecular cloning and expression of mouse GD1 α /GT1a α /GQ1b α synthase (ST6GalNAc VI) gene. *J. Biol. Chem.* 275: 6717-6723.
- Tsuchida, A., Okajima, T., Furukawa, K., Ando, T., Ishida, H., Yoshida, A., Nakamura, Y., Kannagi, R., Kiso, M. and Furukawa, K. 2003. Synthesis of disialyl Lewis a (Le^a) structure in colon cancer cell lines by a sialyltransferase, ST6GalNAc VI, responsible for the synthesis of α -series gangliosides. *J. Biol. Chem.* 278: 22787-22794.
- Harduin-Lepers, A., Mollicone, R., Delannoy, P. and Oriol, R. 2005. The animal sialyltransferases and sialyltransferase-related genes: a phylogenetic approach. *Glycobiology* 15: 805-817.
- Patel, R.Y. and Balaji, P.V. 2006. Identification of linkage-specific sequence motifs in sialyltransferases. *Glycobiology* 16: 108-116.
- Online Mendelian Inheritance in Man, OMIMTM. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610135. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Senda, M., Ito, A., Tsuchida, A., Hagiwara, T., Kaneda, T., Nakamura, Y., Kasama, K., Kiso, M., Yoshikawa, K., Katagiri, Y., Ono, Y., Ogiso, M., Urano, T., Furukawa, K., Oshima, S. and Furukawa, K. 2007. Identification and expression of a sialyltransferase responsible for the synthesis of disialylgalactosylgloboside in normal and malignant kidney cells: downregulation of ST6GalNAc VI in renal cancers. *Biochem. J.* 402: 459-470.
- Pai, T., Chen, Q., Zhang, Y., Zolfaghari, R. and Ross, A.C. 2007. Galactomutase and other galactose-related genes are rapidly induced by retinoic acid in human myeloid cells. *Biochemistry* 46: 15198-15207.
- Bos, P.D., Zhang, X.H., Nadal, C., Shu, W., Gomis, R.R., Nguyen, D.X., Minn, A.J., van de Vijver, M.J., Gerald, W.L., Foekens, J.A. and Massagué, J. 2009. Genes that mediate breast cancer metastasis to the brain. *Nature* E-Published.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

CHROMOSOMAL LOCATION

Genetic locus: St6galnac6 (mouse) mapping to 2 B.

PRODUCT

Sialyltransferase 7F (m): 293T Lysate represents a lysate of mouse Sialyltransferase 7F transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

Sialyltransferase 7F (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Sialyltransferase 7F antibodies. Recommended use: 10-20 μ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.