SANTA CRUZ BIOTECHNOLOGY, INC.

FucT-I (97-I): sc-52398

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

All human blood, with rare exception, carries the red cell H antigen. The H blood group locus determines expression of the H antigen in the erythroid lineage, whereas a unique locus (the SE (secretion) locus) controls H expression in a variety of secretory epithelia and in saliva. Individuals of the Bombay phenotype lack H antigen, whereas individuals of the para-Bombay phenotype synthesize H determinants (essential precursors to A and B antigens) in their secretory epithelia but not in the erythroid lineage. The H and SE loci, which may have arisen by gene duplication from a common ancestral gene, are known as FucT-I and FUT2, respectively, and are tightly linked on chromosome 19q13.33. Studies of mice deficient in FucT-I indicate that α(1,2)-fucosylated glycans play nonessential roles in blastocyst implantation or sperm function in mice.

REFERENCES

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3. Wang, B., Koda, Y., Soejima, M. and Kimura, H. 1997. Two missense mutations of H type α1,2-fucosyltransferase gene (FUT1) responsible for para-Bombay phenotype. Vox Sang. 72: 31-35.
4. Saunier, K., Barreaud, J.P., Eggen, A., Oriol, R., Leveziel, H., Julien, R. and Petit, J.M. 2001. Organization of the bovine α2-fucosyltransferase gene cluster suggests that the Sec1 gene might have been shaped through a nonautonomous L1-retrotransposition event within the same locus. Mol. Biol. Evol. 18: 2083-2091.
5. Domino, S.E., Zhang, L. and Lowe, J.B. 2001. Molecular cloning, genomic mapping and expression of two secretor blood group α1,2-fucosyltransferase genes differentially regulated in mouse uterine epithelium and gastrointestinal tract. J. Biol. Chem. 276: 23748-23756.
6. Domino, S.E., Zhang, L., Gillespie, P.J., Saunders, T.L. and Lowe, J.B. 2001. Deficiency of reproductive tract α1,2-fucosylated glycans and normal fertility in mice with targeted deletions of the FUT1 or FUT2 α1,2-fucosyltransferase locus. Mol. Cell. Biol. 21: 8336-8345.
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CHROMOSOMAL LOCATION

Genetic locus: FUT1 (human) mapping to 19q13.33.

SOURCE

FucT-I (97-I) is a mouse monoclonal antibody raised against H antigen on red blood cells of human origin.

PRODUCT

Each vial contains 100 µg IgM in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

FucT-I (97-I) is recommended for detection of FucT-I of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for FucT-I siRNA (h): sc-97630, FucT-I shRNA Plasmid (h): sc-97630-SH and FucT-I shRNA (h) Lentiviral Particles: sc-97630-V.

Molecular Weight of FucT-I: 46 kDa.

SELECT PRODUCT CITATIONS

1. Yamamoto, M., Ikezaki, M., Toujima, S., Iwahashi, N., Mizoguchi, M., Nanjo, S., Minami, S., Ihara, Y. and Ino, K. 2017. Calreticulin is involved in invasion of human extravillous trophoblasts through functional regulation of Integrin β1. Endocrinology 158: 3874-3889.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

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.