SANTA CRUZ BIOTECHNOLOGY, INC.

Blood Group Lewis b (T218): sc-59470

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Glycosyltransferases that mediate the regio- and stereoselective transfer of sugars, such as the fucosyltransferases, determine cell surface-carbohydrate profiles, which is an essential interface for biological recognition processes. Fucosyltransferases catalyze the covalent association of fucose to different positional linkages in sugar acceptor molecules. The carbohydrate moieties generated and covalently attached to cell surfaces are necessary to ensure a surface contour that satisfies physiological roles, which are reliant on adhesion molecules such as selectins. Hematopoietic lineages rely on fucosyltransferases to confer a surface carbohydrate phenotype, which mediates proper cell adhesion molecule recruitment and cell trafficking. Blood Group Lewis b is a carbohydrate determinant carried on both glycolipids and glycoproteins.

REFERENCES

1. Richman, P.I., et al. 1987. Monoclonal antibodies to human colorectal epithelium: markers for differentiation and tumour characterization. Int. J. Cancer 39: 317-328.
2. Bara, J., et al. 1988. Immunochemical characterization of mucins. Polypeptide (M1) and polysaccharide (A and Leb) antigens. Biochem. J. 254: 185-193.
3. Torrado, J., et al. 1992. Lewis antigen alterations in gastric cancer precursors. Gastroenterology 102: 424-430.
4. Creuzot-Garcher, C., et al. 1999. Alteration of sialyl Lewis epitope expression in pterygium. Invest. Ophthalmol. Vis. Sci. 40: 1631-1636.
5. Wagers, A.J. and Kansas, G.S. 2000. Potent induction of α(1,3)-fucosyltransferase VII in activated CD4$^+$ T cells by TGFβ1 through a p38 mitogen-activated protein kinase-dependent pathway. J. Immunol. 165: 5011-5016.
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7. Withers, D.A. and Hakomori, S.I. 2000. Human α(1,3)-fucosyltransferase IV (FUTIV) gene expression is regulated by Elk-1 in the U-937 cell line. J. Biol. Chem. 275: 40588-40593.

CHROMOSOMAL LOCATION

Genetic locus: FUT3 (human) mapping to 19p13.3.

SOURCE

Blood Group Lewis b (T218) is a mouse monoclonal antibody raised against SK-CO-10 colon cancer cell line of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Blood Group Lewis b (T218) is recommended for detection of Blood Group Lewis b (Type 1 chain) 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

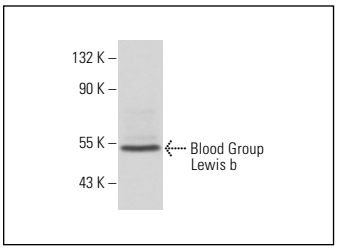
Molecular Weight of Blood Group Lewis b: 45 kDa.

Positive Controls: COLO 320DM cell lysate: sc-2226.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Blood Group Lewis b (T218): sc-59470. Western blot analysis of Blood Group Lewis b expression in COLO 320DM whole cell lysate.

SELECT PRODUCT CITATIONS

1. Jan, H.M., et al. 2020. Cholesteryl α-D-glucoside 6-acyltransferase enhances the adhesion of *Helicobacter pylori* to gastric epithelium. Commun. Biol. 3: 120.
2. Jin, C., et al. 2020. Identification by mass spectrometry and immunoblotting of xenogeneic antigens in the N- and O-glycomes of porcine, bovine and equine heart tissues. Glycoconj. J. 37: 485-498.
3. Horejsi, K., et al. 2023. Comprehensive characterization of complex glycosphingolipids in human pancreatic cancer tissues. J. Biol. Chem. E-pulished.

RESEARCH USE

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