

Blood Group Lewis a (T174): sc-59469

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 a is a carbohydrate determinant carried on both glycolipids and glycoproteins.

REFERENCES

1. Rouger, Ph., et al, eds. 1987. Proceedings of the first international workshop on monoclonal antibodies against human red blood cells and related antigens (Paris, 1987). *Blood Transfusion Immunohaematology* 30: 353-720.
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 $\alpha(1,3)$ -fucosyltransferase VII in activated CD4⁺ T cells by TGF β 1 through a p38 mitogen-activated protein kinase-dependent pathway. *J. Immunol.* 165: 5011-5016.
6. Huang, M.C., et al. 2000. P-Selectin glycoprotein ligand-1 and E-Selectin ligand-1 are differentially modified by fucosyltransferases Fuc-TIV and Fuc-TVII in mouse neutrophils. *J. Biol. Chem.* 275: 31353-31360.
7. Withers, D.A. and Hakomori, S.I. 2000. Human $\alpha(1,3)$ -fucosyltransferase IV (FUTIV) gene expression is regulated by Elk-1 in the U937 cell line. *J. Biol. Chem.* 275: 40588-40593.
8. Taniguchi, A., et al. 2000. Expression and transcriptional regulation of the human $\alpha(1,3)$ -fucosyltransferase 4 (FUT4) gene in myeloid and colon adenocarcinoma cell lines. *Biochem. Biophys. Res. Commun.* 273: 370-376.
9. Nakayama, F., et al. 2001. CD15 expression in mature granulocytes is determined by $\alpha(1,3)$ -fucosyltransferase IX, but in promyelocytes and monocytes by $\alpha(1,3)$ -fucosyltransferase IV. *J. Biol. Chem.* 276: 16100-16106.

STORAGE

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

PROTOCOLS

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

CHROMOSOMAL LOCATION

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

SOURCE

Blood Group Lewis a (T174) is a mouse monoclonal antibody raised against SK-CO-10 colon cancer cell line of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Blood Group Lewis a (T174) is recommended for detection of Blood Group Lewis a of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

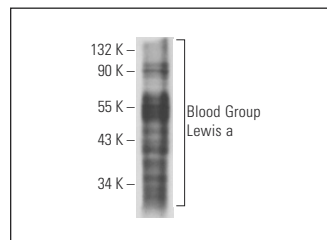
Molecular Weight of Blood Group Lewis a: 45 kDa.

Positive Controls: WiDr cell lysate: sc-24779 or COLO 205 whole cell lysate: sc-364177.

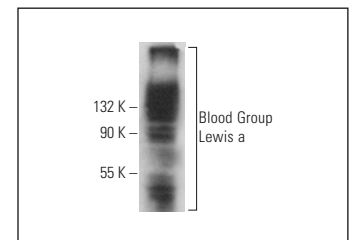
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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 A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ 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-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Blood Group Lewis a (T174): sc-59469. Western blot analysis of Blood Group Lewis a expression in WiDr whole cell lysate.



Blood Group Lewis a (T174): sc-59469. Western blot analysis of Blood Group Lewis a expression in COLO 205 whole cell lysate.

RESEARCH USE

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