

Blood Group A antigen (Z2A): sc-69951

BACKGROUND

Blood-group antigens are generally defined as molecules formed by sequential addition of saccharides to the carbohydrate side chains of lipids and proteins detected on erythrocytes and certain epithelial cells. The A, B and H antigens are reported to undergo modulation during malignant cellular transformation. Blood group related antigens are usually mucin-type, and are detected on erythrocytes, certain epithelial cells, and in secretions of certain individuals. Sixteen genetically and biosynthetically distinct but inter-related specificities belong to this group of antigens, including A (1 and 2), B, H (1 and 2), M, N, Lewis A, Lewis B, Lewis X, Lewis Y, and precursor type 1 chain antigens.

REFERENCES

1. Race, C. and Watkins, W.M. 1974. Inhibition of the Blood Group A1 and A2 gene-specified N-acetyl- α -D-galactosaminyltransferases by uridine diphosphate D-galactose. *Carbohydr. Res.* 37: 239-244.
2. Donald, A.S. 1982. A-active trisaccharides isolated from A1 and A2 blood-group-specific glycoproteins. *Eur. J. Biochem.* 120: 243-249.
3. Donald, A.S. 1982. Trisaccharides from Blood Group A1 and A2 mucous glycoproteins. *Adv. Exp. Med. Biol.* 144: 49-51.
4. Staub Nielsen, L., et al. 1983. Another case of a lymphocytotoxic antibody with Blood Group A1 Leb and A Led associated specificity. *Tissue Antigens* 21: 177-183.
5. Clausen, H., et al. 1985. Repetitive A epitope (type 3 chain A) defined by Blood Group A1-specific monoclonal antibody TH-1: chemical basis of qualitative A1 and A2 distinction. *Proc. Natl. Acad. Sci. USA* 82: 1199-1203.
6. Julmy, F., et al. 2003. PLTs of Blood Group A1 donors express increased surface A antigen owing to apheresis and prolonged storage. *Transfusion* 43: 1378-1385.
7. Chung, W.Y., et al. 2005. Enhanced invasion of Blood Group A1 erythrocytes by *Plasmodium falciparum*. *Mol. Biochem. Parasitol.* 144: 128-130.

CHROMOSOMAL LOCATION

Genetic locus: ABO (human) mapping to 9q34.2; Abo (mouse) mapping to 2 A3.

SOURCE

Blood Group A antigen (Z2A) is a mouse monoclonal antibody raised against Blood Group A antigen of human origin.

PRODUCT

Each vial contains 100 μ g IgM 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 A antigen (Z2A) is recommended for detection of Blood Group A antigen of mouse, rat and 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 μ g per 1 x 10⁶ cells).

SELECT PRODUCT CITATIONS

1. Cohen, M., et al. 2009. ABO blood group glycans modulate sialic acid recognition on erythrocytes. *Blood* 114: 3668-3676.
2. Miura, T., et al. 2013. Histo-blood group antigen-like substances of human enteric bacteria as specific adsorbents for human noroviruses. *J. Virol.* 87: 9441-9451.
3. DeLelys, M.E., et al. 2013. Relationship between ABO genotype and A antigen expression on platelets. *Transfusion* 53: 1763-1771.
4. Manich, G., et al. 2014. Presence of a neo-epitope and absence of amyloid β and Tau protein in degenerative hippocampal granules of aged mice. *Age* 36: 151-165.
5. Zhang, X.F., et al. 2015. An outbreak caused by GII.17 norovirus with a wide spectrum of HBGA-associated susceptibility. *Sci. Rep.* 5: 17687.
6. Lei, S., et al. 2016. Increased and prolonged human norovirus infection in RAG2/IL2RG deficient gnotobiotic pigs with severe combined immunodeficiency. *Sci. Rep.* 6: 25222.
7. Amarasiri, M., et al. 2016. Bacterial histo-blood group antigens contributing to genotype-dependent removal of human noroviruses with a microfiltration membrane. *Water Res.* 95: 383-391.
8. Lei, S., et al. 2016. High protective efficacy of probiotics and rice bran against human norovirus infection and diarrhea in gnotobiotic pigs. *Front. Microbiol.* 7: 1699.
9. Xu, Y., et al. 2016. Fluorescence- and magnetic-activated cell sorting strategies to separate spermatozoa involving plural contributors from biological mixtures for human identification. *Sci. Rep.* 6: 36515.
10. Santos-Cortez, R.L.P., et al. 2018. FUT2 variants confer susceptibility to familial otitis media. *Am. J. Hum. Genet.* 103: 679-690.
11. El Jellas, K., et al. 2018. The mucinous domain of pancreatic carboxyl-ester lipase (CEL) contains core 1/core 2 O-glycans that can be modified by ABO blood group determinants. *J. Biol. Chem.* 293: 19476-19491.
12. Kumar, P., et al. 2018. Enterotoxigenic *Escherichia coli*-Blood Group A interactions intensify diarrheal severity. *J. Clin. Invest.* 128: 3298-3311.

RESEARCH USE

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