SANTA CRUZ BIOTECHNOLOGY, INC.

RhAG (H-56): sc-292853

BACKGROUND

The Rh proteins in the red blood cell form a complex made up of one D-subunit, one CE-subunit, and two Rh-associated glycoprotein (RHAg) subunits. Along with its antigenic properties, this complex functions as a major interaction site between the membrane lipid bilayer and the cytoskeleton of the red cell, via ankyrin-R interaction with the C-terminal cytoplasmic domain of the Rh and RHAg proteins. Furthermore, studies comparing ammonium concentration in normal and Rh(null) red cells show that the complex also contributes to ammonium export from the cells. Rh(null) is a rare autosomal recessive disorder characterized by an absence of Rh antigens and a varying degree of hemolytic anemia and spherostomatocytosis. The associated genetic mutations effect the transmembrane domain of the protein, correlating the structural defect with the loss of transport function characteristic in these cells.

REFERENCES

1. Huang, C.H., et al. 1999. Molecular basis for Rh(null) syndrome: identification of three new missense mutations in the Rh50 glycoprotein gene. Am. J. Hematol. 62: 25-32.
2. Suyama, K., et al. 2000. Surface expression of Rh-associated glycoprotein (RhAG) in nonerythroid COS-1 cells. Blood 95: 336-341.
3. Mouro-Chanteloup, I., et al. 2002. Cell-surface expression of RhD blood group polypeptide is posttranscriptionally regulated by the RhAG glycoprotein. Blood 100: 1038-1047.
4. Nakhoul, N.L., et al. 2003. Non-erythroid Rh glycoproteins: a putative new family of mammalian ammonium transporters. Pflugers Arch. 447: 807-812.
5. Nicolas, V., et al. 2003. Rh-RhAG/ankyrin-R, a new interaction site between the membrane bilayer and the red cell skeleton, is impaired by Rh(null)-associated mutation. J. Biol. Chem. 278: 25526-25533.
6. Hemker, M.B., et al. 2003. The Rh complex exports ammonium from human red blood cells. Br. J. Haematol. 122: 333-340.

CHROMOSOMAL LOCATION

Genetic locus: RHAG (human) mapping to 6p12.3.

SOURCE

RhAG (H-56) is a rabbit polyclonal antibody raised against amino acids 1-56 mapping at the N-terminus of RhAG of human origin.

PRODUCT

Each vial contains 200 µg IgG 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.

RESEARCH USE

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

APPLICATIONS

RhAG (H-56) is recommended for detection of RhAG (also designated CD241) 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for RhAG siRNA (h): sc-106869, RhAG shRNA Plasmid (h): sc-106869-SH and RhAG shRNA (h) Lentiviral Particles: sc-106869-V.

Molecular Weight of RhAG: 50 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

PROTOCOLS

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