SANTA CRUZ BIOTECHNOLOGY, INC.

RhD/CE (H-137): sc-134489

BACKGROUND

The Rhesus (Rh) blood group system represents one of the most complex and important systems in humans. Two highly homologous genes, RhD and RhCE (collectively referred to as Rh30 or RhCED), encode the antigens of the Rh blood group system. These tightly linked genes map to human chromosomal position 1p36.11. The RhD gene, which is commonly deleted from a large segment of the population, encodes the most potent blood group immunogen, the D antigen. Rh incompatibility between maternal and fetal blood types results in hemolytic disease of the newborn (HDN), which often results in fetal death. The RhCE gene exists in four allelic forms, and each allele determines the expression of two antigens in Ce, ce, cE, or CE combinations. The RhCED antigens exist as integral membrane proteins which contain 12-transmembrane helices and maintain erythrocyte membrane integrity. The presentation of the Rh antigenic activity requires the formation of a complex between the RhCED antigens and RhAG (Rh50).

REFERENCES

1. Mouro, I., Colin, Y., Cherif-Zahar, B., Cartron, J.P. and Le Van Kim, C. 1993. Molecular genetic basis of the human Rhesus blood group system. Nat. Genet. 5: 62-65.
2. Cherif-Zahar, B., Le Van Kim, C., Rouillac, C., Raynal, V., Cartron, J.P. and Colin, Y. 1994. Organization of the gene (RHCE) encoding the human blood group RhCcEe antigens and characterization of the promoter region. Genomics 19: 68-74.
3. Wagner, F.F. and Flegel, W.A. 2000. RHD gene deletion occurred in the Rhesus box. Blood 95: 3662-3668.
4. Narang, A. and Jain, N. 2001. Haemolytic disease of newborn. Indian J. Pediatr. 68: 167-172.
5. Zhang, J., Hou, Y. and Tang, J. 2002. Molecular genetics and clinical application of Rh blood group system. Zhonghua Yi Xue Yi Chuan Xue Za Zhi. 19: 246-249.
6. Albert Einstein College of Medicine at Yeshiva University. Department of Biochemistry. http://www.bioc.aecom.yu.edu/bgmut/rh.htm

CHROMOSOMAL LOCATION

Genetic locus: RHD (human) mapping to 1p36.11, RHCE (human) mapping to 1p36.11.

SOURCE

RhD/CE (H-137) is a rabbit polyclonal antibody raised against amino acids 281-417 mapping at the C-terminus of Rhesus blood group CE antigen 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.

RESEARCH USE

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

APPLICATIONS

RhD/CE (H-137) is recommended for detection of RhCE and RhD 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).

Molecular Weight of RhD: 45 kDa.

Molecular Weight of RhCE: 46 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.

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 or our catalog for detailed protocols and support products.