

RhD/CE (C-21): sc-26318

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/bgmur/rh.htm>.

CHROMOSOMAL LOCATION

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

SOURCE

RhD/CE (C-21) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of RhD/CE 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.

Blocking peptide available for competition studies, sc-26318 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

RhD/CE (C-21) is recommended for detection of Rhesus blood group antigens CE and D of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (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.

RESEARCH USE

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

PROTOCOLS

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



Try **RhD/CE (BRIC69): sc-59351**, our highly recommended monoclonal alternative to RhD/CE (C-21).