

## RhD (55/2/376): sc-52433

### 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 1p34.1-1p36. 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 with 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

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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.

### SOURCE

RhD (55/2/376) is a mouse monoclonal antibody raised against Rhesus blood group antigen D of human origin.

### PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for biological studies, sc-52433 L, 100 µg/0.1 ml.

### STORAGE

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

### APPLICATIONS

RhD (55/2/376) is recommended for detection of Rhesus blood group anti-gen D 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 flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

Suitable for use as control antibody for RhD siRNA (h): sc-72147, RhD shRNA Plasmid (h): sc-72147-SH and RhD shRNA (h) Lentiviral Particles: sc-72147-V.

Molecular Weight of RhD: 32 kDa.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.