

# RhD/CE (BRIC69): sc-59351

## 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., et al. 1993. Molecular genetic basis of the human Rhesus blood group system. *Nat. Genet.* 5: 62-65.
2. Cherif-Zahar, B., et al. 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., et al. 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/RHCE (human) mapping to 1p36.11.

## SOURCE

RhD/CE (BRIC69) is a mouse monoclonal antibody raised against erythrocytes of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RhD/CE (BRIC69) is available conjugated to agarose (sc-59351 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-59351 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-59351 PE), fluorescein (sc-59351 FITC), Alexa Fluor<sup>®</sup> 488 (sc-59351 AF488), Alexa Fluor<sup>®</sup> 546 (sc-59351 AF546), Alexa Fluor<sup>®</sup> 594 (sc-59351 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-59351 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-59351 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-59351 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

RhD/CE (BRIC69) is recommended for detection of RhD/CE 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)] and flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

Molecular Weight of RhD: 45 kDa.

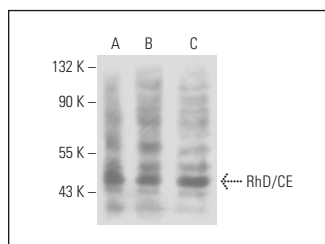
Molecular Weight of RhCE: 46 kDa.

Positive Controls: AML-193 whole cell lysate: sc-364182, HEL 92.1.7 cell lysate: sc-2270 or HL-60 whole cell lysate: sc-2209.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



RhD/CE (BRIC69): sc-59351. Western blot analysis of RhD/CE expression in AML-193 (A), HEL 92.1.7 (B) and HL-60 (C) whole cell lysates.

## 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](http://www.scbt.com) for detailed protocols and support products.

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