

**International Blood Group
Reference Laboratory**500 North Bristol Park
Northway
Filton
Bristol
BS34 7QH**Antigen** Human Blood Group Rh D (ISBT No. 4001) / CD240D**Clone** BRAD 2**Product Code** 9462**Immunoglobulin Class** Human IgG1, kappa light chain**Protein Development
and Production Unit****Tel:** +44 (0)117 921 7500**Fax:** +44 (0)117 912 5796**Website:** <http://ibgri.blood.co.uk>**Email:** enquiries.IBGRL@nhsbt.nhs.uk**Antigen Description and Distribution**

The Rh D antigen (Rh₁ or Rh₀) is clinically the most important of the Rh blood group system. It is expressed on the extracellular loops of a transmembrane polypeptide of around Mr 30000¹. Estimated numbers of Rh D sites recognised by BRAD-2 on Rh D positive cells are between 11730 to 16300 on CDe/cde (R₁r) cells and 21800 to 28200 on cDE/cDE (R₂R₂) cells². Rh D positive infants born to Rh D negative women may suffer from haemolytic disease of the newborn. The disease can be prevented by administration of anti-D post partum or antenatally. Dosage of anti-D depends on the size of feto-maternal hemorrhage (FMH). In humans the Rh D antigen is expressed solely on the erythrocytes of Rh D positive individuals. 85% of Caucasians are Rh D positive.

Clone

BRAD 2 is produced by an EBV transformed B cell line derived from the peripheral blood of an immunised Rh D negative donor³. This monoclonal anti-D reacts as an indirect agglutinin with all Rh D positive red cells tested including those of the rare D^{VI} type^{3,4,5}. BRAD 2 has been confirmed as binding to epD9⁶.

References

1. Cartron, J-P, (1994) *Blood Reviews* **8**, 199-212.
2. Jones J. *et al*, (1996) *Vox Sanguinis* **71**, 176-183.
3. Leader K.A. *et al* (1990) *Vox Sanguinis* **58**, 106-111.
4. Jones J. *et al*, (1995) *Transfusion Medicine* **5**, 171-184.
5. Lloyd-Evans P. *et al*, (1999) *British J. Haematology* **104**, 621-625.
6. Avent N.D. *et al*, (1997) *Blood* **89**, 1779-1786.