



NHS Blood & Transplant
500 North Bristol Park
Northway
Filton
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Antigen	Human Blood Group Rh D (ISBT No. 4001) CD 240D
Clone	BRAD 5
Product Code	9463
Immunoglobulin Class	Human IgG1, kappa light chain

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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-5 on Rh D positive cells are between 12000 to 16000 on CDe/cde (R₁r) cells and 28100 to 33900 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 haemorrhage (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 5 is produced by an EBV transformed B cell line derived from the peripheral blood of an immunised Rh D negative donor^{3,4}. This monoclonal anti-D reacts as an indirect agglutinin with all Rh D positive red cells tested except those of the rare D^{VI} type⁵. BRAD 5 was submitted to the third international workshop on monoclonal antibodies against human red cells, Nantes 1996⁶.

References

1. Cartron, J-P, (1994) Blood Reviews **8**, 199-212.
2. Jones J. *et al*, (1996) Vox Sanguinis **71**, 176-183.
3. Kumpel B. *et al*, (1989) Br J Haematol **71**, 125-129.
4. Kumpel B. *et al*, (1995) Blood **86** 1701-1709.
5. Jones J. *et al*, (1995) Transfusion Medicine **5**, 171-184.
6. Rouger P Muller JY (eds) (1997) Proceedings of the third International workshop and symposium on monoclonal antibodies against human red cells and related antigens, Nantes 1996.