

## International Blood Group Reference Laboratory

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<b>Antigen</b>	Human Blood Group Rh D (ISBT No. 4001) / CD240D
<b>Clone</b>	RUM 1
<b>Product Code</b>	9471
<b>Immunoglobulin Class</b>	Human IgM, Lambda light chain

## Protein Development and Production Unit

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## Antigen Description and Distribution

The Rh D antigen (Rh<sub>1</sub> or Rh<sub>0</sub>) 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 30000<sup>1</sup>. 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

The cell line producing RUM 1 is a human heterohybridoma derived from the fusion of EBV transformed B cells, from the peripheral blood of a donor producing high levels of anti-D, with X63Ag8.653 myeloma cells<sup>2</sup>. RUM 1 reacts as a direct agglutinin with all Rh D positive red cells except those of D<sup>VI</sup> type confirming the designated epitope as epD6/7h<sup>3,4,5</sup>. RUM 1 reacts with HMi, HMii, DFR, DBT and R<sub>0</sub>HAr Rh D types<sup>3</sup>. RUM 1 (code I-103) was submitted to the third international workshop on monoclonal antibodies against human red cells, Nantes 1996<sup>6</sup>. RUM 1 can be used as a reagent both for manual tests and in automated cell groupers for the reliable detection of D<sup>u7</sup>.

## References

1. Cartron, J-P, (1994) Blood Reviews **8**, 199-212.
2. Melamed *et al* (1987) J. Immunol. Methods, **104**, 245-251.
3. Jones J. *et al*, (1996) Vox Sang **71**, 176-183.
4. Lloyd-Evans *et al* (1999) British J. Immunol. **104**, 621-625.
5. Avent *et al* (1997) Blood **89**, 1779-1786.
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.
7. Scott *et al* (1993) Transfusion 33, poster presented at AABB meeting October 1993.