

**International Blood Group
Reference Laboratory**500 North Bristol Park
Northway
Filton
Bristol
BS34 7QH

Antigen	CD59
Clone	BRIC 229
Product Code	9409
Immunoglobulin Class	Mouse IgG2b, 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**

CD59 (also known as HRF₂₀, MIRL, P18, H19, MAC-inhibitor) is a cell surface glycoprotein of apparent molecular weight 18-20 kDa which contains N- glycans. It is attached to the cell surface by a glycosylphosphatidylinositol tail. The full amino acid sequence derived from cDNA is known. CD59 has been mapped to chromosome 11p14-13. It is a complement regulatory protein. It inhibits the terminal stage of the formation of membrane attack complexes by homologous complement activation¹. CD59 is broadly distributed among haemopoietic and non - haemopoietic cells such as B cells, T cells, monocytes, epithelium, platelets, polymorphonuclear neutrophils and endothelium. Daudi and U937 cells are unreactive². There are approximately 20000-40000 CD59 molecules per erythrocyte. There is reduced expression of CD59 on cells of individuals with paroxysmal nocturnal haemoglobinuria (PNH).

Clone

BRIC 229 was made in response to human erythrocytes. BRIC 229 binds to a component of 18 - 20 kDa on immunoblots of human erythrocyte membranes under non-reducing conditions. BRIC 229 is an indirect haemagglutinin. The antigen on erythrocytes is sensitive to treatment with Pronase or 6% aminoethylisothiuronium bromide. BRIC 229 was used for the analysis of peripheral blood cells from PNH patients and for the quantitation of CD59 on normal and decay accelerating factor (DAF, CD55) -deficient erythrocytes³. BRIC 229 neutralises CD59 and thereby renders antibody sensitised erythrocytes more susceptible to complement lysis^{4,5}. BRIC 229 maps to epitope cluster 1 defined by the fifth Leucocyte workshop and cross blocks YTH53.1 and MEM-43⁶.

References

1. Ojcius *et al* (1990) *Immunology Today* **11**, 47-49 (Review).
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3. Fletcher A *et al*. (1992) *Immunology*, **75**: 507-512.
4. van den Berg CW *et al.* (1994) *J. Immunol.*, 4095-4101.
5. Zaltzman *et al.*, (1995) *Biochem. J.*, **307**: 651-656.
6. Klickstein *et al.*, (1993) *Proceedings of the fifth workshop and conference on white cell differentiation antigens*, Boston, vol. 2 p1476-1477.