

**International Blood Group  
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<b>Antigen</b>	CD59
<b>Clone</b>	BRIC 229
<b>Product Code</b>	9409
<b>Immunoglobulin Class</b>	Mouse IgG2b, kappa light chain

**Protein Development  
and Production Unit**

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CD59 (also known as HRF<sub>20</sub>, 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 activation<sup>1</sup>. 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 unreactive<sup>2</sup>. 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 erythrocytes<sup>3</sup>. BRIC 229 neutralises CD59 and thereby renders antibody sensitised erythrocytes more susceptible to complement lysis<sup>4,5</sup>. BRIC 229 maps to epitope cluster 1 defined by the fifth Leucocyte workshop and cross blocks YTH53.1 and MEM-43<sup>6</sup>.

**References**

1. Ojcius *et al* (1990) *Immunology Today* **11**, 47-49 (Review).
2. Hadam M.R. (1989) in *Leucocyte Typing IV; White Cell Differentiation Antigens* Ed. W. Knapp *et al* Oxford University Press pp 720-722.
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.