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Antigen	Glycophorin A (cytoplasmic domain) / CD 235a
Clone	BRIC 163
Product Code	9410
Immunoglobulin Class	Mouse IgG2a, kappa light chain

Antigen Description and Distribution

Glycophorin A (GPA) (Mr 43kDa as a monomer and 86kDa as a dimer) is the major sialoglycoprotein of human erythrocytes and is the most abundant, together with band 3 (anion transporter protein), with which it appears to be associated. The complete amino acid sequence and sites of glycosylation are known. GPA consists of 131 amino acids, which constitute three domains: (i) a heavily glycosylated N-terminal extracellular domain of 72 amino acids, (ii) a hydrophobic intramembranous domain of 23 amino acids, and (iii) a C-terminal cytoplasmic domain of 36 amino acids[1,2]. GPA is generally present in the membrane in dimeric form, with the polypeptides associated at the hydrophobic intramembranous domain. It probably complexes with other membrane glycoproteins. GPA is a marker for erythroid cells. There are about 3-12 x 10^5 GPA molecules per erythrocyte. Rare individuals lacking GPA are known[1].

Clone

BRIC 163 was made in response to a Triton X-100 soluble fraction of erythrocyte membranes. The antibody identifies GPA in erythrocytes by immunoblotting and is suitable for immunocytochemistry. BRIC 163 defines an epitope on the cytoplasmic domain of GPA[3]. BRIC 163 has been used to investigate the key membrane protein changes during *in vitro* erythropoesis of Protein 4.2 cells[4]. BRIC 163 has been used to elucidate protein distribution during human erythroblast enucleation[5].

References

1. Anstee DJ (1990) Vox Sang. **58**, 1-20 (Review).
2. Daniels G. (1995) Human blood groups. Blackwell Science, Oxford.
3. Okubo Y. *et al* (1988) Vox Sang. **54** 107-111.
4. Van den Akker E *et al* (2010). Investigating the key membrane protein changes during in vitro erythropoiesis of protein 4.2 (-) cells (mutations Chartres 1 and 2). Haematologica Aug; **95** (8):1278-86.
5. Bell AJ, *et al* (2013). Protein Distribution during Human Erythroblast Enucleation *In Vitro*. PLoS ONE Volume **8** (Issue 4) e60300.