IBGRL RESEARCH PRODUCTS

NHS Blood and Transplant

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

Protein Development and Production Unit
Tel: +44 (0)117 921 7500
Fax: +44 (0)117 912 5796
Website: http://ibgrl.blood.co.uk
Email: enquiries.IBGRL@nhsbt.nhs.uk

Antigen	Blood Group Lutheran (Lu) / CD239
Clone	BRIC 221
Product Code	9438
Immunoglobulin Class	Mouse IgG2b, kappa light chain

Antigen Description and Distribution

The Lutheran (Lu) blood group is also known as B-cell adhesion molecule (B-CAM), Auberger blood group and CD 239. The antigens of the Lu blood group system are carried on two red cell membrane glycoproteins of Mr 85 and 78 kDa[1,2,3]. The antigens are destroyed by disulphide bond reduction. They are of low abundance on red cells (1600 - 4000 sites/cell[4]). The predicted mature protein is a type I membrane protein of 597 amino acids with five potential N-glycosylation sites. There are five disulphide bonded, extracellular, immunoglobulin superfamily domains (two variable-region set and three constant-region set), a single hydrophobic, membrane spanning domain, and a cytoplasmic domain of 59 residues. The extracellular domains and the cytoplasmic domain contain consensus motifs for the binding of integrin and Src homology domains, respectively, suggesting possible receptor and signal-transduction function. The Lu blood glycoprotein, another member of the immunoglobulin superfamily (IgSF), is widely expressed in human tissues and is developmentally regulated in human liver[5]. The Lu antigens and BRIC 108 expression appears to be restricted to red cells in peripheral blood, but they or related molecules are widely expressed in human tissues, are present in large amounts in kidney endothelium, and the glycoprotein is developmentally regulated in human liver[5]. Lu is a specific adhesive receptor for the extracellular matrix protein human laminin 10/11[6].

Clone

BRIC 221 was made in response to erythrocytes[7]. BRIC 221 agglutinated normal erythrocytes but not erythrocytes lacking Lutheran blood group antigens. It reacts with a non-polymorphic determinant present on both the 85 and 78 kDa Lu glycoproteins by immunoblotting of erythrocyte membranes under non-reducing conditions. Of the five predicted IgSF domains, BRIC 108 (and BRIC 224) epitope is mapped to the N-terminal domain 1 and BRIC 221 epitope is mapped to domain 4[8]. BRIC 221 has been used by immunoblotting of red cell membrane proteins to reveal the membrane alterations in the adsence of RHCE[6].

References

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