

**International Blood Group
Reference Laboratory**500 North Bristol Park
Northway
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Antigen	CD45 RA
Clone	BIRMA K12
Product Code	9492
Immunoglobulin Class	Mouse IgG1, 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**

CD45 (leucocyte common antigen, T200) is a transmembrane glycoprotein expressed abundantly on the surface of all nucleated hemopoietic cells. There are several isoforms based on differential splicing of exons 4, 5 and 6, which encode regions of the extracellular domain identified by CD45RA, CD45RB and CD45RC antibodies, respectively. In previous workshops, antibodies have been described that recognise determinants common to all isoforms, known as pan-CD45, the A and B domains, known as CD45RA and CD45RB, respectively, and the 0 isoform, known as CD45R0. CD45RA is a high molecular weight isoform of CD45 which has a single transmembrane region and a large cytoplasmic domain which has tyrosine phosphatase activity. The intracellular domain is identical in the different isoforms¹. CD45RA is expressed on naïve T cells and normal plasma cells.

Clone

BIRMA K12 was made in response to human Kg-1a cell line cells. BIRMA K12 was clustered in CD45 RA at the sixth leucocyte workshop¹. BIRMA K12 reacts with leucocytes in whole peripheral blood (90% B cells and 50% T cells) and was weakly positive with monocytes. There was no reactivity with red blood cells, platelets, granulocytes in whole peripheral blood. BIRMA K12 reacts with human cells lines CEM, Raji and Kg1a with no reactivity with Nalm 6 or HL60. It reacts with B cells on tonsil sections and causes homotypic adhesion.

References

1. Yuan FF and Fletcher A (1997) Proceedings of the sixth workshop and conference on white cell differentiation antigens, Japan, 1996 499-505. Ed. Kishimoto T *et al.* Garland publishing Inc. NY and London.