

**International Blood Group
Reference Laboratory**500 North Bristol Park
Northway
Filton
Bristol
BS34 7QH**Antigen** CD44**Clone** KZ-1**Product Code** 9430**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**

CD44 (also known as Pgp-1, ECMR III, Hermes antigen, p80¹, H- CAM) is a cell membrane glycoprotein of apparent molecular weight 80 kDa. The full amino acid sequence has been deduced from cDNA. It is heavily glycosylated with both N- and O- glycans. The extracellular part of CD44 comprises an N- terminal disulphide bonded domain and an O- glycosylated domain. CD44 carries the In^a and In^b blood group antigens². There is a strong association between CD44 and the cytoskeleton. CD44 is thought to be involved in mediating cell:cell adhesion particularly lymphocyte-endothelial cell interactions important for lymphocyte migration from blood to lymph nodes and mucosal associated lymph organs. CD44 is a member of the hyaladherin family of hyaluronan-binding proteins, with a structure similar to selectins, and is the principal cell surface receptor for Hyaluronate³. Antibodies in CD44 may facilitate haemopoietic engraftment⁴. CD44 also functions as an adhesion, hyaluronan, fibronectin, osteopontin and MIP-1 β receptor and as a co-stimulatory molecule. CD44 is found on a broad range of haemopoietic cells such as lymphoid cells, myeloid cells, fibroblasts, endothelial cells, epithelial cells, erythroid cells and the nervous system, but not platelets⁵. It is found on brain, heart, liver, thymus, kidney and colon epithelium. CD44 has been mapped to chromosome 11p13. There are approximately 10,000 CD44 molecules per erythrocyte.

Clone

KZ-1 was made in response to human fibroblasts. Epitope mapping correlates KZ-1 with the Hermes 3 group of CD44 antibodies, and clusters with epitope 3⁶, as defined by the Vth Leucocyte workshop⁷. It has a functional binding affinity to erythrocytes of $1.3 \times 10^8 \text{M}^{-1}$. K-Z1 reacts by immunoblotting with a component of Mr 80kDa in non-reduced erythrocyte membranes. K-Z1 is a direct haemagglutinin. The erythrocyte antigen is not trypsin, AET or chymotrypsin sensitive.

References

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