CD44 Antibody – Rat Monoclonal

PRODUCT OVERVIEW

Product Name	CD44/Pgp-1, Monoclonal Antibody
Full Product Name	Rat Anti-Mouse CD44/Pgp-1-SPRD
Product Gene Name	anti-Cd44 antibody
Product Synonym Names	Rat Anti-Mouse CD44/Pgp-1 - SpectralRed-Labeled; Rat Anti-Mouse CD44/Pgp-1
Clonality	Monoclonal
Isotype	Rat IgG1 kappa
Clone Number	KM201
Host	Rat
Species Reactivity	Mouse
Form/Format	SpectralRed (SPRD) Conjugate
Specificity	All isoforms of CD44/pgp-1 (Mr 80-95 kDa) CD44 represents a family of type I transmembrane glycoproteins expressed on many cell types such as B cells, monocytes, macrophages, and variable subsets of thymocytes and peripheral T cells. CD44 primarily functions as an adhesion molecule. It has been implicated in various processes, such as hematopoiesis, lymphocyte homing, leukocyte activation, tumor metastasis and development. The KM201 monoclonal antibody reacts with an epitope very close to the hyaluronate binding domain on the CD44 molecule. KM201 can inhibit hyaluronate-dependent cell aggregation, prevent lympho-hemopoiesis in both Dexter and Whitlock- Witte Cultures, prevent the earliest intrathymic precursors from homing to the thymus, and costimulate the activation of freshly purified splenic CD^4+ T cells.^1-6
Preparation and Storage	The purified (UNLB) antibody is supplied as 0.5 mg of purified immunoglobulin in 1.0 mL of 100 mM borate buffered saline, pH 8.2. No preservatives or amine-containing buffer salts added. Store at 2-8 degree C. The fluorescein (FITC) conjugate is supplied as 0.5 mg in 1.0 mL of PBS/NaN3. Store at 2-8 degree C. The biotin (BIOT) conjugate is supplied as 0.5 mg in 1.0 mL of PBS/NaN3. Store at 2-8 degree C. The R-phycoerythrin (R-PE) conjugate is supplied as 0.1 mg in 1.0 mL or 0.2 mg in 2.0 mL of PBS/NaN3 and a stabilizing agent. Store at 2-8 degree C. Do not freeze! The allophycocyanin (APC) conjugate is supplied as 0.1 mg in 1.0 mL of PBS/NaN3 and a stabilizing agent. Store at 2-8 degree C. Do not freeze! The Spectral Red (SPRD) conjugate is supplied as 0.1 mg in 1.0 mL of PBS, pH 7.4, containing 0.1% sodium azide as preservative and a stabilizing agent. Store at 2-8 degree C. Do not freeze! The low endotoxin, azide-free (LE/AF) antibody is supplied as 0.5 mg purified immunoglobulin in 1.0 mL of PBS. Aliquot and store at or below -20 degree C. Protect conjugated forms from light. Aliquot and freeze the low endotoxin, azide-free product at -20 degree C immediately upon receipt. Each reagent is stable for the period shown on the bottle label if stored as directed.
Molecular Weight	85,918 Da
Chromosome Location	Chromosome: 3; NC_005102.2 (88022962..88110352, complement). Location: 3q31
3D Structure	ModBase 3D Structure for O08779
Characterization	To ensure lot-to-lot consistency, each batch of monoclonal antibody is tested to conform to characteristics of a standard reference by flow cytometry. Representative data are included in this technical bulletin.
Applications Tested/Suitable for anti-Cd44 antibody	Flow Cytometry; Immunoprecipitation; Western Blot

Application Notes for anti-Cd44 antibody	**Research Application(s):** Identification and enumeration of CD44^+ cells by flow cytometry Studies of cell adhesion and homing **Flow Cytometry Suggested Dilution:** <= 0.2 ug/10^6 cells
Related Product Information for anti-Cd44 antibody	MBS673108 is an antibody targeting Cd44. Also known as Rat Anti-Mouse CD44/Pgp-1-SPRD. Reactive in Mouse. Host: Rat.
Product References and Citations for anti-Cd44 antibody	1. Miyake, K., K. L. Medina, S. Hayashi, S. Ono, T. Hamaoka, and P. W. Kincade. 1990. J. Exp. Med. 171:477. 2. Lesley, J., Q. He, K. Miyake, A. Hamann, R. Hyman, and P. W. Kincade. 1992. J. Exp. Med. 175:257. 3. Lazaar, A. L. and E. Pure. 1995. The Immunologist 3:19. 4. Culty, M., K. Miyake, P. W. Kincade, E. Sikorski, E. C. Butcher, C. Underhill, and E. T. Silorski. 1990. J. Cell Biol. 111:2765. 5. Wu, L., P. W. Kincade, and K. Shortman. 1993. Immunol. Lett. 38:69. 6. Sommer, F., M. Huber, M. Rollinghoff, and M. Lohoff. 1996. Int. Immunol. 7:1779. 7. Murakami, S., K. Miyake, R. Abe, and P. W. Kincade. 1991. J. Immunol. 146:1422. 8. He, Q., J. Lesley, R. Hyman, K. Ishihara, and P. W. Kincade. 1992. J. Cell Biol. 119:1711.
Other Notes	Small volumes of anti-Cd44 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for Cd44. It may not necessarily be applicable to this product.

NCBI GI #	19923703
NCBI GeneID	25406
NCBI Accession #	NP_037056.2
UniProt Primary Accession #	O08779
UniProt Related Accession #	O08779; O35249; O70509; P26051; Q9EP99; Q9ERN2; Q9ERN3
GenBank Nucleotide #	NM_012924.2
NCBI Official Full Name	CD44 antigen
NCBI Official Synonym Full Names	Cd44 molecule
NCBI Official Symbol	Cd44
NCBI Official Synonym Symbols	CD44A; METAA; RHAMM; MGC124941
UniProt Protein Name	CD44 protein
Protein Family	CD44 antigen
UniProt Gene Name	Cd44
UniProt Synonym Gene Names	CD44
UniProt Entry Name	O08779_RAT
NCBI Protein Information	CD44 antigen; PGP-1; PGP-I; HUTCH-I; ECMR-III; hermes antigen; hyaluronate receptor; phagocytic glycoprotein 1; phagocytic glycoprotein I; extracellular matrix receptor III; GP90 lymphocyte homing/adhesion receptor; Cell surface glycoprotein CD44 (hyaluronate binding protein)
NCBI Summary for Cd44	adhesion molecule involved in migration, cell fusion and resportion in osteoclasts that also plays a role in cellular metastasis [RGD]

UniProt Comments for Cd44	CD44: Receptor for hyaluronic acid (HA). Mediates cell-cell and cell-matrix interactions through its affinity for HA, and possibly also through its affinity for other ligands such as osteopontin, collagens, and matrix metalloproteinases (MMPs). Adhesion with HA plays an important role in cell migration, tumor growth and progression. Also involved in lymphocyte activation, recirculation and homing, and in hematopoiesis. Altered expression or dysfunction causes numerous pathogenic phenotypes. Great protein heterogeneity due to numerous alternative splicing and post-translational modification events. Interacts with PKN2. Interacts with HA, as well as other glycosaminoglycans, collagen, laminin, and fibronectin via its N-terminal segment. Interacts with ANK, the ERM proteins (VIL2, RDX and MSN), and NF2 via its C-terminal segment. Isoform 10 (epithelial isoform) is expressed by cells of epithelium and highly expressed by carcinomas. Expression is repressed in neuroblastoma cells. 19 isoforms of the human protein are produced by alternative splicing. Protein type: Membrane protein, integral; Motility/polarity/chemotaxis; Receptor, misc.; Cell adhesion Cellular Component: Golgi apparatus; cell surface; focal adhesion; protein complex; basolateral plasma membrane; apical plasma membrane; cytoplasm; integral to membrane; plasma membrane; nucleus; external side of plasma membrane Molecular Function: hematopoietin/interferon-class (D200-domain) cytokine receptor activity; protein binding; transmembrane receptor activity; cytokine binding; hyaluronic acid binding; phosphoprotein binding; protein kinase binding; epidermal growth factor receptor binding; hyaluronoglucosaminidase activity Biological Process: cell migration; Wnt receptor signaling pathway; positive regulation of heterotypic cell-cell adhesion; positive regulation of neutrophil apoptosis; negative regulation of caspase activity; blood vessel maturation; response to organic cyclic substance; positive regulation of peptidyl-serine phosphorylation; response to vitamin A; hyaluronan catabolic process; negative regulation of DNA damage response, signal transduction by p53 class mediator; positive regulation of peptidyl-tyrosine phosphorylation; negative regulation of mature B cell apoptosis; ureteric bud branching; cartilage development; regulation of cell growth; cell adhesion; inflammatory response; healing during inflammatory response; neurite development; negative regulation of apoptosis
Research Articles on Cd44	**1.** Upregulation of hyaluronan and its binding receptors CD44 and LYVE-1 are involved in interstitial fibrosis in chronic cyclosporine-induced renal injury.
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