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CD44 Antibody

Mouse Monoclonal Antibody (Mab)
Catalog # AM1901b

Product Information

Application	IF, IHC-P, WB, FC, E
Primary Accession	P16070
Other Accession	NP_000601.3
Reactivity	Human, Rat, Mouse
Host	Mouse
Clonality	Monoclonal
Isotype	IgG2a ,K
Clone Names	Hermes-3
Calculated MW	81538

Additional Information

Gene ID	960
Other Names	CD44 antigen, CDw44, Epican, Extracellular matrix receptor III, ECMR-III, GP90 lymphocyte homing/adhesion receptor, HUTCH-I, Heparan sulfate proteoglycan, Hermes antigen, Hyaluronate receptor, Phagocytic glycoprotein 1, PGP-1, Phagocytic glycoprotein I, PGP-I, CD44, CD44, LHR, MDU2, MDU3, MIC4
Target/Specificity	This CD44 monoclonal antibody is against human Peyer's patch endothelial cells (CD44) .
Dilution	IF~~1:10~50 IHC-P~~1:100~500 WB~~1:2000 FC~~1:50 E~~Use at an assay dependent concentration.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CD44 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CD44
Synonyms	LHR, MDU2, MDU3, MIC4

Function	Cell-surface receptor that plays a role in cell-cell interactions, cell adhesion and migration, helping them to sense and respond to changes in the tissue microenvironment (PubMed:16541107, PubMed:19703720, PubMed:22726066). Participates thereby in a wide variety of cellular functions including the activation, recirculation and homing of T-lymphocytes, hematopoiesis, inflammation and response to bacterial infection (PubMed:7528188). Engages, through its ectodomain, extracellular matrix components such as hyaluronan/HA, collagen, growth factors, cytokines or proteases and serves as a platform for signal transduction by assembling, via its cytoplasmic domain, protein complexes containing receptor kinases and membrane proteases (PubMed:18757307, PubMed:23589287). Such effectors include PKN2, the RhoGTPases RAC1 and RHOA, Rho-kinases and phospholipase C that coordinate signaling pathways promoting calcium mobilization and actin-mediated cytoskeleton reorganization essential for cell migration and adhesion (PubMed:15123640). Upon interaction with LGALS9 ligand, activates downstream signaling components including LCK, ERK and MAPK to promotes NK cell activation (PubMed:37006235).
Cellular Location	Cell membrane; Single-pass type I membrane protein. Cell projection, microvillus {ECO:0000250|UniProtKB:P15379}. Secreted Note=Colocalizes with actin in membrane protrusions at wounding edges Co-localizes with RDX, EZR and MSN in microvilli. Localizes to cholesterol-rich membrane-bound lipid raft domains {ECO:0000250|UniProtKB:P15379, ECO:0000269|PubMed:23589287}
Tissue Location	Detected in fibroblasts and urine (at protein level) (PubMed:25326458, PubMed:36213313, PubMed:37453717). Detected in placenta (at protein level) (PubMed:32337544). Isoform 10 (epithelial isoform) is expressed by cells of epithelium and highly expressed by carcinomas. Expression is repressed in neuroblastoma cells

Background

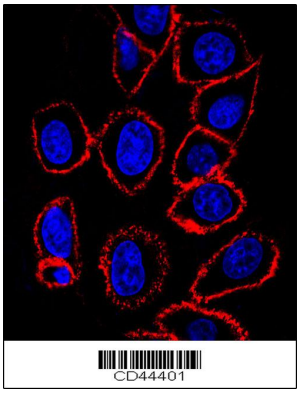
The protein encoded by this gene is a cell-surface glycoprotein involved in cell-cell interactions, cell adhesion and migration. It is a receptor for hyaluronic acid (HA) and can also interact with other ligands, such as osteopontin, collagens, and matrix metalloproteinases (MMPs). This protein participates in a wide variety of cellular functions including lymphocyte activation, recirculation and homing, hematopoiesis, and tumor metastasis. Transcripts for this gene undergo complex alternative splicing that results in many functionally distinct isoforms, however, the full length nature of some of these variants has not been determined. Alternative splicing is the basis for the structural and functional diversity of this protein, and may be related to tumor metastasis.

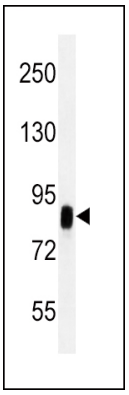
References

?da Cunha, C.B., et al. Lab. Invest. 90(11):1604-1614(2010) ?Somasunderam, A., et al. Biochemistry 49(42):9106-9112(2010) ?Wolny, P.M., et al. J. Biol. Chem. 285(39):30170-30180(2010) ?Ryckman, K.K., et al. PLoS ONE 5 (8), E12273 (2010) : ?Scartozzi, M., et al. Anal. Quant. Cytol. Histol. 31(6):417-423(2009)

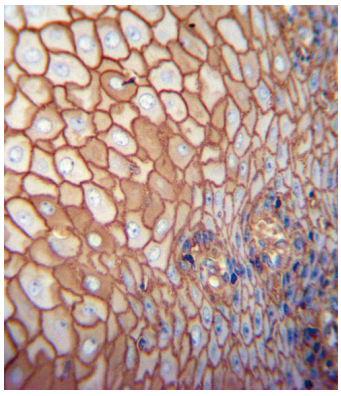
Images

CD44 antibody (Cat. #AM1901b) confocal immunofluorescent analysis with hela cell. 0.01 mg/ml primary antibody was followed by PE-conjugated goat anti-mouse lgG (whole molecule). PE emits red fluorescence. DAPI was used to stain the cell nuclear (blue).

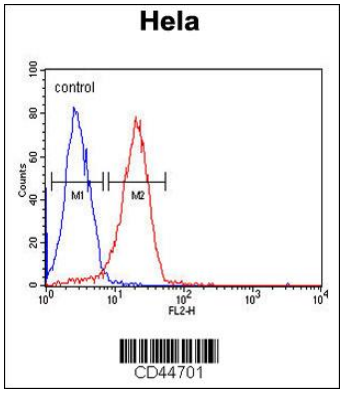




CD44 antibody (Cat. #AM1901b) western blot analysis in Hela cell line lysates (35µg/lane).This demonstrates the CD44 antibody detected the CD44 protein (arrow).



CD44 antibody (Cat. #AM1901b) immunohistochemistry analysis in formalin fixed and paraffin embedded human esophagus carcinoma followed by peroxidase conjµgation of the secondary antibody and DAB staining. This data demonstrates the use of the CD44 antibody for immunohistochemistry. Clinical relevance has not been evaluated.



CD44 Antibody (Cat. #AM1901b) flow cytometric analysis of Hela cells (right histogram) compared to a negative control cell (left histogram).PE-conjugated goat-anti-mouse secondary antibodies were used for the analysis.

Citations

- Functional binding of E-selectin to its ligands is enhanced by structural features beyond its lectin domain