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ALCAM Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1831a

Product Information

Application	WB, IHC, FC, E
Primary Accession	Q13740
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Clone Names	4H9A5
Isotype	IgG2b
Calculated MW	65102
Description	This gene encodes activated leukocyte cell adhesion molecule (ALCAM), also known as CD166 (cluster of differentiation 166), which is a member of a subfamily of immunoglobulin receptors with five immunoglobulin-like domains (VVC2C2C2) in the extracellular domain. This protein binds to T-cell differentiation antigene CD6, and is implicated in the processes of cell adhesion and migration. Multiple alternatively spliced transcript variants encoding different isoforms have been found.
Immunogen	Purified recombinant fragment of human ALCAM (AA: 48-216) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide

Additional Information

Gene ID	214
Other Names	CD166 antigen, Activated leukocyte cell adhesion molecule, CD166, ALCAM, MEMD
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 FC~~1/200 - 1/400 E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ALCAM Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ALCAM

Synonyms	MEMD {ECO:0000303|PubMed:9502422}
Function	Cell adhesion molecule that mediates both heterotypic cell- cell contacts via its interaction with CD6, as well as homotypic cell- cell contacts (PubMed:15048703, PubMed:15496415, PubMed:16352806, PubMed:23169771, PubMed:24945728, PubMed:7760007). Promotes T-cell activation and proliferation via its interactions with CD6 (PubMed:15048703, PubMed:16352806, PubMed:24945728). Contributes to the formation and maturation of the immunological synapse via its interactions with CD6 (PubMed:15294938, PubMed:16352806). Mediates homotypic interactions with cells that express ALCAM (PubMed:15496415, PubMed:16352806). Acts as a ligand for the LILRB4 receptor, enhancing LILRB4-mediated inhibition of T cell proliferation (PubMed:29263213). Required for normal hematopoietic stem cell engraftment in the bone marrow (PubMed:24740813). Mediates attachment of dendritic cells onto endothelial cells via homotypic interaction (PubMed:23169771). Inhibits endothelial cell migration and promotes endothelial tube formation via homotypic interactions (PubMed:15496415, PubMed:23169771). Required for normal organization of the lymph vessel network. Required for normal hematopoietic stem cell engraftment in the bone marrow. Plays a role in hematopoiesis; required for normal numbers of hematopoietic stem cells in bone marrow. Promotes in vitro osteoblast proliferation and differentiation (By similarity). Promotes neurite extension, axon growth and axon guidance; axons grow preferentially on surfaces that contain ALCAM. Mediates outgrowth and pathfinding for retinal ganglion cell axons (By similarity).
Cellular Location	Cell membrane; Single-pass type I membrane protein. Cell projection, axon {ECO:0000250|UniProtKB:Q61490}. Cell projection, dendrite {ECO:0000250|UniProtKB:Q61490}. Note=Detected at the immunological synapse, i.e, at the contact zone between antigen-presenting dendritic cells and T-cells (PubMed:15294938, PubMed:16352806). Colocalizes with CD6 and the TCR/CD3 complex at the immunological synapse (PubMed:15294938).
Tissue Location	Detected on hematopoietic stem cells derived from umbilical cord blood (PubMed:24740813). Detected on lymph vessel endothelial cells, skin and tonsil (PubMed:23169771). Detected on peripheral blood monocytes (PubMed:15048703). Detected on monocyte- derived dendritic cells (at protein level) (PubMed:16352806). Detected at low levels in spleen, placenta, liver (PubMed:9502422). Expressed by activated T-cells, B-cells, monocytes and thymic epithelial cells (PubMed:7760007). Isoform 1 and isoform 3 are detected in vein and artery endothelial cells, astrocytes, keratinocytes and artery smooth muscle cells (PubMed:15496415). Expressed by neurons in the brain Restricted expression in tumor cell lines. Detected in highly metastasizing melanoma cell lines (PubMed:9502422)

Background

This gene encodes a C2H2 zinc finger protein with transactivation and DNA-binding activities. It has been shown to have anti-proliferative properties, and thus thought to function as a tumor suppressor. In addition, overexpression of this gene during fetal development is believed to underlie the rare disorder, transient neonatal diabetes mellitus (TNDM). This gene is imprinted, with preferential expression of the paternal allele in many tissues, however, biallelic expression has been noted in peripheral blood leucocytes. A recent study reports that tissue-specific imprinting results from variable utilization of monoallelic and biallelic promoters. Many transcript variants differing in the 5' UTR and encoding two different isoforms, have been found for this gene. ;

References

1. Vascul Pharmacol. 2011 Mar-Jun;54(3-6):93-9. 2. Int J Gynecol Cancer. 2011 Apr;21(3):523-8.

Images

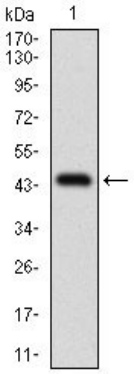

Figure 1: Western blot analysis using ALCAM mAb against human ALCAM recombinant protein. (Expected MW is 44.9 kDa)

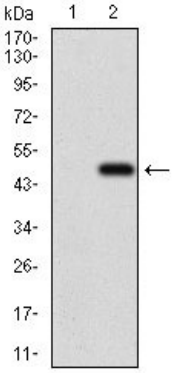

Figure 2: Western blot analysis using ALCAM mAb against HEK293 (1) and ALCAM (AA: 48-216)-hIgGFc transfected HEK293 (2) cell lysate.

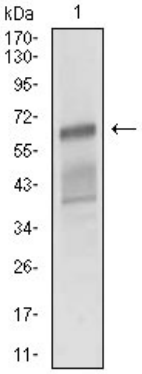

Figure 3: Western blot analysis using ALCAM mouse mAb against NIH/3T3 cell lysate.

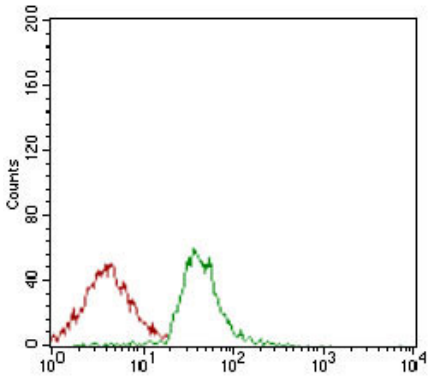

Figure 4: Flow cytometric analysis of Jurkat cells using ALCAM mouse mAb (green) and negative control (red).

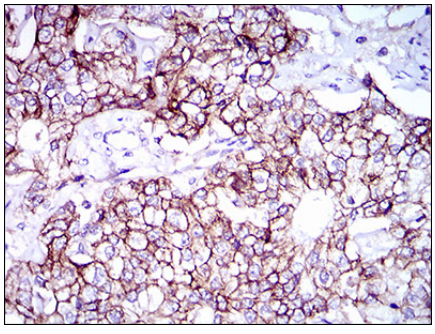

Figure 5: Immunohistochemical analysis of paraffin-embedded prostate cancer tissues using ALCAM mouse mAb with DAB staining.

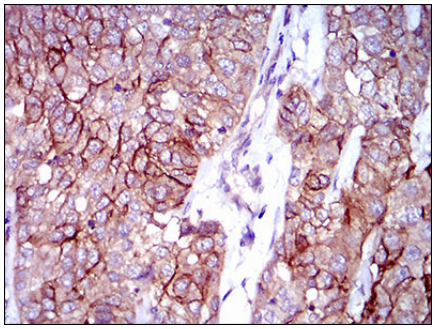

Figure 6: Immunohistochemical analysis of paraffin-embedded bladder cancer tissues using ALCAM mouse mAb with DAB staining.