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KAI1 Antibody

Catalog # ASC10515

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	P27701
Other Accession	NP_002222, 4504813
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	29626
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	KAI1 antibody can be used for detection of KAI1 by Western blot at 0.5 - 1 g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	3732
Other Names	KAI1 Antibody: R2, 4F9, C33, IA4, ST6, GR15, KAI1, SAR2, TSPAN27, CD82 antigen, C33 antigen, Tspan-27, CD82 molecule
Target/Specificity	CD82;
Reconstitution & Storage	KAI1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	KAI1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CD82
Synonyms	KAI1, SAR2, ST6, TSPAN27
Function	Structural component of specialized membrane microdomains known as tetraspanin-enriched microdomains (TERMs), which act as platforms for receptor clustering and signaling (PubMed:19497983). Participates thereby in diverse biological functions such as cell signal transduction, adhesion, migration and protein trafficking. Acts as a attenuator of EGF signaling, facilitating ligand-induced endocytosis of the receptor and its subsequent desensitization (PubMed:10985391, PubMed:35538033). Mechanistically,

	modulates ligand- induced ubiquitination and trafficking of EGFR via E3 ligase CBL phosphorylation by PKC (PubMed:23897813). Increases cell-matrix adhesion by regulating the membrane organization of integrin alpha4/ITA4 (PubMed:24623721, PubMed:8757325). Modulates adhesion and suppresses cell migration through other integrins such as the alpha6/ITGA6 and beta1/ITGB1 (PubMed:15557282, PubMed:17560548). Decreases cell-associated plasminogen activation by interfering with the interaction between urokinase-type plasminogen activator/PLAU and its receptor PLAUR (PubMed:15677461). Associates with CD4 or CD8 and delivers costimulatory signals for the TCR/CD3 pathway. Plays a role in TLR9 trafficking to acidified CpG-containing compartments by controlling interaction between TLR9 and VAMP3 and subsequent myddosome assembly (By similarity). Inhibits LPS-induced inflammatory response by preventing binding of LPS to TLR4 on the cell surface (PubMed:36945827). Plays a role in the activation of macrophages into anti-inflammatory phenotypes (By similarity). Independently of Toll- like receptor (TLR) signaling, is recruited to pathogen-containing phagosomes prior to fusion with lysosomes and thereby participates in antigen presentation (By similarity). Also acts to control angiogenesis and switch angiogenic milieu to quiescent state by binding and sequestering VEGFA and PDGFB to inhibit the signaling they trigger via their respective cell surface receptor (PubMed:34530889).
Cellular Location	Cell membrane {ECO:0000269|PubMed:19497983, ECO:0000269|PubMed:23897813, ECO:0000269|PubMed:30463011, ECO:0000269|PubMed:34530889, ECO:0000269|PubMed:8757325, ECO:0000269|Ref.4}; Multi-pass membrane protein Cytoplasmic vesicle, phagosome {ECO:0000250|UniProtKB:P40237}
Tissue Location	Lymphoid specific.

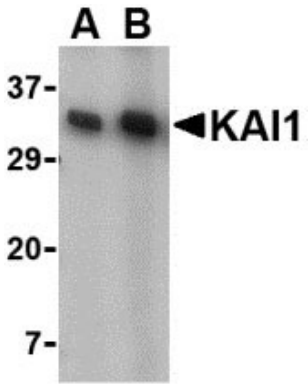
Background

KAI1 Antibody: KAI1 was initially identified from a T-cell activation study as a four-transmembrane protein that plays an accessory role in T-cell activation, and was later determined to act as a cancer metastasis suppressor gene. This protein is ubiquitously expressed at moderate to high levels in most tissues, but its expression is downregulated during tumor progression. The loss of KAI1 and p53 is associated with poor survival for prostate and other cancer patients. Recently, KAI1 was found to interact with DARC, the Duffy antigen for chemokines using a yeast two hybrid screen. It is thought that tumor cells dislodged from the primary tumor and expressing KAI1 interact with DARC proteins expressed on vascular cells, transmitting a senescent signal to the tumor cells, while tumor cells that have lost KAI1 expression can proliferate and potentially give rise to metastases. At least two isoforms of KAI1 are known to exist.

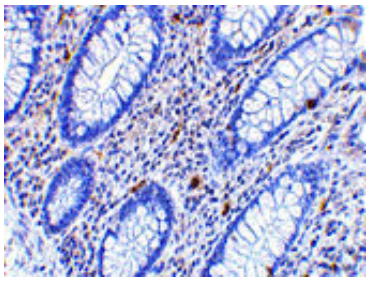
References

HW Gaugitsch, Hofer E, Huber NE, et al. A new superfamily of lymphoid and melanoma cell proteins with extensive homology to Schistosoma mansoni antigen SM23. Eur. J. Immunol.1991; 21:377-83.
Gil ML, Vita N, Lebel-Binay S, et al. A member of the tetra spans transmembrane protein superfamily is recognized by a monoclonal antibody raised against an HLA class I-deficient, lymphokine-activated killer-susceptible, B lymphocyte line. Cloning and functional studies. J. Immunol.1992; 2826-33.
Dong JT, Lamb PW, Rinker-Schaeffer CW, et al. KAI1, a metastasis suppressor gene for prostate cancer on human chromosome 11p11.2. Science1995; 884-86.
Kauffman EC, Robinson VL, Stadler WM, et al. Metastasis suppression: the evolving role of metastasis suppressor genes for regulating cancer cell growth at the secondary site. J. Urol.2003; 169:1122-33.

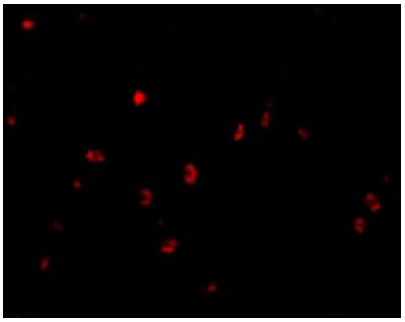
Images



Western blot analysis of KAI1 in A549 cell lysate with KAI1 antibody at (A) 0.5 and (B) 1 µg/mL.



Immunohistochemistry of KAI1 in human colon tissue with KAI1 antibody at 2.5 µg/mL.



Immunofluorescence of KAI1 in Human Colon cells with KAI1 antibody at 20 µg/mL.

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