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SLAMF1 Antibody

Catalog # ASC11303

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q13291
Other Accession	NP_003028, 4506969
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	37231
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	SLAMF1 antibody can be used for detection of SLAMF1 by Western blot at 1 g/mL. Antibody can also be used for immunohistochemistry starting at 5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	6504
Other Names	Signaling lymphocytic activation molecule, CDw150, IPO-3, CD150, SLAMF1, SLAM
Target/Specificity	SLAMF1; Two isoforms of SLAMF1 are known to exist; this antibody will recognize both isoforms. SLAMF1 antibody is predicted to not cross-react with other SLAM protein family members.
Reconstitution & Storage	SLAMF1 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	SLAMF1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SLAMF1
Synonyms	SLAM
Function	Self-ligand receptor of the signaling lymphocytic activation molecule (SLAM) family. SLAM receptors triggered by homo- or heterotypic cell-cell interactions are modulating the activation and differentiation of a wide variety of immune cells and thus are involved in the regulation and interconnection of both innate and adaptive immune response. Activities are controlled by presence

	or absence of small cytoplasmic adapter proteins, SH2D1A/SAP and/or SH2D1B/EAT-2. SLAMF1-induced signal-transduction events in T-lymphocytes are different from those in B-cells. Two modes of SLAMF1 signaling seem to exist: one depending on SH2D1A (and perhaps SH2D1B) and another in which protein-tyrosine phosphatase 2C (PTPN11)-dependent signal transduction operates. Initially it has been proposed that association with SH2D1A prevents binding to inhibitory effectors including INPP5D/SHIP1 and PTPN11/SHP-2 (PubMed:11806999). However, signaling is also regulated by SH2D1A which can simultaneously interact with and recruit FYN which subsequently phosphorylates and activates SLAMF1 (PubMed:12458214). Mediates IL-2-independent proliferation of activated T-cells during immune responses and induces IFN-gamma production (By similarity). Downstreaming signaling involves INPP5D, DOK1 and DOK2 leading to inhibited IFN-gamma production in T-cells, and PRKCQ, BCL10 and NFKB1 leading to increased T-cell activation and Th2 cytokine production (By similarity). Promotes T-cell receptor-induced IL-4 secretion by CD4(+) cells (By similarity). Inhibits antigen receptor- mediated production of IFN-gamma, but not IL-2, in CD4(-)/CD8(-) T-cells (By similarity). Required for IL-4 production by germinal centers T follicular helper (T(Fh))cells (By similarity). May inhibit CD40- induced signal transduction in monocyte-derived dendritic cells (PubMed:16317102). May play a role in allergic responses and may regulate allergen-induced Th2 cytokine and Th1 cytokine secretion (By similarity). In conjunction with SLAMF6 controls the transition between positive selection and the subsequent expansion and differentiation of the thymocytic natural killer T (NKT) cell lineage. Involved in the peripheral differentiation of indifferent natural killer T (iNKT) cells toward a regulatory NKT2 type (By similarity). In macrophages involved in down-regulation of IL-12, TNF-alpha and nitric oxide in response to lipopolysaccharide (LPS) (By similarity). In B-cells activates the ERK signaling pathway independently of SH2D1A but implicating both, SYK and INPP5D, and activates Akt signaling dependent on SYK and SH2D1A (By similarity). In B-cells also activates p38 MAPK and JNK1 and JNK2 (PubMed:20231852). In conjunction with CD84/SLAMF5 and SLAMF6 may be a negative regulator of the humoral immune response (By similarity). Involved in innate immune response against Gram-negative bacteria in macrophages; probably recognizes OmpC and/or OmpF on the bacterial surface, regulates phagosome maturation and recruitment of the PI3K complex II (PI3KC3-C2) leading to accumulation of PdtIns(3)P and NOX2 activity in the phagosomes (PubMed:20818396).
Cellular Location	Cell membrane; Single-pass type I membrane protein. Note=Present on the surface of B- cells and T-cells. Located at the plasma membrane contacts between neighboring T-cells (PubMed:11806999). [Isoform 4]: Cell membrane. Note=Overexpressed isoform 4 is detected on the cell surface. In glioma cell lines endogenuous isoform 4 is detetced predominantly in the cytoplasm and colocalized with endoplasmic reticulum and Golgi markers.
Tissue Location	Constitutively expressed on peripheral blood memory T-cells, T-cell clones, immature thymocytes and a proportion of B- cells, and is rapidly induced on naive T-cells after activation (PubMed:7617038). Activated B-cells express isoform 1, isoform 3 and a cytoplasmic isoform (PubMed:9091591). Isoform 4 is expressed in B- cells, primary T-cells, dendritic cells and macrophages. Isoform 4 is expressed in tumors of the central nervous system (PubMed:25710480)

Background

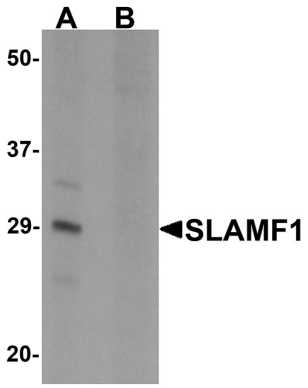
SLAMF1 Antibody: The signaling lymphocyte-activation molecule family member 1 (SLAMF1) is a novel receptor on T cells that potentiates T cell expansion in a CD28-independent manner. SLAMF1 is predominantly expressed by hematopoietic tissues. Reports suggest that the extracellular domain of

SLAMF1 is the receptor for the measles virus and acts as a co-activator on both T and B cells. It is thought to interact with SH2D1A and with PTPN11 via its cytoplasmic domain. Mutations of the SLAM associated gene may be associated with X-linked lympho-proliferative disease (XLP).

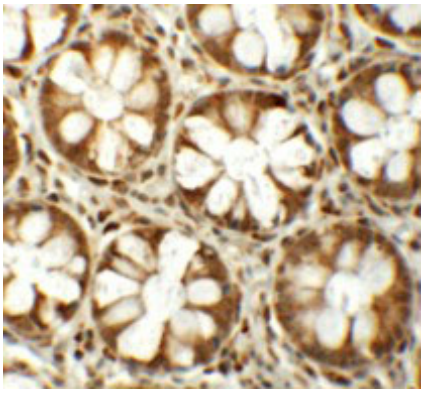
References

Cocks BG, Chang CC, Carballido JM, et al. 1995. A novel receptor involved in T cell activation. Nature 1995; 376:260-3.
Tatsuo H, Ono N, Tanaka K, et al. SLAM (CDw150) is a cellular receptor for measles virus. Nature 2000; 406:893-7.
Aversa G, Chang CC, Carballido JM, et al. Engagement of the signaling lymphocytic activation molecule (SLAM) on activated T cells results in IL-2-independent, Cyclosporin A-sensitive T cell proliferation and IFN-α production. J. Immunol. 1997; 158:4036-44.

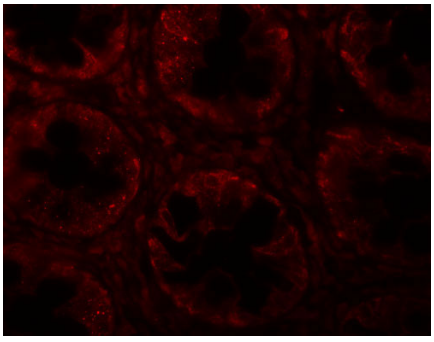
Images



Western blot analysis of SLAMF1 in rat colon tissue lysate with SLAMF1 antibody at 1 µg/mL in (A) the absence and (B) the presence of blocking peptide.



Immunohistochemistry of SLAMF1 in human colon tissue with SLAMF1 antibody at 5 µg/mL.



Immunofluorescence of SLAMF1 in human colon tissue with SLAMF1 antibody at 20 µg/mL.