abcam

ab95805

FITC Anti-2B4 antibody [244F4]

Anti-2B4 antibody [244F4] conjugated to FITC - suitable for flow cytometry, and reacts with mouse samples. Clone [244F4] is a rat monoclonal antibody cited in 2 publications.

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Key facts

Isotype	IgG2a
Host species	Rat
Conjugation	FITC
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.2 Preservative: 0.09% Sodium azide Constituents: 0.87% Sodium chloride
Form	Liquid
Clonality	Monoclonal
Clone number	244F4
Purification technique	Affinity purification Protein G
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Mouse
Dilution info	0.25 µg for 10^5-10^8 Cells

Notes	Use final volume of 100µl. ab18446 - Rat monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Target data

See full target information CD244

Function	Heterophilic receptor of the signaling lymphocytic activation molecule (SLAM) family; its ligand is CD48. 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. Acts as activating natural killer (NK) cell receptor (PubMed:10359122, PubMed:11714776, PubMed:8376943). Activating function implicates association with SH2D1A and FYN (PubMed:15713798). Downstreaming signaling involves predominantly VAV1, and, to a lesser degree, INPP5D/SHIP1 and CBL. Signal attenuation in the absence of SH2D1A is proposed to be dependent on INPP5D and to a lesser extent PTPN6/SHP-1 and PTPN11/SHP-2 (PubMed:10934222, PubMed:15713798). Stimulates NK cell cytotoxicity, production of IFN-gamma and granule exocytosis (PubMed:11714776, PubMed:8376943). Optimal expansion and activation of NK cells seems to be dependent on the engagement of CD244 with CD48 expressed on neighboring NK cells (By similarity). Acts as costimulator in NK activation by enhancing signals by other NK receptors such as NCR3 and NCR1 (PubMed:10741393). At early stages of NK cell differentiation may function as an inhibitory receptor possibly ensuring the self-tolerance of developing NK cells (PubMed:11917118). Involved in the regulation of CD8(+) T-cell proliferation; expression on activated T-cells and binding to CD48 provides costimulatory-like function for neighboring T-cells (By similarity). Inhibits inflammatory responses in dendritic cells (DCs) (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

ab95805 was generated against cell lines expressing CD244. It reacts with the C57BL/6 but not Balb/c due to polymorphisms present in the immunoglobulin V domain of the protein.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	2B4 also known as CD244 or SLAMF4 is a cell surface receptor with a molecular mass of approximately 52-70 kDa. It exists predominantly on various immune cells like natural killer (NK) cells T cells basophils and monocytes. This receptor belongs to the signaling lymphocytic activation molecule (SLAM) family. 2B4's primary role is contributive during cell communication. It specifically recognizes CD48 on neighboring cells and modulates immune responses based on target cell recognition. This function empowers NK cells to maintain immune surveillance and cytotoxicity.
Biological function summary	2B4 plays an integrative role within cellular immune response. When engaged by its ligand CD48 it regulates activation signals in NK cells and T cells. 2B4 is not a standalone entity but functions as a part of a larger cluster of differentiation molecules. This cluster including CD244.1 and CD244.2 facilitates signal transduction leading to immune modulation. The receptor acts as either an activating or inhibitory agent depending on the expression levels of its associated signaling proteins like SAP (SLAM-associated protein).
Pathways	Cross-linking of 2B4 forms a critical axis in multiple immune pathways such as the NK cell-mediated cytotoxicity and adaptive immune response pathway. It interacts closely with SAP a protein that modulates downstream signaling events leading to immune cell activation or suppression. Besides SAP 2B4 collaboratively participates with other SLAM family receptors. These interactions optimize the balance between immune activation and tolerance ensuring appropriate immune responses.
Associated diseases and disorders	2B4 has a significant involvement. Aberrant 2B4 signaling can lead to immune dysregulation linked to diseases like hemophagocytic lymphohistiocytosis (HLH) and certain autoimmune diseases. In HLH defective interactions between 2B4 and SAP contribute to impaired apoptosis of target cells leading to excessive immune proliferation. This dysfunctionality often features alongside compromised activity of related proteins such as perforin which is essential for target cell lysis. Consequently understanding 2B4's function and interaction helps in exploring targeted therapies for immune-associated disorders.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

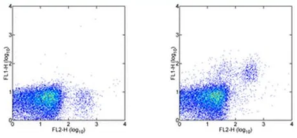
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1 product image



Flow Cytometry - FITC Anti-2B4 antibody [244F4] (ab95805)

2B4 Flow Cytometry staining using rat Anti-2B4 antibody

Staining of BALB/c splenocytes with Anti-NK1-1 PE and 0.125 µg of Rat IgG2a Isotype Control FITC (left) or 0.125 µg of ab95805 (right). Cells in the lymphocyte gate were used for analysis.

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