abcam

ab93539

APC Anti-Integrin alpha 4+beta 7 antibody [DATK32 (DATK-32)]

Anti-Integrin alpha 4+beta 7 antibody [DATK32 (DATK-32)] conjugated to APC - suitable for flow cytometry, and reacts with mouse samples. Clone [DATK32 (DATK-32)] is a rat monoclonal antibody cited in 18 publications.

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Key facts

Isotype	IgG2a
Host species	Rat
Conjugation	APC
Excitation/Emission	Ex: 650nm, Em: 660nm
Storage buffer	pH: 7.2 Preservative: 0.09% Sodium azide Constituents: 0.88% Sodium chloride, 0.12% Sodium dihydrogen phosphate, 0.1% Gelatin
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing Itga4 protein. The exact immunogen used to generate this antibody is proprietary information. Database link Q00651
Clone number	DATK32 (DATK-32)
Purification technique	Affinity purification Immunogen
Light chain type	kappa
Concentration	0.2 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information Itga4

Function	Integrins alpha-4/beta-1 (VLA-4 or LPAM-2) and alpha-4/beta-7 (LPAM-1) are receptors for fibronectin. They recognize one or more domains within the alternatively spliced CS-1 and CS-5 regions of fibronectin. They are also receptors for VCAM1. Integrin alpha-4/beta-1 recognizes the sequence Q-I-D-S in VCAM1. Integrin alpha-4/beta-7 is also a receptor for MADCAM1. It recognizes the sequence L-D-T in MADCAM1. On activated endothelial cells integrin VLA-4 triggers homotypic aggregation for most VLA-4-positive leukocyte cell lines. It may also participate in cytolytic T-cell interactions with target cells. ITGA4:ITGB1 binds to fractalkine (CX3CL1) and may act as its coreceptor in CX3CR1-dependent fractalkine signaling. ITGA4:ITGB1 binds to PLA2G2A via a site (site 2) which is distinct from the classical ligand-binding site (site 1) and this induces integrin conformational changes and enhanced ligand binding to site 1. Integrin ITGA4:ITGB1 represses PRKCA-mediated L-type voltage-gated channel Ca(2+) influx and ROCK-mediated calcium sensitivity in vascular smooth muscle cells via its interaction with SVEP1, thereby inhibiting vasocontraction (PubMed:35802072).

Storage

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

Notes

Binding of the DATK32 monoclonal antibody has been shown to induce aggregation of the CD8+ T cell lymphoma TK1, and block Integrin alpha 4 beta 7 mediated cell adhesion.

Supplementary info

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

Activity summary	Integrin alpha 4 beta 7 also known as alpha 4 beta 7 integrin A4B7 integrin and beta-7 is a cell surface integrin receptor involved in mediating cell adhesion. This target plays a mechanical role in binding to the mucosal addressin cell adhesion molecule-1 (MAdCAM-1) primarily on high endothelial venules in the gut-associated lymphoid tissue. It forms a heterodimer composed of the alpha 4 and beta 7 subunits with an estimated mass of about 150–180 kDa. Integrin alpha 4 beta 7 is expressed on the surface of leukocytes including T cells B cells and other immune cells facilitating their tissue-specific homing.
Biological function summary	Integrin alpha 4 beta 7 serves an important role in the migration and homing of lymphocytes to gut-associated lymphoid tissues ensuring immune surveillance. It is a part of the integrin family complex interacting with MAdCAM-1 to guide lymphocytes across the endothelium into the intestinal lamina propria. This process is essential for maintaining the immune cell balance within the gastrointestinal tract where the immune system encounters numerous antigens.
Pathways	Integrin alpha 4 beta 7 fits into immune cell trafficking and adhesion pathways. It works closely with proteins like MAdCAM-1 and interacts with the Janus kinase-signal transducer and activator of transcription (JAK-STAT) signaling pathway. These interactions reinforce the pivotal role of integrin in the precise targeting and localization of immune cells which is necessary for effective immune responses and homeostasis maintenance within specific tissue environments.
Associated diseases and disorders	Integrin alpha 4 beta 7 connects with conditions such as inflammatory bowel diseases including Crohn's disease and ulcerative colitis. Its interaction with MAdCAM-1 contributes to the recruitment of inflammatory cells to the gut exacerbating inflammation in these disorders. Moreover integrin alpha 4 beta 7 has been implicated in HIV infection where it serves as a marker for lymphocytes targeted by the virus highlighting its potential as a therapeutic target for modulating immune system activity in disease contexts.

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

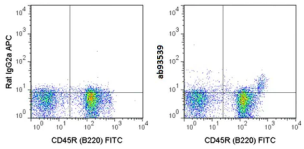
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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1 product image



Flow Cytometry - APC Anti-Integrin alpha 4+beta 7 antibody [DATK32 (DATK-32)] (ab93539)

Integrin alpha 4+beta 7 Flow Cytometry staining using rat Anti-Integrin alpha 4+beta 7 antibody

C57Bl/6 bone marrow cells stained with FITC-conjugated anti-mouse CD45 (B220) and 0.25µg ab93539 (right) or 0.25µg APC-conjugated rat IgG2a isotype control (left).

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