abcam

ab95817

PE Anti-Integrin beta 7 antibody [FIB504]

Anti-Integrin beta 7 antibody [FIB504] conjugated to PE - suitable for flow cytometry, and reacts with human samples. Clone [FIB504] is a rat monoclonal antibody cited in 45 publications.

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Key facts

Isotype	IgG2a
Host species	Rat
Conjugation	PE
Excitation/Emission	Ex: 480;565nm, Em: 578nm
Storage buffer	pH: 7.2 Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing Itgb7 protein. The exact immunogen used to generate this antibody is proprietary information. Database link P26011
Clone number	FIB504
Purification technique	Affinity purification Protein G
Light chain type	kappa

Reactivity data

Flow Cyt

Tested

Species	Human

Dilution info	5 µL for 10^6 Cells
Notes	-

Target data

See full target information Itgb7

Function	Integrin ITGA4/ITGB7 (alpha-4/beta-7) (Peyer patches-specific homing receptor LPAM-1) is an adhesion molecule that mediates lymphocyte migration and homing to gut-associated lymphoid tissue (GALT). Integrin ITGA4/ITGB7 interacts with the cell surface adhesion molecules MADCAM1 which is normally expressed by the vascular endothelium of the gastrointestinal tract. Also interacts with VCAM1 and fibronectin, an extracellular matrix component. It recognizes one or more domains within the alternatively spliced CS-1 region of fibronectin. Interactions involve the tripeptide L-D-T in MADCAM1, and L-D-V in fibronectin. Integrin ITGAE/ITGB7 (alpha-E/beta-7, HML-1) is a receptor for E-cadherin.

Storage

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

Notes

1 test = 5 microlitres

Supplementary info

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

Activity summary	Integrin beta 7 also known as beta-7 integrin beta 7 or β7 is a protein encoded by the ITGB7 gene. It forms a heterodimer most commonly with integrin alpha 4 (forming α4β7 integrin) or integrin alpha E (forming αEβ7 integrin). The molecular mass of integrin beta 7 is approximately 84 kDa. It is expressed in the intestinal mucosa particularly associated with immune cells such as T lymphocytes and dendritic cells. Integrin beta 7 plays an important role in cell adhesion and migration by binding to its ligands which are present on endothelial cells in the gut.

Biological function summary	Integrin beta 7 facilitates cell adhesion and signaling processes important for immune surveillance and inflammation regulation. As part of heterodimer complexes like α4β7 and αEβ7 integrins it mediates adhesion of lymphocytes to mucosal tissues. This interaction is necessary for directing lymphocytes to sites of inflammation in the intestinal tract. The α4β7 integrin particularly binds to the addressin MAdCAM-1 which is expressed on high endothelial venules in the gut-associated lymphoid tissues.
Pathways	Integrin beta 7 is involved in both integrin-mediated signaling and leukocyte extravasation pathways. These pathways regulate the localization and migration of immune cells to target tissues which is essential for efficient immune responses. The protein works together with integrin alpha 4 and alpha E components to facilitate these processes. Integrin signaling activates various intracellular cascades including those involving kinases that modulate cell adhesion and migration.
Associated diseases and disorders	Integrin beta 7 has significant implications in inflammatory bowel disease (IBD) and other immune-mediated conditions like celiac disease. Elevated expression of integrin beta 7 particularly in the α4β7 complex associates with the overactive lymphocyte trafficking found in IBD. As a result therapies targeting this integrin like vedolizumab aim to modulate lymphocyte migration. The involvement of proteins such as MAdCAM-1 in this integrin's function links it to the pathophysiology of these diseases.

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

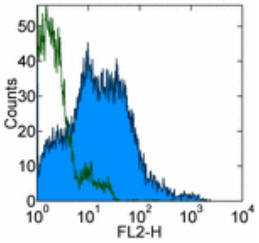
We do not recommend this combination. It is not covered by our product promise.

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1 product image



Flow Cytometry - PE Anti-Integrin beta 7 antibody [FIB504] (ab95817)

Integrin beta 7 Flow Cytometry staining using rat Anti-Integrin beta 7 antibody

Staining of normal Human peripheral blood cells with Rat IgG2a - Isotype Control PE (open histogram) or ab95817 (filled histogram). Cells in the lymphocyte gate were used for analysis.

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