abcam

ab255954

Anti-Integrin beta 7 antibody [FIB504] - BSA and Azide free

Recombinant

Key facts

Isotype	IgG2a
Host species	Rat
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	FIB504
Purification technique	Ion exchange chromatography
Concentration	1.044 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Mouse
Dilution info	1.003 µg/mL

Notes	-

Species	Human
Dilution info	1.003 µg/mL
Notes	-

ICC/IF

Not recommended

Species	Mouse, Human
Dilution info	-
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) (Probable). Integrin ITGA4/ITGB7 interacts with the cell surface adhesion molecules MADCAM1 which is normally expressed by the vascular endothelium of the gastrointestinal tract (PubMed:10837471, PubMed:14608374). Also interacts with VCAM1 and fibronectin, an extracellular matrix component (Probable). It recognizes one or more domains within the alternatively spliced CS-1 region of fibronectin (Probable). Interactions involve the tripeptide L-D-T in MADCAM1, and L-D-V in fibronectin (Probable). Integrin ITGAE/ITGB7 (alpha-E/beta-7, HML-1) is a receptor for E-cadherin (PubMed:10837471). (Microbial infection) Binds to HIV-1 gp120, thereby allowing the virus to enter GALT, which is thought to be the major trigger of AIDS disease. Interaction would involve a tripeptide L-D-I in HIV-1 gp120.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab255954 is the carrier-free version of ab254538.

What are the advantages of a recombinant monoclonal antibody?

This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Want a custom formulation?

This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

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

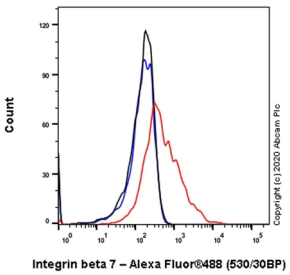
We do not recommend this combination. It is not covered by our product promise.

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.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

2 product images

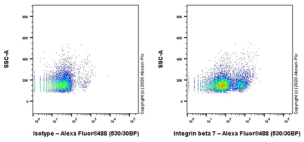


Flow Cytometry - Anti-Integrin beta 7 antibody [FIB504] - BSA and Azide free (ab255954)

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

Flow cytometric analysis of human peripheral blood mononuclear cells labeling Integrin beta 7 with ab254538 at 1.003 µg/mL (red) compared with a Rat IgG, monoclonal Isotype Control (black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat anti rat IgG (Alexa Fluor® 488, ab150157) at 1/2000 dilution was used as the secondary antibody.
Gated on viable cells.

This image was produced using the same antibody clone but in a different formulation ab254538, PBS, sodium azide, glycerol and BSA.



Flow Cytometry - Anti-Integrin beta 7 antibody [FIB504] - BSA and Azide free (ab255954)

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

Flow Cytometry analysis of mouse splenocytes labeling Integrin beta 7 with rat IgG isotype control (Left panel) or ab254538 (Right panel, 1.003 µg/mL). The secondary used is Goat anti rat IgG (Alexa Fluor® 488, ab150157) at a 1/2000 dilution. Cells were then stained with anti-CD3 conjugated to Alexa Fluor® 647.
Gated on viable T cells.
This image was produced using the same antibody clone but in a different formulation ab254538, PBS, sodium azide, glycerol and BSA.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.