abcam

ab27406

Anti-CD151 antibody [B-E31] - BSA and Azide free

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.3 - 7.5 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing CD151 protein. The exact immunogen used to generate this antibody is proprietary information. Database link P48509
Carrier free	Yes
Clone number	B-E31
Purification technique	Ion exchange chromatography
Specificity	Recognises the antigen PETA-3, a 32 kDa protein.
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	This antibody is sterile filtered through 0.22 µm and treated to remove endotoxins. It is carrier and preservative free.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

ICC/IF

Tested

Species	Human
Dilution info	10 µg/mL
Notes	-

Target data

See full target information CD151

Function

Structural component of specialized membrane microdomains known as tetraspanin-enriched microdomains (TERMs), which act as platforms for receptor clustering and signaling. Plays a role in various cellular and molecular mechanism through its association with both integrin and non-integrin proteins. These interactions facilitate critical cellular functions, including cell-to-cell communication, wound healing, platelet aggregation, trafficking, cell motility, and angiogenesis (PubMed:17045834, PubMed:24723389, PubMed:31488507). Via interaction with JAM-A/F11R and integrin ITGA3:ITGB1, promotes the recruitment of signaling molecules such as RAC1, CDC42 and RhoGTPases to facilitate the polarization of epithelial cells and the reorganization of the actin cytoskeleton, which are critical steps in cell migration process (PubMed:22843693, PubMed:35067832). Regulates the glycosylation pattern of ITGA3:ITGB1 thereby modulating its activity (PubMed:18852263). Plays an essential role in the maintenance of central laminin-binding integrin ITGA6:ITGB4-containing adhesion complexes (PubMed:31488507). Essential for the proper assembly of the glomerular and tubular basement membranes in kidney (PubMed:15265795). Contributes to T-cell activation by modulating integrin signaling leading to activation of downstream targets PTK2 and MAPK1/MAPK3 (PubMed:24723389). (Microbial infection) Plays a role in human papillomavirus 16/HPV-16 endocytosis upon binding to cell surface receptor. (Microbial infection) Plays a role in human cytomegalovirus entry into host cell by contributing to entry receptor binding, membrane fusion, or release of the capsid.

Storage

Shipped at conditions	Blue Ice

Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

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

Activity summary	CD151 also known as PETA-3 or SFA-1 is a member of the tetraspanin family which are small membrane proteins with molecular mass of about 28 kDa. This protein is commonly expressed on various cells such as epithelial cells endothelial cells and platelets. CD151 is known to interact with integrins especially integrin α3β1 and α6β1 playing significant roles in cell adhesion and migration. It is mostly found in areas where cell-to-cell contact is vital for maintaining tissue integrity and cellular communication.
Biological function summary	CD151 engages in the stabilization of integrin complexes which facilitates signal transduction pathways that influence cellular behaviors like proliferation differentiation and survival. It does not function alone; CD151 is part of a tetraspanin-enriched microdomain (TEM) forming complexes that include proteins such as CD9 CD63 and other integrins. These complexes bring together structural and signaling molecules on the cell membrane creating platforms for efficient signal relay.
Pathways	CD151 plays a role in pathways involving cell adhesion and tissue repair. Notably it is involved in the integrin signaling pathway which is essential for cell-matrix interactions in tissues that require adhesion for repair or restructuring. CD151 interacts with proteins like PI3K and Akt within these pathways which are central to the signaling cascades regulating cellular responses to the extracellular environment.
Associated diseases and disorders	CD151 participation has been noted in cancer progression and metastasis. It links to the dysregulation observed in integrin functions such as those of integrin α3β1 which directly influences tumor cell invasion and metastasis in cancers like breast and prostate cancer. CD151 also exhibits connections with renal pathologies including Alport syndrome where the lack of functional basement membranes affects kidney function and it interacts with proteins like collagen IV in the disorder's progression.

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

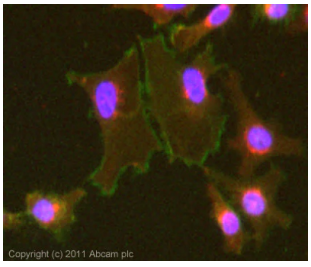
We do not recommend this combination. It is not covered by our product promise.

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.

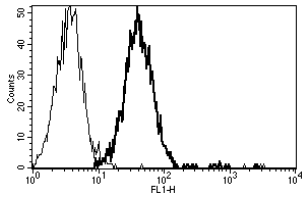
2 product images



Immunocytochemistry/ Immunofluorescence - Anti-CD151 antibody [B-E31] - BSA and Azide free (ab27406)

CD151 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-CD151 antibody

ICC/IF image of ab27406 stained HeLa cells. The cells were 4% formaldehyde (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab27406, 10µg/ml) overnight at +4°C. The secondary antibody (green) was for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.



Flow Cytometry - Anti-CD151 antibody [B-E31] - BSA and Azide free (ab27406)

CD151 Flow Cytometry staining using mouse Anti-CD151 antibody

A typical staining pattern with the ab27406 monoclonal antibody of Eahy 926 (hybridoma line derived from human endothelium and A549/8 cells) cell line.

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