abcam

ab272444

Anti-CD18 antibody [C71/16] - 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	C71/16
Purification technique	Ion exchange chromatography

Reactivity data

Flow Cyt

Tested

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information Itgb2

Function	Integrin ITGAL/ITGB2 is a receptor for ICAM1, ICAM2, ICAM3 and ICAM4. Integrin ITGAL/ITGB2 is also a receptor for the secreted form of ubiquitin-like protein ISG15; the interaction is mediated by ITGAL (By similarity). Integrins ITGAM/ITGB2 and ITGAX/ITGB2 are receptors for the iC3b fragment of the third complement component and for fibrinogen. Integrin ITGAX/ITGB2 recognizes the sequence G-P-R in fibrinogen alpha-chain. Integrin ITGAM/ITGB2 recognizes P1 and P2 peptides of fibrinogen gamma chain. Integrin ITGAM/ITGB2 is also a receptor for factor X. Integrin ITGAD/ITGB2 is a receptor for ICAM3 and VCAM1. Contributes to natural killer cell cytotoxicity (By similarity). Involved in leukocyte adhesion and transmigration of leukocytes including T-cells and neutrophils (By similarity). Triggers neutrophil transmigration during lung injury through PTK2B/PYK2-mediated activation (PubMed:18587400). Integrin ITGAL/ITGB2 in association with ICAM3, contributes to apoptotic neutrophil phagocytosis by macrophages (By similarity). In association with alpha subunit ITGAM/CD11b, required for CD177-PRTN3-mediated activation of TNF primed neutrophils (By similarity). Integrin ITGAM/ITGB2 plays a critical role in mast cell development and in immune complex-mediated glomerulonephritis. Mice expressing a null mutation of the ITGAM subunit gene demonstrate increase in neutrophil accumulation, in response to a impaired degranulation and phagocytosis, events that apparently accelerate apoptosis in neutrophils. These mice develop obesity. Integrins ITGAX:ITGB2 functions as a receptor of the erythrocyte-specific adhesion molecule ICAM4 and mediates erythrophagocytosis. Integrins ITGAX:ITGB2 functions as a receptor of the neuron-specific adhesion molecule ICAM5 ensuring neuron cell-leukocyte adhesion. Integrin ITGAL:ITGB2 functions as a receptor of ICAM1 by acting as a platform at the immunological synapse to translate TCR engagement and density of the ITGAL ligand ICAM1 into graded adhesion. Integrin ITGAM:ITGB2/MAC-1 complex functions as a signaling receptor for the ligand receptor ICAM1, ensuring adhesion between stimulated neutrophils and stimulated endothelial cells. Integrin ITGAL/ITGB2 that functions as a signaling receptor of ICAM2, ensuring leukocyte cell-cell adhesion on resting cells (By similarity).

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

ab272444 is the carrier-free version of ab19580.

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	CD18 also known as ITGB2 is a protein with a molecular weight of approximately 95 kDa. It is part of the beta-2 integrin family and partners with different alpha subunits to form heterodimers. CD18 is primarily expressed on leukocytes including neutrophils monocytes macrophages and lymphocytes. As a surface marker CD18 plays a significant role in immune cell adhesion and migration enabling cells to respond to inflammation signals effectively.
Biological function summary	The CD18 protein functions in conjunction with associated alpha subunit partners forming a part of the wider integrin family complex. ItgB2 as it is sometimes referred to is essential for cell adhesion processes. These heterodimers facilitate binding between leukocytes and various ligands on endothelial cells which subsequently controls leukocyte transmigration through vascular walls. CD18's activities are critical in immune system responses making it a prominent focus in immunological research.
Pathways	The role of CD18 extends into inflammatory and immune response signaling pathways. It contributes critically to the leukocyte adhesion cascade. This cascade engagement involves interaction with other proteins such as ICAM-1 on endothelial surfaces. CD18 through its association in integrin-mediated signaling influences processes like phagocytosis and lymphocyte activation giving it a central place in cellular immunity.

Associated diseases and disorders	Deficiencies or mutations affecting CD18 function correlate with disorders such as Leukocyte Adhesion Deficiency type I (LAD-I). This condition results from impaired leukocyte function due to defective integrin expression. The role of CD18 in arthritis is also significant primarily by mediating leukocyte infiltration into inflamed tissues. Its interaction with proteins like ICAM-1 becomes exceptionally relevant in these disease dynamics indicating potential therapeutic targets for modulating immune responses.

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

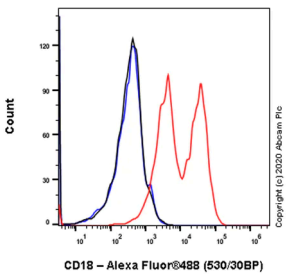
We do not recommend this combination. It is not covered by our product promise.

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.

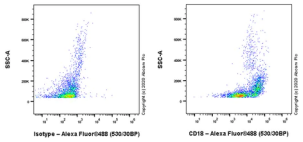
2 product images



Flow Cytometry - Anti-CD18 antibody [C71/16] - BSA and Azide free (ab272444)

CD18 Flow Cytometry staining using rat Anti-CD18 antibody

Flow cytometric analysis of mouse peripheral blood mononuclear cell (PBMC) cells labelling CD18 with ab19580 at 1/1000 dilution (1.003µg/ml) (Red) compared with a rat monoclonal IgG (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat F(ab)2 Anti-rat IgG Fc (Alexa Fluor® 488, ab150161) at 1/2000 dilution was used as the secondary antibody. Gated on viable cells.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab19580).



Flow Cytometry - Anti-CD18 antibody [C71/16] - BSA and Azide free (ab272444)

CD18 Flow Cytometry staining using rat Anti-CD18 antibody

Flow cytometric analysis of mouse peripheral blood mononuclear cell (PBMC) cells labelling CD18 with ab19580 at 1/1000 dilution (1.003µg/ml) (Right panel) compared with a rat monoclonal IgG isotype control (Left panel). Goat F(ab)2 Anti-rat IgG Fc (Alexa Fluor® 488, ab150161) at 1/2000 dilution was used as the secondary antibody. Gated on viable cells.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab19580).

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