abcam

ab270664

Alexa Fluor® 700 Anti-CD18 antibody [MEM-48]

Anti-CD18 antibody [MEM-48] conjugated to Alexa Fluor® 700 - suitable for flow cytometry, and reacts with human samples. Clone [MEM-48] is a mouse monoclonal antibody.

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Key facts

Isotype	IgG1
Host species	Mouse
Conjugation	Alexa Fluor® 700
Excitation/Emission	Ex: 702nm, Em: 723nm
Storage buffer	pH: 7.4 Preservative: 0.1% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing ITGB2 protein. The exact immunogen used to generate this antibody is proprietary information. Database link P05107
Clone number	MEM-48
Purification technique	Size-exclusion chromatography

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	4 µL for 10^6 Cells

Notes	The reagent is designed for analysis of human blood cells using 4 µl reagent / 100 µl of whole blood or 10^6 cells in suspension.

Not recommended

Species	Dog
Dilution info	-
Notes	The reagent is designed for analysis of human blood cells using 4 µl reagent / 100 µl of whole blood or 10^6 cells in suspension.

Target data

See full target information ITGB2

Function

Integrin ITGAL:ITGB2 is a receptor for ICAM1, ICAM2 and ICAM3 (PubMed:1676048, PubMed:23775590, PubMed:38195629). Integrin ITGAL:ITGB2 is also a receptor for the secreted form of ubiquitin-like protein ISG15; the interaction is mediated by ITGAL (PubMed:29100055). 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 (PubMed:10438935, PubMed:8777714, PubMed:9841932). Contributes to natural killer cell cytotoxicity (PubMed:15356110). Involved in leukocyte adhesion and transmigration of leukocytes including T-cells and neutrophils (PubMed:11812992, PubMed:28807980). 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 (PubMed:23775590). In association with alpha subunit ITGAM/CD11b, required for CD177-PRTN3-mediated activation of TNF primed neutrophils (PubMed:21193407). Integrins ITGAX:ITGB2 functions as a receptor of the erythrocyte-specific adhesion molecule ICAM4 and mediates erythrophagocytosis (PubMed:16985175). Integrins ITGAX:ITGB2 functions as a receptor of the neuron-specific adhesion molecule ICAM5 ensuring neuron cell-leukocyte adhesion (PubMed:10741396). 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 (PubMed:38195629). 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 (PubMed:1980124). Integrin ITGAL/ITGB2 that functions as a signaling receptor of ICAM2, ensuring leukocyte cell-cell adhesion on resting cells (PubMed:1676048).

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
Storage information	Store in the dark

Notes

Alexa Fluor® is a registered trademark of Molecular Probes, Inc, a Thermo Fisher Scientific Company. The Alexa Fluor® dye included in this product is provided under an intellectual property license from Life Technologies Corporation. As this product contains the Alexa Fluor® dye, the purchase of this product conveys to the buyer the non-transferable right to use the purchased product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). As this product contains the Alexa Fluor® dye the sale of this product is expressly conditioned on the buyer not using the product or its components, or any materials made using the product or its components, in any activity to generate revenue, which may include, but is not limited to use of the product or its components: in manufacturing; (ii) to provide a service, information, or data in return for payment (iii) for therapeutic, diagnostic or prophylactic purposes; or (iv) for resale, regardless of whether they are sold for use in research. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, 5781 Van Allen Way, Carlsbad, CA 92008 USA or outlicensing@thermofisher.com.

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

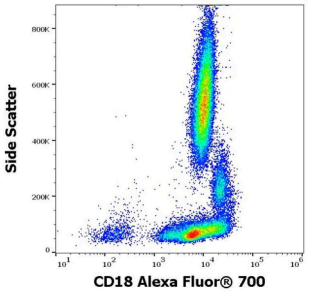
We do not recommend this combination. It is not covered by our product promise.

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

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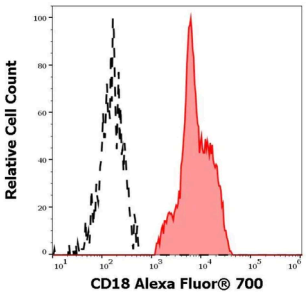
2 product images



Flow Cytometry - Alexa Fluor® 700 Anti-CD18 antibody [MEM-48] (ab270664)

CD18 Flow Cytometry staining using mouse Anti-CD18 antibody

Flow cytometry analysis of human peripheral whole blood monocelular cells labeling CD18 using ab270664 at 4 µl reagent in 100 µl of peripheral whole blood.



Flow Cytometry - Alexa Fluor® 700 Anti-CD18 antibody [MEM-48] (ab270664)

CD18 Flow Cytometry staining using mouse Anti-CD18 antibody

Flow cytometry analysis of human peripheral whole blood monocelular cells labeling CD-18 lymphocytes using ab270664 (Red) at 4 µl reagent in 100 µl of peripheral whole blood. Control: CD-18 negative blood debris (Black).

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