abcam

ab64604

# PE Anti-CD18 antibody [MEM-148]

Anti-CD18 antibody [MEM-148] conjugated to PE - suitable for flow cytometry, and reacts with human samples. Clone [MEM-148] is a mouse monoclonal antibody cited in 4 publications.

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## Key facts

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| **Isotype** | IgG1 |
| **Host species** | Mouse |
| **Conjugation** | PE |
| **Excitation/Emission** | Ex: 480;565nm, Em: 578nm |
| **Storage buffer** | pH: 7.4 Preservative: 0.097% Sodium azide Constituents: PBS, 0.2% BSA |
| **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-148 |
| **Purification technique** | Size-exclusion chromatography |
| **Specificity** | This antibody recognizes the epitope exposed on free human CD18 chains unassociated with CD11 as well as on high-affinity state of LFA-1. We have data to indicate that this antibody may not cross react with Pig. However, this has not been conclusively tested and expression levels may vary in certain cell lines/tissues. |

## Reactivity data

## Flow Cyt

**Tested**

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| **Species** | Human |
| **Dilution info** | 20 µL for $10^6$ Cells |
| **Notes** | ab91357 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.<br>Use 20 µl reagent / 100 µl of whole blood or 10^6 cells in a suspension. |

## Target data

See full target information ITGB2

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| **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

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

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| **Appropriate long-term storage conditions** | +4°C |

## Supplementary info

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

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| **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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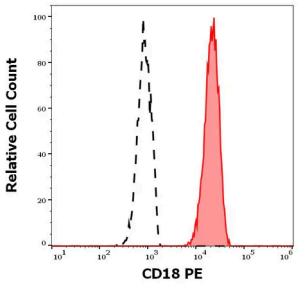
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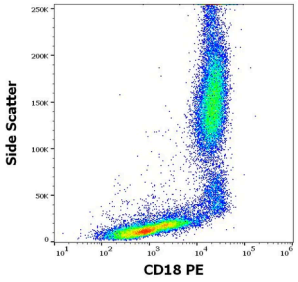
## 2 product images




### Flow Cytometry - PE Anti-CD18 antibody [MEM-148] (ab64604)

CD18 Flow Cytometry staining of Human peripheral blood using mouse Anti-CD18 antibody

Separation of human neutrophil granulocytes (red-filled) from CD18 negative lymphocytes (black-dashed) in flow cytometry analysis (surface staining) of human peripheral whole blood stained using ab64604 (concentration in sample 5 µg/ml).




### Flow Cytometry - PE Anti-CD18 antibody [MEM-148] (ab64604)

CD18 Flow Cytometry staining of Human peripheral blood using mouse Anti-CD18 antibody

Flow cytometry surface staining pattern of human peripheral whole blood stained using ab64604 (concentration in sample 5 µg/ml).

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