abcam

ab317715

Alexa Fluor® 647 Anti-CD48 antibody [EPR26531-77]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 647
Excitation/Emission	Ex: 650nm, Em: 665nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR26531-77
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/5000
Notes	-

ICC/IF

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information CD48

Function

Glycosylphosphatidylinositol (GPI)-anchored cell surface glycoprotein that interacts via its N-terminal immunoglobulin domain with cell surface receptors including CD244/2B4 or CD2 to regulate immune cell function and activation (PubMed:12007789, PubMed:19494291, PubMed:27249817, PubMed:9841922). Participates in T-cell signaling transduction by associating with CD2 and efficiently bringing the Src family protein kinase LCK and LAT to the TCR/CD3 complex (PubMed:19494291). In turn, promotes LCK phosphorylation and subsequent activation (PubMed:12007789). Induces the phosphorylation of the cytoplasmic immunoreceptortyrosine switch motifs (ITSMs) of CD244 initiating a series of signaling events that leads to the generation of the immunological synapse and the directed release of cytolytic granules containing perforin and granzymes by T-lymphocytes and NK-cells (PubMed:27249817).

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	-20°C
Aliquoting information	Upon delivery aliquot

Storage information	Avoid freeze / thaw cycle, Store in the dark

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

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.

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	CD48 also known as SLAMF2 or B-lymphocyte activation marker BLAST-1 is a glycosylphosphatidylinositol (GPI)-anchored protein with a molecular mass approximately 45-70 kDa depending on glycosylation. It is expressed on the surface of various immune cells like T cells B cells and natural killer (NK) cells. CD48 does not possess an intracellular signaling domain but engages in extracellular interactions with other proteins affecting immune cell activities.
Biological function summary	CD48 serves as a co-stimulatory molecule involved in immune response modulation. It interacts with 2B4 (CD244) a member of the signaling lymphocyte activation molecule (SLAM) family to form a receptor-ligand complex. This interaction can result in enhanced T cell and NK cell responses. CD48's presence on activated hematopoietic and non-hematopoietic cells highlights its role in cell-to-cell communication.

Pathways	CD48 participates in SLAM family receptor signaling and natural killer cell-mediated cytotoxicity. In the SLAM pathway CD48 enhances communication and regulation between T cells and NK cells. This communication also relates to the roles of CD244 linking it to downstream signaling pathways that influence immune cell function. These pathways illustrate the critical network CD48 is part of which impacts various immune responses.
Associated diseases and disorders	CD48 is involved in autoimmune conditions like rheumatoid arthritis and immunological cancers such as lymphoma. In rheumatoid arthritis CD48 along with CD244 modulates immune responses which can exacerbate inflammation. In lymphoma abnormal CD48 expression can contribute to tumor progression and immune evasion indicating its potential as a therapeutic target.

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

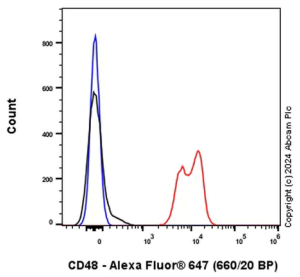
We do not recommend this combination. It is not covered by our product promise.

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.

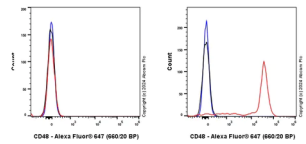
2 product images



Flow Cytometry - Alexa Fluor® 647 Anti-CD48 antibody [EPR26531-77] (ab317715)

Flow cytometric analysis of Human peripheral blood mononuclear cell (PBMC) cells labelling CD48 with ab317715 at 1/5000 dilution (0.01ug) (Red) compared with a Rabbit IgG monoclonal [EPR25A] - Isotype Control (Alexa Fluor® 647) (ab199093) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Gated on viable cells.



Flow Cytometry - Alexa Fluor® 647 Anti-CD48 antibody [EPR26531-77] (ab317715)

Flow cytometric analysis of HeLa (human cervix adenocarcinoma epithelial cell, Left) / Raji (human Burkitt's lymphoma B lymphocyte, Right) cells labelling CD48 with ab317715 at 1/5000 dilution (0.01ug) (Red) compared with a Rabbit IgG monoclonal [EPR25A] - Isotype Control (Alexa Fluor® 647) (ab199093) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Gated on viable cells.Negative control: HeLa (PMID: 9041467).

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