abcam

ab302709

Anti-CD48 antibody [EPR26531-77] (BSA and Azide free)

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
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	EPR26531-77
Purification technique	Affinity purification Protein A
Concentration	1.019 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-

Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Rat, Mouse, Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Rat, Mouse
Dilution info	-
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 conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

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.

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.

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

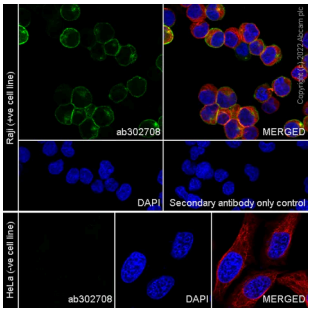
We do not recommend this combination. It is not covered by our product promise.

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.

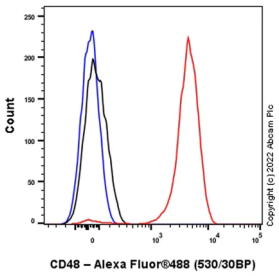
5 product images



Immunocytochemistry/ Immunofluorescence - Anti-CD48 antibody [EPR26531-77] (BSA and Azide free) (ab302709)

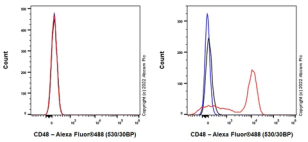
CD48 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CD48 antibody

This data was developed using ab302708, the same antibody clone in a different buffer formulation. Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Raji (human Burkitt's lymphoma B lymphocyte) cells labelling CD48 with ab302708 at 1/100 (5.17 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green). Confocal image showing membranous and cytoplasmic staining in Raji cell lineNegative control: HeLa (PMID: 9041467) is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



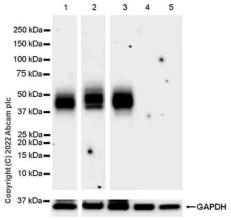
Flow Cytometry (Intracellular) - Anti-CD48 antibody [EPR26531-77] (BSA and Azide free) (ab302709)

This data was developed using ab302708, the same antibody clone in a different buffer formulation. Flow cytometric analysis of Human peripheral blood mononuclear cell (PBMC) cells labelling CD48 with ab302708 at 1/500 dilution (0.1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody. Gated on viable cells.



Flow Cytometry (Intracellular) - Anti-CD48 antibody [EPR26531-77] (BSA and Azide free) (ab302709)

This data was developed using ab302708, the same antibody clone in a different buffer formulation. Flow cytometric analysis of HeLa (human cervix adenocarcinoma epithelial cell, Left) / Raji (human Burkitt's lymphoma B lymphocyte, Right) cells labelling CD48 with ab302708 at 1/500 dilution (0.1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody. Gated on viable cells.Negative control: HeLa (PMID: 9041467).



Western blot - Anti-CD48 antibody [EPR26531-77] (BSA and Azide free) (ab302709)

This data was developed using ab302708, the same antibody clone in a different buffer Blocking and diluting buffer and concentration: 5% NFDM/TBST The molecular weight observed is consistent with what has been described in the literature (PMID: 24626474). Negative controls: K-562, HeLa (PMID: 26878112, 9041467) Samples are non-boiled as boiling may cause protein aggregates. Exposure time: Lane 2: 70 seconds Lane 1, 3-5: 26 seconds
All lanes:
Western blot - Anti-CD48 antibody [EPR26531-77] (ab302708) at 1/1000 dilution

Lane 1:
Ramos (human Burkitts lymphoma B lymphocyte), whole cell lysate 20 µg

Lane 2:
Daudi (human Burkitts lymphoma lymphoblast), whole cell lysate 20 µg

Lane 3:
Raji (human Burkitts lymphoma B lymphocyte), whole cell lysate 20 µg

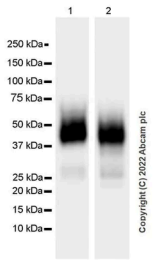
Lane 4:
K-562 (human chronic myelogenous leukemia lymphoblast), whole cell lysate 20 µg

Lane 5:
HeLa (human cervical adenocarcinoma epithelial cell), whole cell lysate 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 45 kDa



Western blot - Anti-CD48 antibody [EPR26531-77] (BSA and Azide free) (ab302709)

This data was developed using ab302708, the same antibody clone in a different buffer Blocking and diluting buffer and concentration: 5% NFDM/TBST Samples are non-boiled as boiling may cause protein aggregates. Exposure time: 10 seconds
All lanes:
Western blot - Anti-CD48 antibody [EPR26531-77] (ab302708) at 1/1000 dilution

Lane 1:
Human lymph node tissue lysate 20 µg

Lane 2:
Human tonsil tissue lysate 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 45 kDa

Exposure time: 10s

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