abcam

ab275398

Anti-CD58 antibody [EPR24012-147] - BSA and Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR24012-147
Purification technique	Affinity purification Protein A
Concentration	0.982 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-

Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information CD58

Function Ligand of the T-lymphocyte CD2 glycoprotein. This interaction is important in mediating thymocyte interactions with thymic epithelial cells, antigen-independent and -dependent interactions of T-lymphocytes with target cells and antigen-presenting cells and the T-lymphocyte rosetting with erythrocytes. In addition, the LFA-3/CD2 interaction may prime response by both the CD2+ and LFA-3+ cells.

Storage

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

Notes

ab275398 is the carrier-free version of ab275392.

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.

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	CD58 also known as lymphocyte function-associated antigen 3 (LFA-3) is a glycoprotein with a molecular mass of approximately 60 kDa. It is present on the surface of various cell types including antigen-presenting cells epithelial cells and some other leukocytes. This protein serves as a ligand for CD2 which is expressed on T cells and natural killer cells. Through its interaction with CD2 CD58 mediates cell adhesion and plays a role in immunological synapse formation which is essential for effective immune responses.
Biological function summary	Lymphocyte function-associated antigen 3 acts as a significant participant in the immune system. It plays a role in T cell activation and facilitates interactions between T cells and antigen-presenting cells. CD58 forms part of a complex network of cell surface proteins that enhances immune surveillance and response. Its role highlights its importance in adaptive immunity by promoting cell-to-cell communication and activation.
Pathways	CD58 participates in the cell adhesion pathways. It interacts closely with CD2 which is involved in the activation and signaling of T cells. Through this interaction CD58 plays roles in pathways like T cell receptor signaling and immune response. It enhances cell-cell adhesion helping T cells maintain their position during immune surveillance and activation.
Associated diseases and disorders	CD58 relates to conditions such as autoimmune diseases and certain cancers. In autoimmune disorders aberrant expression or function of CD58 may contribute to inappropriate immune activation leading to tissue damage. In cancer CD58 alterations can affect tumor immune evasion influencing how the immune system recognizes and attacks cancer cells. In multiple sclerosis an autoimmune disease

the interaction between CD58 and CD2 has been studied providing insights into its role in disease mechanisms.

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

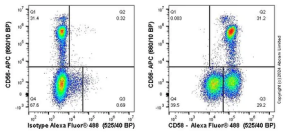
We do not recommend this combination. It is not covered by our product promise.

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.

9 product images



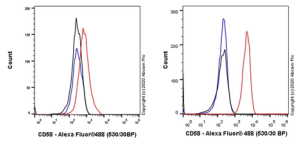
Flow Cytometry - Anti-CD58 antibody [EPR24012-147] - BSA and Azide free (ab275398)

CD58 Flow Cytometry staining of Human peripheral blood mononuclear cells using rabbit Anti-CD58 antibody

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab275392).
Flow cytometry staining of human peripheral blood mononuclear cells (PBMCs) with ab275392 (right) or Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control (left). PBMCs were incubated for 30 min on ice in 1x PBS containing 10 µg/ml human IgG and 10 % normal goat serum to block FC receptors and non-specific protein-protein interaction followed by the antibody ab275392 or Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control (1x 10^6 in 100 µl at 1 µg/ml (1/2,300)) for 30min on ice. The cells were simultaneously stained with CD56.

The secondary antibody Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/4000 for 30min on ice

Acquisition of >30000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter. Events were gated on live cells.



Flow Cytometry - Anti-CD58 antibody [EPR24012-147] - BSA and Azide free (ab275398)

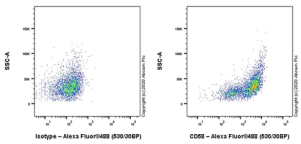
CD58 Flow Cytometry staining using rabbit Anti-CD58 antibody

This data was developed using ab275392, the same antibody clone in a different buffer formulation.
Flow cytometric analysis of A-204 (Human muscle rhabdomyosarcoma, Left) / Jurkat (Human T cell leukemia T lymphocyte, Right) cells labelling CD58 with ab275392 at 1/500 dilution (0.1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) isotype control (Black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.

Low expression control: A-204.

Gated on viable cells.



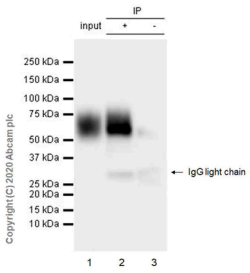
Flow Cytometry - Anti-CD58 antibody [EPR24012-147] - BSA and Azide free (ab275398)

CD58 Flow Cytometry staining using rabbit Anti-CD58 antibody

This data was developed using ab275392, the same antibody clone in a different buffer formulation.
Flow cytometric analysis of Human peripheral blood mononuclear cell (PBMC) cells labelling CD58 with ab275392 at 1/500 dilution (0.1ug) (Right) compared with a Rabbit monoclonal IgG (ab172730) isotype control (Left).

Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.

Gated on viable cells.



Immunoprecipitation - Anti-CD58 antibody [EPR24012-147] - BSA and Azide free (ab275398)

This data was developed using ab275392, the same antibody clone in a different buffer formulation.
CD58 was immunoprecipitated from 0.35 mg Raji (human Burkitt's lymphoma B lymphocyte) whole cell lysate with ab275392 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab275392 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP)(ab131366) was used at 1/5000 dilution.

Lane 1: Raji (human Burkitt's lymphoma B lymphocyte) whole cell lysate 10 ug

Lane 2: 275392 IP in Raji whole cell lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab275392 in Raji whole cell lysate

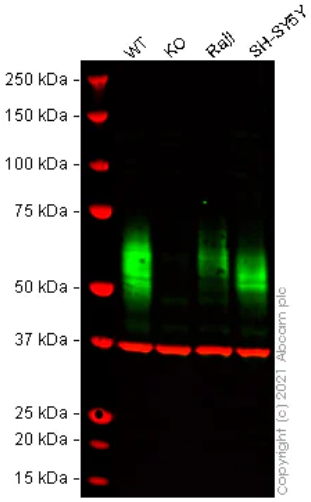
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 15 seconds.

This blot was developed using a higher sensitivity ECL substrate.
All lanes:
Immunoprecipitation - Anti-CD58 antibody [EPR24012-147] (ab275392)

Predicted band size: 28 kDa

Observed band size: 55-70 kDa



Western blot - Anti-CD58 antibody [EPR24012-147] - BSA and Azide free (ab275398)

CD58 Western blot staining using rabbit Anti-CD58 antibody

This data was developed using ab275392, the same antibody clone in a different buffer formulation.
False colour image of Western blot: Anti-CD58 antibody [EPR24012-147] staining at 1/1000 dilution, shown in green; Mouse anti-GAPDH antibody [6C5] (ab8245) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab275392 was shown to bind specifically to CD58. A band was observed at 55 kDa in wild-type HeLa cell lysates with no signal observed at this size in CD58 knockout cell line ab265947 (knockout cell lysate ab257880). To generate this image, wild-type and CD58 knockout HeLa cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3 % milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged.Secondary antibodies used were Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) at 1/20000 dilution.

All lanes:
Western blot - Anti-CD58 antibody [EPR24012-147] (ab275392) at 1/1000 dilution

Lane 1:
Wild-type HeLa cell lysate at 20 µg

Lane 2:
CD58 knockout HeLa cell lysate at 20 µg

Lane 2:
Western blot - Human CD58 knockout HeLa cell lysate (ab257880)

Lane 2:
Western blot - Human CD58 knockout HeLa cell line (ab265947)

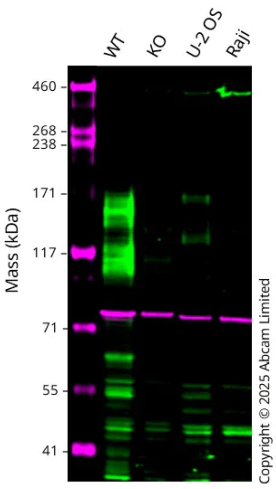
Lane 3:
Raji cell lysate at 20 µg

Lane 4:
SH-SY5Y cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 28 kDa

Observed band size: 55 kDa



Western blot - Anti-CD58 antibody [EPR24012-147] - BSA and Azide free (ab275398)

CD58 Western blot staining using rabbit Anti-CD58 antibody

This data was developed using ab255607, the same antibody clone in a different buffer formulation.

Western blot: Anti-ErbB3 / HER3 antibody [EPR22669-25] ab255607 staining at 1/1000 dilution, shown in green; Mouse anti-CANX (ab238078) loading control staining at 1/20,000 dilution, shown in magenta. A band was observed at 90-175 kDa in Wild-type MCF7 UNBOILED cell lysates with no signal observed at this size in ERBB3 knockout MCF7 UNBOILED cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 5pc BSA in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-ErbB3 / HER3 antibody [EPR22669-25] (ab255607) at 1/1000 dilution

Lane 1:
Wild-type MCF7 UNBOILED at 20 µg

Lane 2:
Western blot - Human ERBB3 knockout MCF7 cell line (ab286320) at 20 µg

Lane 3:
U-2 OS UNBOILED at 20 µg

Lane 4:
Raji UNBOILED at 20 µg

Secondary

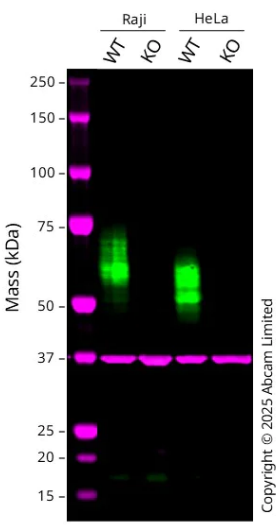
Lanes 1 - 4:
Goat anti-Rabbit 800CW at 1/20000 dilution

Lanes 1 - 4:
Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 148 kDa, 185 kDa

Observed band size: 90-175 kDa, 76 kDa



Western blot - Anti-CD58 antibody [EPR24012-147] - BSA and Azide free (ab275398)

CD58 Western blot staining using rabbit Anti-CD58 antibody

This data was developed using ab275392, the same antibody clone in a different buffer formulation.

Western blot: Anti-CD58 antibody [EPR24012-147] ab275392 staining at 1/1000 dilution, shown in green; Mouse anti GAPDH (ab8245) loading control staining at 1/20,000 dilution, shown in magenta. A band was observed at 55-70 kDa in Wild-type Raji cell lysates with no signal observed at this size in CD58 knockout Raji cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3pc Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-CD58 antibody [EPR24012-147] (ab275392) at 1/1000 dilution

Lane 1:
Wild-type Raji at 20 µg

Lane 2:
Western blot - Human CD58 knockout Raji cell line (ab290422) at 20 µg

Lane 3:
Wild-type HeLa at 20 µg

Lane 4:
CD58 knockout HeLa cells at 20 µg

Secondary

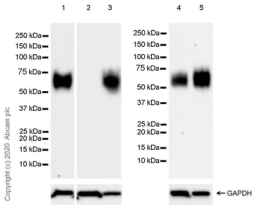
Lanes 1 - 4:
Goat anti-Rabbit 800CW at 1/20000 dilution

Lanes 1 - 4:
Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 28 kDa, 52-60 kDa

Observed band size: 55-70 kDa, 37 kDa



Western blot - Anti-CD58 antibody [EPR24012-147] - BSA and Azide free (ab275398)

CD58 Western blot staining using rabbit Anti-CD58 antibody

This data was developed using ab275392, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

The molecular weight observed is consistent with what has been described in the literature (PMID:26039213, 3309127, 19268704).

Low expression: A-204 (PMID: 26039213).

Exposure times: Lane 1: 37 seconds; Lanes 2-3: 15 seconds; Lanes 4-5: 70 seconds.
All lanes:
Western blot - Anti-CD58 antibody [EPR24012-147] (ab275392) at 1/1000 dilution

Lane 1:
Raji (human Burkitt's lymphoma B lymphocyte) whole cell lysate at 40 µg

Lane 2:
A-204 (human muscle rhabdomyosarcoma) whole cell lysate at 40 µg

Lane 3:
K-562 (human chronic myelogenous leukemia lymphoblast) whole cell lysate at 40 µg

Lane 4:
Jurkat (human t cell leukemia t lymphocyte) whole cell lysate at 20 µg

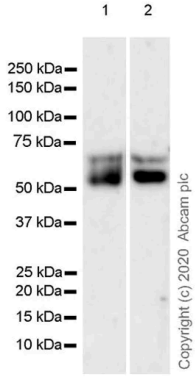
Lane 5:
TT (human thyroid carcinoma epithelial cell) whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/50000 dilution

Predicted band size: 28 kDa

Observed band size: 55-70 kDa



Western blot - Anti-CD58 antibody [EPR24012-147] - BSA and Azide free (ab275398)

CD58 Western blot staining using rabbit Anti-CD58 antibody

This data was developed using ab275392, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

The molecular weight observed is consistent with what has been described in the literature (PMID:26039213, 3309127, 19268704).

Exposure time: 3 minutes.

All lanes:
Western blot - Anti-CD58 antibody [EPR24012-147] (ab275392) at 1/1000 dilution

Lane 1:
Human kidney tissue lysate at 20 µg

Lane 2:
Human placenta tissue lysate at 20 µg

Secondary

All lanes:
VeriBlot for IP secondary antibody(HRP)(ab131366) at 1/1000 dilution

Predicted band size: 28 kDa

Observed band size: 55-70 kDa

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