abcam

ab109215

Anti-CD166 antibody [EPR2759(2)]

Anti-CD166 antibody [EPR2759(2)] (ab109215) is a rabbit monoclonal antibody detecting CD166 in **Western Blot, Flow Cytometry, IP, IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency
- Over 20 publications

Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR2759(2)
Purification technique	Affinity purification Protein A
Concentration	0.466 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/50
Notes	**For unpurified use at 1/100 - 1/250.** Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	**For unpurified use at 1/10 - 1/100.**

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1/90
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/10000 - 1/20000
Notes	**For unpurified use at 1/1000 - 1/10000.**

Species	Human
Dilution info	1/10000 - 1/20000
Notes	**For unpurified use at 1/1000 - 1/10000.**

Species	Rat
Dilution info	1/10000 - 1/20000
Notes	**For unpurified use at 1/1000 - 1/10000.**

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/250
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information ALCAM

Function	Cell adhesion molecule that mediates both heterotypic cell-cell contacts via its interaction with CD6, as well as homotypic cell-cell contacts (PubMed:15048703, PubMed:15496415, PubMed:16352806, PubMed:23169771, PubMed:24945728, PubMed:7760007). Promotes T-cell activation and proliferation via its interactions with CD6 (PubMed:15048703, PubMed:16352806, PubMed:24945728). Contributes to the formation and maturation of the immunological synapse via its interactions with CD6 (PubMed:15294938, PubMed:16352806). Mediates homotypic interactions with cells that express ALCAM (PubMed:15496415, PubMed:16352806). Acts as a ligand for the LILRB4 receptor, enhancing LILRB4-mediated inhibition of T cell proliferation (PubMed:29263213). Required for normal hematopoietic stem cell engraftment in the bone marrow (PubMed:24740813). Mediates attachment of dendritic cells onto endothelial cells via homotypic interaction (PubMed:23169771). Inhibits endothelial cell migration and promotes endothelial tube formation via homotypic interactions (PubMed:15496415, PubMed:23169771). Required for normal organization of the lymph vessel network. Required for normal hematopoietic stem cell engraftment in the bone marrow. Plays a role in hematopoiesis; required for normal numbers of hematopoietic stem cells in bone marrow. Promotes in vitro osteoblast proliferation and differentiation (By similarity). Promotes neurite extension, axon growth and axon guidance; axons grow preferentially on surfaces that contain ALCAM. Mediates outgrowth and pathfinding for retinal ganglion cell axons (By similarity). Isoform 3. Inhibits activities of membrane-bound isoforms by competing for the same interaction partners. Inhibits cell attachment via homotypic interactions. Promotes endothelial cell migration. Inhibits endothelial cell tube formation.

Storage

Shipped at conditions	Conditional Ambient
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	Stable for 12 months at -20°C

Notes

What is this antibody validated in?

Anti-CD166 antibody [EPR2759(2)] (ab109215) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunoprecipitation (IP), Immunohistochemistry (IHC-P),

Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of CD166?
Anti-CD166 [EPR2759(2)] (ab109215) specifically detects a band for CD166 (UniProt: Q13740) at a molecular weight of 65kDa.

Trusted by the scientific community
Anti-CD166 [EPR2759(2)] (ab109215) was first used in a scientific publication in 2012 and has been cited over 20 times in peer-reviewed journals.

Specificity confirmed
The specificity of Anti-CD166 antibody [EPR2759(2)] (ab109215) has been confirmed by Western blot testing in ALCAM Knockout HAP1 cells.

Other related products
We have a range of other formats of antibody clone [EPR2759(2)] also available for your convenience: ab109215, HRP - ab196846, Alexa Fluor® 488 - ab197543, Carrier free - ab206127, PE - ab219139, APC - ab310812, Alexa Fluor® 647 - ab311107, Alexa Fluor® 594 - ab311726, Alexa Fluor® 568 - ab313003, Alexa Fluor® 555 - ab313207, Alexa Fluor® 750 - ab320934

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

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

Activity summary	CD166 also known as ALCAM (activated leukocyte cell adhesion molecule) is a cell surface glycoprotein with a mass of approximately 105 kDa. This protein is widely expressed on various cell types including activated T-cells keratinocytes neurons and endothelial cells. In the immune system CD166 has roles in T-cell activation and migration. It contains five extracellular immunoglobulin-like domains which facilitate cell-cell interactions. Researchers often regard ALCAM-Z as an alternative form sharing structural elements with CD166 protein.

Biological function summary	CD166 mediates cell-cell adhesion and plays roles in neuronal development. It participates in the formation of synaptic junctions and affects neuronal differentiation. CD166 is also a component of cell signaling complexes influencing cell proliferation and migration. In addition it controls interactions between T-cells and dendritic cells impacting immune response. Its interactions with other adhesion molecules contribute to cellular communication and tissue integrity.
Pathways	CD166 functions within signaling pathways related to cell adhesion and migration. It is involved in the Wnt signaling pathway and its interactions regulate cell polarity and morphogenesis. CD166 interacts closely with proteins such as CD6 and Catenins impacting cellular signaling and the organization of the cytoskeleton. These pathways affect processes like embryonic development and immune cell function.
Associated diseases and disorders	CD166 has implications in cancer and autoimmune diseases. Its dysregulation links to cancer metastasis where altered expression facilitates tumor invasion and spread. CD166 also relates to autoimmune diseases through its role in T-cell activation potentially contributing to conditions like multiple sclerosis. The interaction between CD166 and CD6 influences immune cell activation and may offer therapeutic targets for modulating immune responses in these disorders.

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

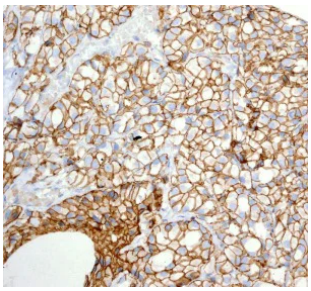
We do not recommend this combination. It is not covered by our product promise.

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.

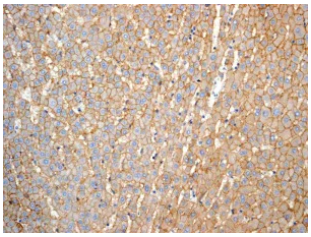
10 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD166 antibody [EPR2759(2)] (ab109215)

CD166 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD166 antibody

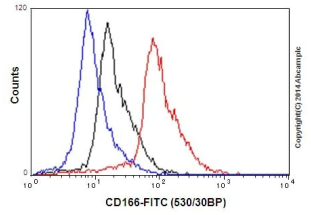
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human prostatic adenocarcinoma tissue labelling CD166 with unpurified ab109215 at 1/100.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD166 antibody [EPR2759(2)] (ab109215)

CD166 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD166 antibody

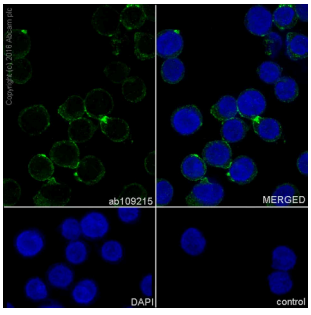
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human liver tissue labelling CD166 with unpurified ab109215 at 1/100.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Flow Cytometry - Anti-CD166 antibody [EPR2759(2)] (ab109215)

CD166 Flow Cytometry staining using rabbit Anti-CD166 antibody

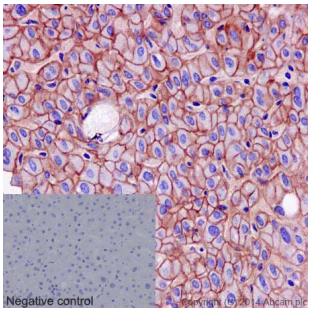
Flow Cytometry analysis of HuT-78 cells labelling CD166 with purified ab109215 at 1/90 (red). Cells were fixed with 2% paraformaldehyde. A FITC-conjugated goat anti-rabbit IgG (1/150) was used as the secondary antibody. Black - Isotype control, rabbit monoclonal IgG. Blue - Unlabelled control, cells without incubation with primary and secondary antibodies.



Immunocytochemistry/ Immunofluorescence - Anti-CD166 antibody [EPR2759(2)] (ab109215)

CD166 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CD166 antibody

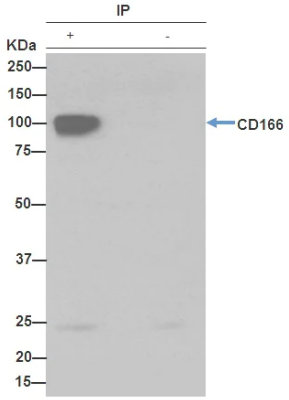
Immunocytochemistry/Immunofluorescence analysis of THP-1 (human monocytic leukemia cell line) cells labelling CD166 (green) with purified ab109215 at 1/250. Cells were fixed with 100% methanol. ab150077, Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000) was used as the secondary antibody. DAPI (blue) was used as a nuclear counterstain.
Secondary Only Control: PBS was used instead of the primary antibody as the negative control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD166 antibody [EPR2759(2)] (ab109215)

CD166 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD166 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human liver tissue labelling CD166 with purified ab109215 at 1/50. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. A prediluted HRP-polymer conjugated anti-rabbit IgG was used as the secondary antibody. Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.



Immunoprecipitation - Anti-CD166 antibody [EPR2759(2)] (ab109215)

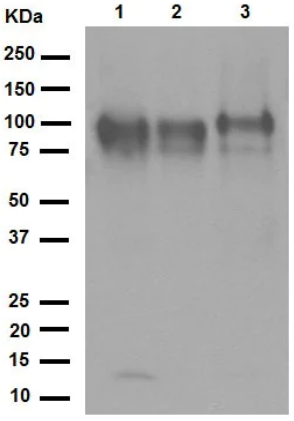
ab109215 (purified) at 1/30 immunoprecipitating CD166 in SH-SY5Y (human neuroblastoma cell line from bone marrow) cell lysate (Lane 1). Lane 2 - PBS. For western blotting, a HRP-conjugated anti-rabbit IgG, specific to the non-reduced form of IgG was used as the secondary antibody (1/1500).
Blocking buffer and concentration: 5% NFDM/TBST.

Diluting buffer and concentration: 5% NFDM /TBST.

All lanes:
Immunoprecipitation - Anti-CD166 antibody [EPR2759(2)] (ab109215)

Predicted band size: 65 kDa

Observed band size: 100-105 kDa



Western blot - Anti-CD166 antibody [EPR2759(2)] (ab109215)

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

All lanes:
Western blot - Anti-CD166 antibody [EPR2759(2)] (ab109215) at 1/10000 dilution

Lane 1:
SH-SY5Y (human neuroblastoma cell line from bone marrow) cell lysate at 20 µg

Lane 2:
HuT-78 cell lysate at 20 µg

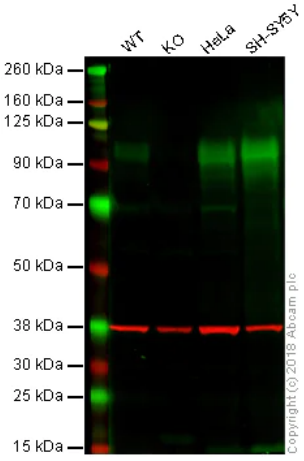
Lane 3:
HT-1080 (human fibrosarcoma cell line) cell lysate at 20 µg

Secondary

All lanes:
Peroxidase conjugated goat anti-rabbit IgG (H+L) at 1/1000 dilution

Predicted band size: 65 kDa

Observed band size: 100-105 kDa



Western blot - Anti-CD166 antibody [EPR2759(2)] (ab109215)

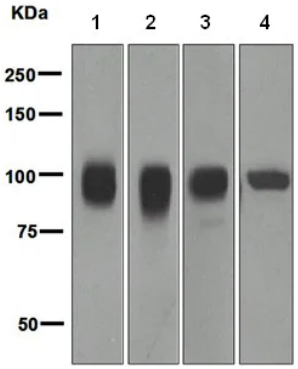
CD166 Western blot staining using rabbit Anti-CD166 antibody

Lane 1: Wild-type HAP1 whole cell lysate (20 µg)
Lane 2: CD166 knockout HAP1 whole cell lysate (20 µg)
Lane 3: HeLa whole cell lysate (20 µg)
Lane 4: SH-SY5Y whole cell lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab109215 observed at 100 kDa. Red - loading control, ab9484, observed at 37 kDa.

ab109215 was shown to specifically react with CD166 in wild-type HAP1 cells as signal was lost in CD166 knockout cells. Wild-type and CD166 knockout samples were subjected to SDS-PAGE. ab109215 and ab9484 (Mouse anti-GAPDH loading control) were incubated overnight at 4°C at 1/1000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Mouse IgG H&L (IRDye® 800CW) preabsorbed ab216772 and Goat anti-Rabbit IgG H&L (IRDye® 680RD) preabsorbed ab216777 secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-CD166 antibody [EPR2759(2)] (ab109215)

Predicted band size: 65 kDa



Western blot - Anti-CD166 antibody [EPR2759(2)] (ab109215)

All lanes:
Western blot - Anti-CD166 antibody [EPR2759(2)] (ab109215) at 1/1000 dilution

Lane 1:
SH-SY5Y (human neuroblastoma cell line from bone marrow) cell lysate at 10 µg

Lane 2:
HuT-78 cell lysate at 10 µg

Lane 3:
HT1080 (human fibrosarcoma cell line) cell lysate at 10 µg

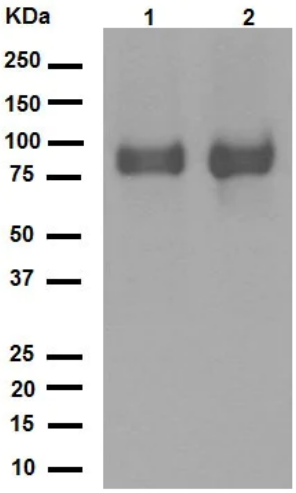
Lane 4:
Daudi (human Burkitt's lymphoma cell line) cell lysate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 65 kDa

Observed band size: 100-105 kDa



Western blot - Anti-CD166 antibody [EPR2759(2)] (ab109215)

CD166 Western blot staining using rabbit Anti-CD166 antibody

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

All lanes:
Western blot - Anti-CD166 antibody [EPR2759(2)] (ab109215) at 1/10000 dilution

Lane 1:
Mouse brain tissue lysate at 20 µg

Lane 2:
Rat brain tissue lysate at 20 µg

Secondary

All lanes:
Peroxidase conjugated goat anti-rabbit IgG (H+L) at 1/1000 dilution

Predicted band size: 166 kDa, 52 kDa, 65 kDa

Observed band size: 100-105 kDa, 68 kDa

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