abcam

ab108297

Anti-CD99 antibody [EPR3096]

Recombinant | RabMAb | 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), 0.31% Sodium citrate, 0.175% Sodium chloride, 0.05% BSA, 0.0172% Ethylenediaminetetraacetic acid, disodium, dihydrate
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR3096
Purification technique	Affinity purification Protein A
Concentration	0.15 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/250 - 1/500
Notes	Perform antigen retrieval before commencing with IHC staining protocol.

ICC/IF

Tested

Species	Human
Dilution info	1/250 - 1/500
Notes	-

IP

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Target data

See full target information CD99

Function	Involved in T-cell adhesion processes and in spontaneous rosette formation with erythrocytes. Plays a role in a late step of leukocyte extravasation helping

leukocytes to overcome the endothelial basement membrane. Acts at the same site as, but independently of, PECAM1. Involved in T-cell adhesion processes (By similarity).

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

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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.

Supplementary info

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

Activity summary	CD99 also known as MIC2 or HO36 is a transmembrane protein of approximately 32-35 kDa. Expressed mainly on the surface of human cells CD99 plays a role in several physiological processes. It is prominently found on T cells B cells

	granulocytes and some capillary endothelial cells. The protein interacts with homophilic binding partners and influences various cellular functions depending on its location and cellular context. Immunohistochemistry for CD99 (CD99 IHC) is commonly used in research and diagnostic settings to study its involvement and presence in tissues.
Biological function summary	CD99 functions as a modulator in cell adhesion and migration. It facilitates the separation of leukocytes from the endothelium during transendothelial migration impacting the immune response and inflammation. CD99 is not part of a complex itself but interacts with extracellular matrix (ECM) components to perform its role. It contributes to the regulation of cell death pathways showcasing its versatility in maintaining cellular homeostasis.
Pathways	CD99 primarily participates in the regulation of T-cell adhesion and transmigration pathways. It supports the E-selectin and integrins pathway which is important for T-cell migration to sites of inflammation. CD99 works in conjunction with proteins like ICAM-1 and VCAM-1 assisting these proteins in facilitating immune cell movement and interactions. Its involvement in these pathways highlights its significance in immune surveillance and response modulation.
Associated diseases and disorders	CD99 shows a notable connection with Ewing sarcoma and T-cell acute lymphoblastic leukemia (T-ALL). It is highly expressed in Ewing sarcoma a malignant bone tumor and can aid in diagnostic identification alongside other markers such as HOXA9. Furthermore its expression profiles in T-ALL patients suggest a potential role in the progression or maintenance of the disease. CD99's interactions with these malignancies make it a potential target in therapeutic research exploring pathways and molecules that might modulate its expression or function.

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

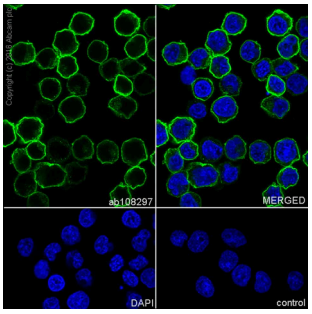
We do not recommend this combination. It is not covered by our product promise.

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.

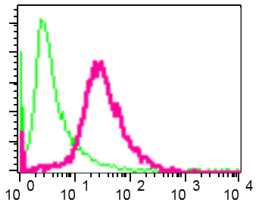
9 product images



Immunocytochemistry/ Immunofluorescence - Anti-CD99 antibody [EPR3096] (ab108297)

CD99 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CD99 antibody

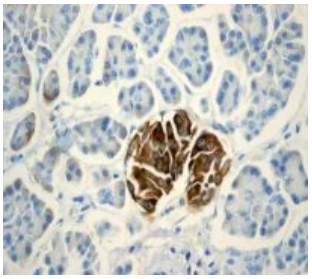
Immunocytochemistry/Immunofluorescence analysis of Jurkat (Human T cell leukemia cell line from peripheral blood) labelling CD99 with purified ab108297 at 1/500. Cells were fixed with 4% PFA and permeabilized with 0.1% triton X-100. ab150077 Goat anti rabbit IgG (Alexa Fluor® 488) at 1/1000 was used as the secondary antibody. Nuclei were counterstained with DAPI. PBS was used instead of the primary antibody as the negative control.



Flow Cytometry - Anti-CD99 antibody [EPR3096] (ab108297)

CD99 Flow Cytometry staining using rabbit Anti-CD99 antibody

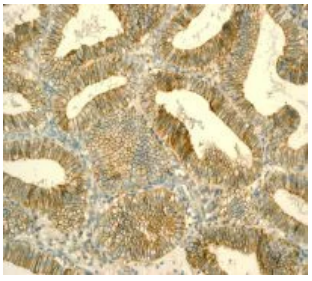
Flow cytometric analysis of Molt-4 cells using anti-CD99 RabMAb (red) (ab108297) or a rabbit IgG (negative) (green).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD99 antibody [EPR3096] (ab108297)

CD99 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD99 antibody

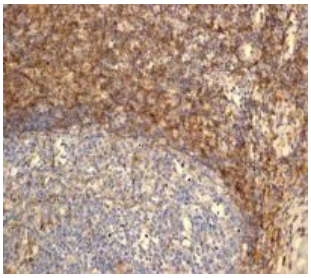
Immunohistochemical staining of paraffin-embedded Human pancreas tissue using ab108297 at a dilution of 1/250.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD99 antibody [EPR3096] (ab108297)

CD99 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD99 antibody

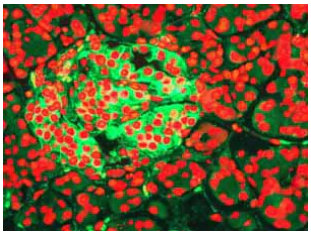
Immunohistochemical staining of paraffin-embedded Human uterus tissue using ab108297 at a dilution of 1/250.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD99 antibody [EPR3096] (ab108297)

CD99 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD99 antibody

Immunohistochemical staining of paraffin-embedded Human tonsil tissue using ab108297 at a dilution of 1/250.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

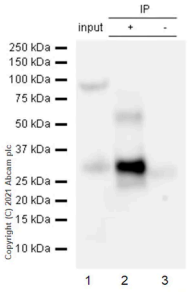


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD99 antibody [EPR3096] (ab108297)

CD99 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD99 antibody

Fluorescent immunohistochemical analysis of paraffin-embedded human normal pancreas tissue using ab108297. Green-CD99 red-PI

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunoprecipitation - Anti-CD99 antibody [EPR3096] (ab108297)

CD99 was immunoprecipitated from 0.35 mg HUVEC (Human umbilical vein endothelial cell) whole cell lysate 10 µg with 108297 at 1/50 dilution (2µg). VeriBlot for IP Detection Reagent (HRP) (ab131366) was used at 1/5000 dilution.
Lane 1: HUVEC (Human umbilical vein endothelial cell) whole cell lysate 10 µg

Lane 2: ab108297 IP in HUVEC whole cell lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab108297 in HUVEC whole cell lysate

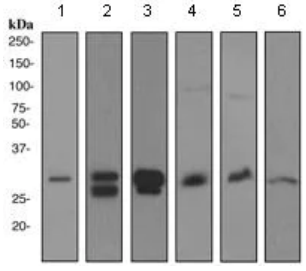
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

CD99 homodimer was reported in literature. (PMID:18160845)

All lanes:
Immunoprecipitation - Anti-CD99 antibody [EPR3096] (ab108297)

Predicted band size: 19 kDa

Observed band size: 28 kDa, 32 kDa



Western blot - Anti-CD99 antibody [EPR3096] (ab108297)

All lanes:
Western blot - Anti-CD99 antibody [EPR3096] (ab108297) at 1/1000 dilution

Lane 1:
THP-1 cell lysate at 10 µg

Lane 2:

Jurkat cell lysate at 10 µg

Lane 3:
U937 cell lysate at 10 µg

Lane 4:
Molt-4 cell lysate at 10 µg

Lane 5:
HuT-78 cell lysate at 10 µg

Lane 6:
HUVEC cell lysate at 10 µg

Predicted band size: 19 kDa

Observed band size: 28 kDa, 32 kDa

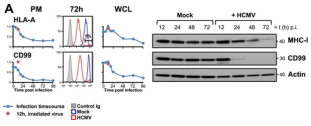


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Western blot - Anti-CD99 antibody [EPR3096] (ab108297)

CD99 Western blot staining using rabbit Anti-CD99 antibody

CD99 western blot using anti-CD99 antibody [EPR3096] ab108297. Publication image and figure legend from Weekes, M. P., Tomasec, P., et al., 2014, Cell, PubMed 24906157.

ab108297 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab108297 please see the product overview.

Validation of Temporal Profiles by Flow Cytometry and Immunoblot and Investigation of Novel Immune Ligands, Related to Figure 4(A) PM and WCL profiles of MHC-I (HLA-A11) and CD99, validated by flow cytometry and immunoblot. ≥ 95% of HFFF were routinely infected by HCMV, assessed by flow cytometry for cell surface MHC-I.(B) Representative intracellular flow cytometry of 24h-infected HFFF with anti-IE1 confirms > 95% infection efficiency.(C) Flow cytometry of HFFF infected with HCMV confirms proteomic profiles for five additional cell surface proteins.(D and E) NK degranulation assays suggest that CLEC1A and FAT1 are novel activating NK ligands. Top panels – validation of temporal PM and WCL profiles by flow cytometry and immunoblot. CLEC1A was not quantified in any WCL QTV experiments but accumulated by immunoblot of whole-cell lysates, while depleting from the PM. Bottom panels – target cells underwent siRNA knockdown of CLEC1A (D) or FAT1 (E) and were then incubated with stimulated polyclonal NK cells from each of three donors. Degranulation of NK cells in response to both CLEC1A and FAT1 knockdown targets was significantly reduced compared to control. Error bars: +/- SEM (donors A, B), +/- range (donor C). * two-tailed p-value < 0.05, ** two-tailed p-value < 0.005. Cell surface MHC-I was unaffected by siRNA (right bottom panels, staining with W6-32 antibody or control Ig).(F) CD8+ T cell degranulation assay suggests that CEACAM1 is a novel inhibitory ligand for CMV-specific cytotoxic T cells. Top panel – validation of temporal PM profile by flow cytometry. Bottom panels (left) – flow cytometry of a CD8+ T cell line specific to the HCMV HLA-A2 restricted IE1 peptide VLEETSVML confirmed CEACAM1 surface expression. (right) HCMV peptide-specific CD8+ effector cells were incubated with autologous fibroblasts that had been infected with HCMV for 72h then pulsed with peptide or left unpulsed. Effectors and targets were treated with control Ig or anti-CEACAM1. HCMV-specific T cell degranulation was significantly increased with CEACAM1 block. Error bars ± SEM. * two-tailed p-value < 0.0001.y-axes of QTV plots represent relative abundance, and y-axes of flow cytometry plots represent % of max.

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