abcam

ab226021

# Anti-CD99 antibody [EPR3096] - 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** | EPR3096 |
| **Purification technique** | Affinity purification Protein A |
| **Concentration** | 1.022 - 1.044 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## IHC-P

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

## IP

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

## Flow Cyt

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | ab199376 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody. |

## WB

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

## ICC/IF

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **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** | Blue Ice |
| **Appropriate short-term storage conditions** | +4°C |
| **Appropriate long-term storage conditions** | +4°C |
| **Storage information** | Do Not Freeze |

## Notes

ab226021 is the carrier-free version of ab108297.

**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.

**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** | 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**

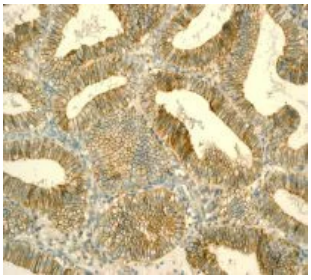
We do not recommend this combination. It is not covered by our product promise.

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.

## 7 product images

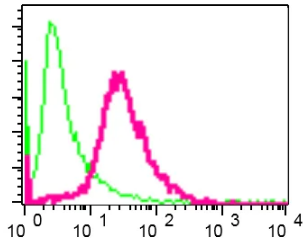


### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD99 antibody [EPR3096] - BSA and Azide free (ab226021)

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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108297).

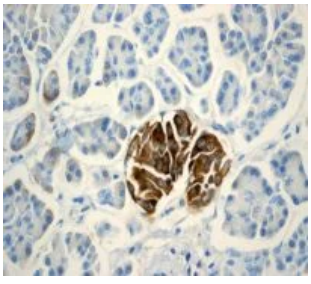
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.




### Flow Cytometry - Anti-CD99 antibody [EPR3096] - BSA and Azide free (ab226021)

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).**
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108297).

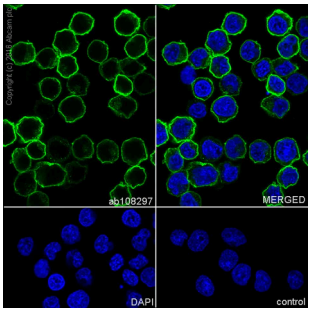


### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD99 antibody [EPR3096] - BSA and Azide free (ab226021)

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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108297).

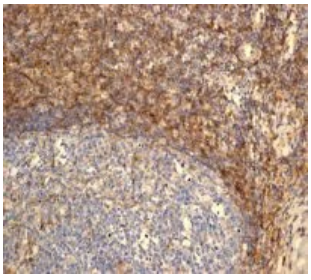
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.




## Immunocytochemistry/ Immunofluorescence - Anti-CD99 antibody [EPR3096] - BSA and Azide free (ab226021)

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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108297).

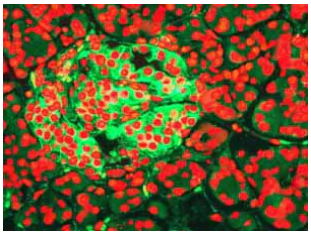


## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD99 antibody [EPR3096] - BSA and Azide free (ab226021)

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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108297).

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



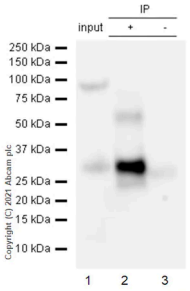
## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD99 antibody [EPR3096] - BSA and Azide free (ab226021)

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

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108297).

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.




# Immunoprecipitation - Anti-CD99 antibody [EPR3096] - BSA and Azide free (ab226021)

This data was developed using ab108297, the same antibody clone in a different buffer formulation.
CD99 was immunoprecipitated from 0.35 mg HUVEC (Human umbilical vein endothelial cell) whole cell lysate 10 µg with ab108297 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

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