abcam

ab23495

Anti-CD98 antibody [44D7] - Plasma Membrane Marker

Lab Essentials

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.09% Sodium azide
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing SLC3A2 protein. The exact immunogen used to generate this antibody is proprietary information. Database link P08195
Clone number	44D7
Purification technique	Affinity purification Protein G
Specificity	The antibody reacts with the heavy chain of the CD98 molecule. It binds to all cell lines in culture and to activated T cells.
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	The antibody was purified by affinity chromatography.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	10 µL for 10^6 Cells
Notes	Use 10µl of working dilution for 10^6 cells in 100µl. ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Target data

See full target information SLC3A2

Function	Acts as a chaperone that facilitates biogenesis and trafficking of functional transporters heterodimers to the plasma membrane. Forms heterodimer with SLC7 family transporters (SLC7A5, SLC7A6, SLC7A7, SLC7A8, SLC7A10 and SLC7A11), a group of amino-acid antiporters (PubMed:10574970, PubMed:10903140, PubMed:11557028, PubMed:30867591, PubMed:33298890, PubMed:33758168, PubMed:34880232, PubMed:9751058, PubMed:9829974, PubMed:9878049). Heterodimers function as amino acids exchangers, the specificity of the substrate depending on the SLC7A subunit. Heterodimers SLC3A2/SLC7A6 or SLC3A2/SLC7A7 mediate the uptake of dibasic amino acids (PubMed:10903140, PubMed:9829974). Heterodimer SLC3A2/SLC7A11 functions as an antiporter by mediating the exchange of extracellular anionic L-cystine and intracellular L-glutamate across the cellular plasma membrane (PubMed:34880232). SLC3A2/SLC7A10 translocates small neutral L- and D-amino acids across the plasma membrane (By similarity). SLC3A2/SLC75 or SLC3A2/SLC7A8 translocates neutral amino acids with broad specificity, thyroid hormones and L-DOPA (PubMed:10574970, PubMed:11389679, PubMed:11557028, PubMed:11564694, PubMed:11742812, PubMed:12117417, PubMed:12225859, PubMed:12716892, PubMed:15980244, PubMed:30867591, PubMed:33298890, PubMed:33758168). SLC3A2 is essential for plasma membrane localization, stability, and the transport activity of SLC7A5 and SLC7A8 (PubMed:10391915, PubMed:10574970, PubMed:11311135, PubMed:15769744, PubMed:33066406). When associated with LAPTM4B, the heterodimer SLC7A5 is recruited to lysosomes to promote leucine uptake into these organelles, and thereby mediates mTORC1 activation (PubMed:25998567). Modulates integrin-related signaling and is essential for integrin-dependent cell spreading, migration and tumor progression (PubMed:11121428, PubMed:15625115). (Microbial infection) In case of hepatitis C virus/HCV infection, the complex formed by SLC3A2 and SLC7A5/LAT1 plays a role in HCV propagation by facilitating viral entry into host cell and increasing L-leucine uptake-mediated mTORC1 signaling activation, thereby contributing to HCV-mediated pathogenesis. (Microbial infection) Acts as a receptor for malaria parasite Plasmodium vivax (Thai isolate) in immature red blood cells.

Storage

Shipped at conditions	Blue Ice
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	Avoid freeze / thaw cycle

Supplementary info

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

Activity summary	CD98 also known as CD98hc CD98 protein or LAT1/CD98 is a type II membrane protein often found in association with the heavy chains of amino acid transporters like LAT1. It has a molecular mass of approximately 85-100 kDa. CD98 is widely expressed in numerous tissues including the liver kidney and various tumors. It plays an important role in cellular processes by facilitating the transport of amino acids across plasma membranes which is essential for maintaining cellular homeostasis and proliferation.
Biological function summary	CD98 forms a complex with light chains of the heterodimeric amino acid transporters such as LAT1 and LAT2. This interaction enhances the uptake of neutral amino acids into cells. CD98 also interacts with integrins influencing cell adhesion and migration which are critical for cellular signaling and response. Through these interactions CD98 impacts not only cell survival and growth but also immune responses and angiogenesis.
Pathways	CD98 is a vital component of the mTOR signaling pathway influencing cell growth and proliferation. It also plays a part in the integrin signaling pathway which regulates cell adhesion and migration. In these pathways CD98 works closely with proteins like FG1 and mTORC1. These relationships enable it to modulate cellular responses to nutritional availability and mechanical cues from the environment.
Associated diseases and disorders	CD98 expression and function have links to cancer and autoimmune diseases. High expression levels of CD98 are observed in various cancers such as lymphomas where it correlates with increased tumor growth and poor prognosis. In autoimmune disorders like rheumatoid arthritis CD98 influences immune cell activation and migration. Proteins such as CP1 and FG1 interact with CD98 contributing to disease pathology by affecting cellular and immune responses.

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.

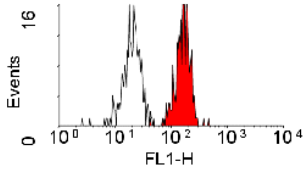
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1 product image



Flow Cytometry - Anti-CD98 antibody [44D7] - Plasma Membrane Marker (ab23495)

CD98 Flow Cytometry staining using mouse Anti-CD98 antibody

ab23495 staining CD98 in Human peripheral blood monocytes, detected with FITC-conjugated Rabbit anti-Mouse IgG as the secondary antibody.

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