SANTA CRUZ BIOTECHNOLOGY, INC.

# CD98 (S-16): sc-31249

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

CD98 (4F2, CD98, MDU1, 4F2HC, 4T2HC, NACAE) is a disulfide-linked heterodimer composed of a glycosylated heavy chain and a non-glycosylated light chain. CD98 is a scaffolding protein that interacts with basolaterally expressed amino acid transporters and β1 integrins and can alter amino acid transport and cell adhesion, migration and branching morphogenesis. The heavy chain is a type II integral membrane protein. CD98 is expressed on T cells and is upregulated upon T cell activation. CD98 is also present on monocytes and at lower levels on granulocytes, platelets and lymphocytes. Evidence suggests that CD98 may play a role in the regulation of T cell activation and proliferation. Alternate transcriptional splice variants, encoding different isoforms, exist for the human CD98 gene.

## REFERENCES


1. Quackenbush, E., et al. 1987. Molecular cloning of complementary DNAs encoding the heavy chain of the human 4F2 cell-surface antigen: a type II membrane glycoprotein involved in normal and neoplastic cell growth. Proc. Natl. Acad. Sci. USA 84: 6526-6530.
2. Lumadue, J.A., et al. 1987. Cloning, sequence analysis, and expression of the large subunit of the human lymphocyte activation antigen 4F2. Proc. Natl. Acad. Sci. USA 84: 9204-9248.
3. Gottesdiener, K.M., et al. 1988. Isolation and structural characterization of the human 4F2 heavy-chain gene, an inducible gene involved in T lymphocyte activation. Mol. Cell. Biol. 8: 3809-3819.
4. Warren, A.P., et al. 1996. CD98: a type II transmembrane protein expressed from the beginning of primitive and definitive hematopoiesis may play a critical role in the development of hematopoietic cells. Blood 87: 3676-3687.
5. Diaz, L.A., Jr., et al. 1997. Monocyte-dependent regulation of T lymphocyte activation through CD98. Int. Immunol. 9: 1221-1231.
6. Rintoul, R.C., et al. 2002. Cross-linking CD98 promotes integrin-like signaling and anchorage-independent growth. Mol. Biol. Cell 13: 2841-2852.
7. Liu, X., et al. 2003. CD98 and intracellular adhesion molecule I regulate the activity of amino acid transporter LAT-2 in polarized intestinal epithelia. J. Biol. Chem. 278: 23672-23677.
8. Tsumura, H., et al. 2003. The targeted disruption of the CD98 gene results in embryonic lethality. Biochem. Biophys. Res. Commun. 308: 847-851.


## CHROMOSOMAL LOCATION

Genetic locus: SLC3A2 (human) mapping to 11q12.3; Slc3a2 (mouse) mapping to 19 A.

## SOURCE

CD98 (S-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of CD98 of human origin.

## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-31249 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CD98 (S-16) is recommended for detection of CD98 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); may cross-react with SNAP-γ in rat.

CD98 (S-16) is also recommended for detection of CD98 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for CD98 siRNA (h): sc-35033, CD98 siRNA (m): sc-35034, CD98 shRNA Plasmid (h): sc-35033-SH, CD98 shRNA Plasmid (m): sc-35034-SH, CD98 shRNA (h) Lentiviral Particles: sc-35033-V and CD98 shRNA (m) Lentiviral Particles: sc-35034-V.

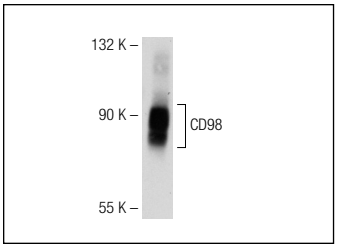
Molecular Weight of CD98: 125 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, CTLL-2 cell lysate: sc-2242 or U-937 cell lysate: sc-2239.

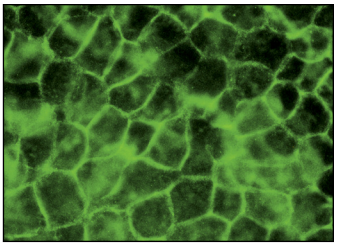
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA




CD98 (S-16): sc-31249. Western blot analysis of CD98 expression in HeLa whole cell lysate.



CD98 (S-16): sc-31249. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.