SANTA CRUZ BIOTECHNOLOGY, INC.

CD98 (4F2): sc-59145

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CD98 (4F2, CD98, MDU1, 4F2HC, 4T2HC, NACAE, SLC3A2) 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.

CHROMOSOMAL LOCATION

Genetic locus: SLC3A2 (human) mapping to 11q12.3.

SOURCE

CD98 (4F2) is a mouse monoclonal antibody raised against the HOON pre-B leukemia cell line of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD98 (4F2) is available conjugated to agarose (sc-59145 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-59145 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-59145 PE), fluorescein (sc-59145 FITC), Alexa Fluor® 488 (sc-59145 AF488), Alexa Fluor® 546 (sc-59145 AF546), Alexa Fluor® 594 (sc-59145 AF594) or Alexa Fluor® 647 (sc-59145 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-59145 AF680) or Alexa Fluor® 790 (sc-59145 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

CD98 (4F2) is recommended for detection of CD98 of 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 flow cytometry (1 µg per 1 x 10^6 cells).

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

Molecular Weight of CD98: 125 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

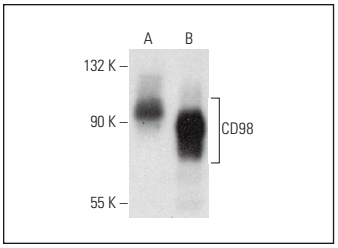
STORAGE

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

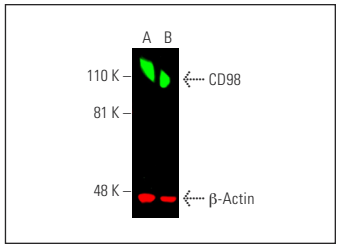
RESEARCH USE

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

DATA



Western blot analysis of CD98 expression in Jurkat whole cell lysate (**A**) and Jurkat whole cell lysate immunoprecipitated with CD98 (4F2): sc-59145 (**B**) and detected with CD98 (C-20): sc-7095. Immunoprecipitation reagent used: Protein A-Agarose: sc-2001.



Simultaneous direct near-infrared western blot analysis of CD98 expression, detected with CD98 (4F2) Alexa Fluor® 680: sc-59145 AF680 and β-Actin expression, detected with β-Actin (C4) Alexa Fluor® 790: sc-47778 AF790 in HeLa (**A**) and Hep G2 (**B**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

1. Tomi, M., et al. 2003. Expression and regulation of L-cystine transporter, system x_c^-, in the newly developed rat retinal Müller cell line (TR-MUL). Glia 43: 208-217.
2. Xu, D. and Hemler, M.E. 2005. Metabolic activation-related CD147-CD98 complex. Mol. Cell. Proteomics 4: 1061-1071.
3. Janpipatkul, K., et al. 2014. Downregulation of LAT1 expression suppresses cholangiocarcinoma cell invasion and migration. Cell. Signal. 26: 1668-1679.
4. Kim, M.Y., et al. 2016. Molecular association of CD98, CD29, and CD147 critically mediates monocytic U937 cell adhesion. Korean J. Physiol. Pharmacol. 20: 515-523.
5. Gong, S., et al. 2018. Quantitative algorithm-based paired imaging measurement for antibody-triggered endocytosis in cultured cells. SLAS Discov. 23: 832-841.
6. Saito, Y., et al. 2022. Polarity protein SCRIB interacts with SLC3A2 to regulate proliferation and tamoxifen resistance in ER^+ breast cancer. Commun. Biol. 5: 403.
7. Liu, D., et al. 2022. Both *in situ* and circulating SLC3A2 could be used as prognostic markers for human lung squamous cell carcinoma and lung adenocarcinoma. Cancers 14: 5191.
8. Montero, J.C., et al. 2023. An amino acid transporter subunit as an antibody-drug conjugate target in colorectal cancer. J. Exp. Clin. Cancer Res. 42: 200.
9. Lee, M.J., et al. 2024. Senescence of endothelial cells increases susceptibility to Kaposi's sarcoma-associated herpesvirus infection via CD109-mediated viral entry. J. Clin. Invest. 135: e183561.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.