SANTA CRUZ BIOTECHNOLOGY, INC.

Flotillin-1 (C-2): sc-74566

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Lipid rafts are sphingolipid- and cholesterol-rich membrane microdomains that are insoluble in nonionic detergents. Lipid rafts are important for numerous cellular processes, including signal transduction, membrane trafficking and molecular sorting. Flotillins are lipid raft components in neurons and caveloae-associated proteins in A498 kidney cells. Flotillin-1 belongs to the band 7.2/stomatin protein family, whose members are characterized by the presence of a hydrophobic N-terminal region that is predicted to form a single, outside to inside, transmembrane domain. Flotillin-1 and -2 have complementary tissue distributions and their expression levels are independently regulated. At the cellular level, Flotillin-2 is ubiquitously expressed, whereas Flotillin-1 is expressed in A498 kidney cells, muscle cell lines and fibroblasts. Flotillins form a ternary complex with CAP and Cbl, directing the localization of the CAP-Cbl complex to a lipid raft subdomain of the plasma membrane. Association of ER-X with Flotillin localizes ER-X within plasma membrane caveloae and mediates rapid oestrogen activation of the MAP kinase cascade. The expression of the flotillins is also correlated to the progression of Alzhemier pathology.

REFERENCES

1. Volonte, D., et al. 1999. Flotillins/cavatellins are differentially expressed in cells and tissues and form a hetero-oligomeric complex with caveloins *in vivo*. Characterization and epitope-mapping of a novel Fotillin-1 monoclonal antibody probe. J. Biol. Chem. 274: 12702-12709.
2. Toran-Allerand, C.D. 2000. Novel sites and mechanisms of oestrogen action in the brain. Novartis Found. Symp. 230: 56-69.

CHROMOSOMAL LOCATION

Genetic locus: FLOT1 (human) mapping to 6p21.33; Flot1 (mouse) mapping to 17 B1.

SOURCE

Flotillin-1 (C-2) is a mouse monoclonal antibody raised against amino acids 324-427 of Flotillin-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Flotillin-1 (C-2) is available conjugated to agarose (sc-74566 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-74566 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-74566 PE), fluorescein (sc-74566 FITC), Alexa Fluor® 488 (sc-74566 AF488), Alexa Fluor® 546 (sc-74566 AF546), Alexa Fluor® 594 (sc-74566 AF594) or Alexa Fluor® 647 (sc-74566 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-74566 AF680) or Alexa Fluor® 790 (sc-74566 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

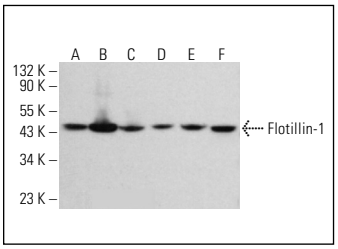
Flotillin-1 (C-2) is recommended for detection of Flotillin-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Flotillin-1 siRNA (h): sc-35391, Flotillin-1 siRNA (m): sc-35392, Flotillin-1 shRNA Plasmid (h): sc-35391-SH, Flotillin-1 shRNA Plasmid (m): sc-35392-SH, Flotillin-1 shRNA (h) Lentiviral Particles: sc-35391-V and Flotillin-1 shRNA (m) Lentiviral Particles: sc-35392-V.

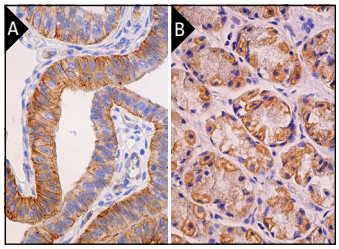
Molecular Weight of Flotillin-1: 47 kDa.

Positive Controls: A549 cell lysate: sc-2413, HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

DATA



Flotillin-1 (C-2) Alexa Fluor® 488: sc-74566 AF488. Direct fluorescent western blot analysis of Flotillin-1 expression in A549 (**A**), HeLa (**B**), Hep G2 (**C**) and U-251-MG (**D**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.



Flotillin-1 (C-2): sc-74566. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube (**A**) and human lower stomach (**B**) tissue showing membrane and cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Stöhr, O., et al. 2011. Insulin receptor signaling mediates APP processing and β-Amyloid accumulation without altering survival in a transgenic mouse model of Alzheimer's disease. Age 35: 83-101.
2. Hwang, K.Y. and Choi, Y.B. 2015. Modulation of mitochondrial antiviral signaling by human herpesvirus 8 interferon regulatory factor 1. J. Virol. 90: 506-520.
3. Polanco, J.C., et al. 2016. Extracellular vesicles isolated from the brains of rTg4510 mice seed Tau protein aggregation in a threshold-dependent manner. J. Biol. Chem. 291: 12445-12466.
4. Rice, T.F., et al. 2018. Macrophage-but not monocyte-derived extracellular vesicles induce placental pro-inflammatory responses. Placenta 69: 92-95.
5. Ali, A., et al. 2019. CAV1-GLUT3 signaling is important for cellular energy and can be targeted by atorvastatin in non-mmall cell lung cancer. Theranostics 9: 6157-6174.

STORAGE

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