SANTA CRUZ BIOTECHNOLOGY, INC.

Flotillin-1 (C-7): sc-133153

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.

CHROMOSOMAL LOCATION

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

SOURCE

Flotillin-1 (C-7) 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-7) is available conjugated to agarose (sc-133153 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-133153 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133153 PE), fluorescein (sc-133153 FITC), Alexa Fluor® 488 (sc-133153 AF488), Alexa Fluor® 546 (sc-133153 AF546), Alexa Fluor® 594 (sc-133153 AF594) or Alexa Fluor® 647 (sc-133153 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133153 AF680) or Alexa Fluor® 790 (sc-133153 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Flotillin-1 (C-7) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

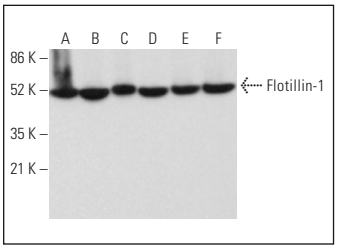
Suitable for use as control antibody for Flotillin-1 siRNA (h): sc-35391, Flotillin-1 siRNA (m): sc-35392, Flotillin-1 shRNA Plasmid (h): sc-35391-SH, Flotillin-1 shRNA Plasmid (m): sc-35392-SH, Flotillin-1 shRNA (h) Lentiviral Particles: sc-35391-V and Flotillin-1 shRNA (m) Lentiviral Particles: sc-35392-V.

Molecular Weight of Flotillin-1: 47 kDa.

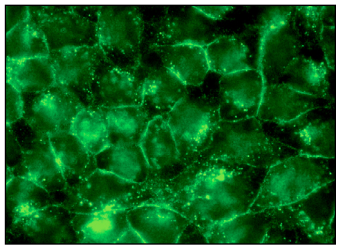
STORAGE

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

DATA



Flotillin-1 (C-7): sc-133153. Western blot analysis of Flotillin-1 expression in HeLa (**A**), NCI-H460 (**B**), 3T3-L1 (**C**), ALL-SIL (**D**), TK-1 (**E**) and c4 (**F**) whole cell lysates.



Flotillin-1 (C-7): sc-133153. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Jin, J., et al. 2012. Soluble FLT1 binds lipid microdomains in podocytes to control cell morphology and glomerular barrier function. Cell 151: 384-399.
2. Asp, N., et al. 2014. Flotillin depletion affects ErbB protein levels in different human breast cancer cells. Biochim. Biophys. Acta 1843: 1987-1996.
3. Benitez, B.A., et al. 2015. Clinically early-stage CSPα mutation carrier exhibits remarkable terminal stage neuronal pathology with minimal evidence of synaptic loss. Acta Neuropathol. Commun. 3: 73.
4. Schweitzer, M., et al. 2016. Characterization of the NPC1L1 gene and proteome from an exceptional responder to ezetimibe. Atherosclerosis 246: 78-86.
5. Benitez, B.A. and Sands, M.S. 2017. Primary fibroblasts from CSPα mutation carriers recapitulate hallmarks of the adult onset neuronal ceroid lipofuscinosis. Sci. Rep. 7: 6332.
6. Oeyen, E., et al. 2018. Ultrafiltration and size exclusion chromatography combined with asymmetrical-flow field-flow fractionation for the isolation and characterisation of extracellular vesicles from urine. J. Extracell. Vesicles 7: 1490143.
7. Gemel, J., et al. 2019. Connecting exosomes and connexins. Cancers 11: 476.
8. Deville, S., et al. 2021. Comparison of extracellular vesicle isolation and storage methods using high-sensitivity flow cytometry. PLoS ONE 16: e0245835.
9. Mesquita-Ribeiro, R., et al. 2021. Distinct small non-coding RNA landscape in the axons and released extracellular vesicles of developing primary cortical neurons and the axoplasm of adult nerves. RNA Biol. 18: 832-855.

RESEARCH USE

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