SANTA CRUZ BIOTECHNOLOGY, INC.

Flotillin-1 (F-3): sc-74567

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 (F-3) 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.

APPLICATIONS

Flotillin-1 (F-3) 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.

Positive Controls: 3T3-L1 cell lysate: sc-2243, A-431 whole cell lysate: sc-2201 or Jurkat whole cell lysate: sc-2204.

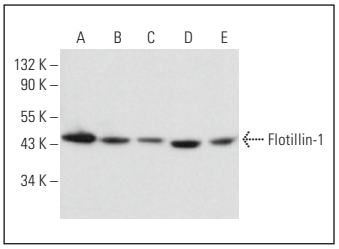
STORAGE

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

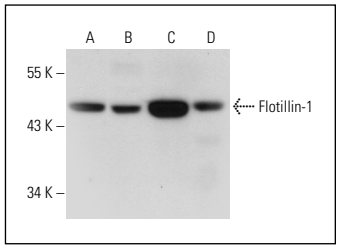
RESEARCH USE

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

DATA



Flotillin-1 (F-3): sc-74567. Western blot analysis of Flotillin-1 expression in HeLa (**A**), Hep G2 (**B**), U-251-MG (**C**), U266 (**D**) and c4 (**E**) whole cell lysates.



Flotillin-1 (F-3): sc-74567. Western blot analysis of Flotillin-1 expression in A-431 (**A**), Jurkat (**B**), K-562 (**C**) and 3T3-L1 (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Stremmel, W., et al. 2014. Plasma membrane phospholipase A_2 controls hepatocellular fatty acid uptake and is responsive to pharmacological modulation: implications for nonalcoholic steatohepatitis. FASEB J. 28: 3159-3170.
2. Bodrikov, V., et al. 2017. Reggie-1 and reggie-2 (flotillins) participate in Rab11a-dependent cargo trafficking, spine synapse formation and LTP-related AMPA receptor (GluA1) surface exposure in mouse hippocampal neurons. Exp. Neurol. 289: 31-45.
3. Stremmel, W., et al. 2017. The overall fatty acid absorption controlled by basolateral chylomicron excretion under regulation of p-JNK1. Biochim. Biophys. Acta 1862: 917-928.
4. Dong, S., et al. 2019. Knockout model reveals the role of Nischarin in mammary gland development, breast tumorigenesis and response to metformin treatment. Int. J. Cancer 146: 2576-2587.
5. Stremmel, W., et al. 2019. The bile acid-phospholipid conjugate ursodeoxycholyl-lysophosphatidylethanolamide (UDCA-LPE) disintegrates the lipid backbone of raft plasma membrane domains by the removal of the membrane phospholipase A2. Int. J. Mol. Sci. 20: 5631.
6. Sousa, D., et al. 2021. Different ability of multidrug-resistant and -sensitive counterpart cells to release and capture extracellular vesicles. Cells 10: 2886.

PROTOCOLS

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

CONJUGATES

See **Flotillin-1 (C-2): sc-74566** for Flotillin-1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.