

Flotillin-1 (K-19): sc-16640

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 caveolae-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 caveolae and mediates rapid oestrogen activation of the MAP kinase cascade. The expression of the flotillins is also correlated to the progression of Alzheimer pathology.

REFERENCES

- Volonte, D., et al. 1999. Flotillins/cavatellins are differentially expressed in cells and tissues and form a hetero-oligomeric complex with caveolins *in vivo*. Characterization and epitope-mapping of a novel Flotillin-1 monoclonal antibody probe. *J. Biol. Chem.* 274: 12702-12709.
- Kobubo, H., et al. 2000. Localization of flotillins in human brain and their accumulation with the progression of Alzheimer's disease pathology. *Neurosci. Lett.* 290: 93-96.
- Baumann, C.A., et al. 2000. CAP defines a second signalling pathway required for Insulin-stimulated glucose transport. *Nature* 407: 202-207.
- 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 (K-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Flotillin-1 of human origin.

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-16640 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Flotillin-1 (K-19) is recommended for detection of Flotillin-1 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), 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).

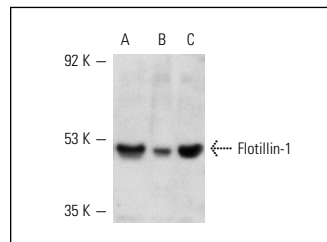
Flotillin-1 (K-19) is also recommended for detection of Flotillin-1 in additional species, including equine, canine, bovine and porcine.

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.

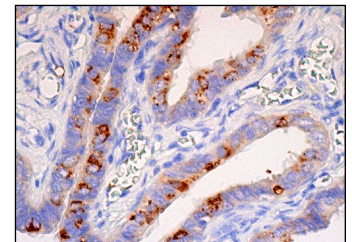
Molecular Weight of Flotillin-1: 47 kDa.

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

DATA



Flotillin-1 (K-19): sc-16640. Western blot analysis of Flotillin-1 expression in A-431 (A), Jurkat (B) and induced adipose differentiated 3T3-L1 (C) whole cell lysates.



Flotillin-1 (K-19): sc-16640. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Wörter, V., et al. 2009. Inhibitory activity of Myelin-associated glycoprotein on sensory neurons is largely independent of NgR1 and NgR2 and resides within Ig-like domains 4 and 5. *PLoS ONE* 4: e5218.
- Carrasco, M.P., et al. 2010. Disruption of cellular cholesterol transport and homeostasis as a novel mechanism of action of membrane-targeted alkylphospholipid analogues. *Br. J. Pharmacol.* 160: 355-366.

RESEARCH USE

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


 MONOS
Satisfaction
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Try **Flotillin-1 (C-2): sc-74566** or **Flotillin-1 (C-7): sc-133153**, our highly recommended monoclonal alternatives to Flotillin-1 (K-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Flotillin-1 (C-2): sc-74566**.