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ProductInformation

Anti-Flotillin 1
produced in rabbit, affinity isolated antibody

Catalog Number **F1180**

Product Description

Anti-Flotillin 1 is produced in rabbit using as immunogen a synthetic peptide, corresponding to amino acid residues 413-428 of mouse flotillin 1 with an N-terminal added cysteine, conjugated to KLH (GeneID: 14251). The corresponding sequence is identical in rat and differs by one amino acid in human. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Flotillin 1 recognizes mouse, rat and human flotillin 1. Applications include immunoblotting (~ 48 kDa) and immunofluorescence. Detection of the flotillin 1 band by immunoblotting is specifically inhibited with the immunizing peptide.

Flotillins are lipid raft-associated proteins involved in various cellular processes such as endocytosis, phagocytosis, neuronal regeneration and insulin signaling.[1, 2] Lipid raft microdomains are glycosphingolipid- and cholesterol-rich membrane organized, dynamic structures connected to the cytoskeleton. Lipid raft domains are insoluble in non-ionic detergents, have a low buoyant density and contain proteins such as Src family kinases, glycosylphosphatidylinositol (GPI)-linked proteins, caveolins, sphingolipids, and cholesterol. Lipid rafts have a central role in cellular organization, membrane trafficking and signaling events.[3, 4] The flotillin protein family consists of two proteins, flotillin 1 and 2, also named reggie-2 and -1, respectively. Flotillins belong to a larger family of integral membrane proteins that contain an evolutionarily conserved domain called the prohibitin homology (PHB) domain or SPFH domain (stomatin/prohibitin/flotillin/HflK/C domain). It has been suggested that the PHB domain constitutes a lipid recognition motif which can target proteins to the plasma membrane.[2, 4] The association of flotillin 1 to the plasma membrane depends on palmitoylation in a conserved Cys^{34} residue, whereas the association of flotillin 2 depends on both myristolation and palmitoylation.[2, 5]

The flotillin proteins are conserved and ubiquitously expressed. Flotillin 1 and 2 show a complementary tissue distribution. Flotillin 1 is mainly expressed in striated muscle tissues, adipose tissue, and lung. Flotillin 2 is more widely distributed, but is absent in skeletal muscle.[6] Flotillin 1 is mostly localized to the plasma membrane, although it was reported to reside also in a specific population of endocytic intermediates. Flotillin 1 does not colocalize with endocytosed transferrin and caveolin-1, indicating that it could be associated with endocytosis via a pathway that is different from clathrin-coated pits and caveolin-1-positive caveolae.[7]

Flotillin 1 was found to specifically interact with the multivalent adaptor protein CAP, the Src family kinase Fyn and F-actin in lipid raft microdomains in adipocytes. Therefore, it was suggested that flotillin 1 may function as a molecular link between lipid rafts of the plasma membrane and a multimeric signaling complex at the actin cytoskeleton.[4] Flotillin 1 may be used as a marker protein for lipid raft microdomains.

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as preservative.

Antibody concentration: ~1 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in “frost-free” freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 0.5-1 μg/mL is recommended using whole extract of mouse lung.

Immunoblotting: a working concentration of 1-2 μg/mL is recommended using whole extract of rat lung.

Indirect immunofluorescence: a working concentration of 5-10 μg/mL is recommended by staining human HEK-293T cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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