

mucolipin 2 (F-1): sc-393538

BACKGROUND

The mucolipins are a family of cation channel proteins designated mucolipin 1, mucolipin 2 and mucolipin 3. Mucolipin 2 is a lysosomal protein that interacts with the ARF6-associated pathway through co-localization with the cargo proteins CD59 and MHC1. These interactions are thought to traffic and regulate the sorting of certain glycosyl-anchored proteins in the ARF6-associated pathway. Mucolipin 2 is found primarily in the plasma membrane, but is also expressed in intracellular vesicles, tubular structures and B lymphocytes. Mucolipin 2 expression in B lymphocytes and its association with Bruton's tyrosine kinase suggests a possible role in B lymphocyte development. Additionally, defects in the mucolipin 2 gene may be associated with certain neurosensory disorders, as well as swelling of late endosomes and lysosomes.

REFERENCES

- Di Palma, F., et al. 2002. Mutations in Mcoln3 associated with deafness and pigmentation defects in varitint-waddler (Va) mice. *Proc. Natl. Acad. Sci. USA* 99: 14994-14999.
- Qian, F. and Noben-Trauth, K. 2005. Cellular and molecular function of mucolipins (TRPML) and polycystin 2 (TRPP2). *Pflugers Arch.* 451: 277-285.
- Chenik, M., et al. 2005. Characterization of two different mucolipin-like genes from *Leishmania major*. *Parasitol. Res.* 98: 5-13.
- Venkatachalam, K., et al. 2006. Lysosomal localization of TRPML3 depends on TRPML2 and the mucopolidosis-associated protein TRPML1. *J. Biol. Chem.* 281: 17517-17527.

CHROMOSOMAL LOCATION

Genetic locus: MCOLN2 (human) mapping to 1p22.3; Mcoln2 (mouse) mapping to 3 H2.

SOURCE

mucolipin 2 (F-1) is a mouse monoclonal antibody raised against amino acids 106-244 mapping within an internal region of mucolipin 2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

mucolipin 2 (F-1) is available conjugated to agarose (sc-393538 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393538 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393538 PE), fluorescein (sc-393538 FITC), Alexa Fluor® 488 (sc-393538 AF488), Alexa Fluor® 546 (sc-393538 AF546), Alexa Fluor® 594 (sc-393538 AF594) or Alexa Fluor® 647 (sc-393538 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393538 AF680) or Alexa Fluor® 790 (sc-393538 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

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

APPLICATIONS

mucolipin 2 (F-1) is recommended for detection of mucolipin 2 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 mucolipin 2 siRNA (h): sc-72371, mucolipin 2 siRNA (m): sc-72372, mucolipin 2 shRNA Plasmid (h): sc-72371-SH, mucolipin 2 shRNA Plasmid (m): sc-72372-SH, mucolipin 2 shRNA (h) Lentiviral Particles: sc-72371-V and mucolipin 2 shRNA (m) Lentiviral Particles: sc-72372-V.

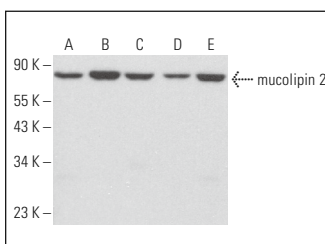
Molecular Weight of mucolipin 2: 67 kDa.

Positive Controls: 3T3-L1 cell lysate: sc-2243, C3H/10T1/2 cell lysate: sc-3801 or EOC 20 whole cell lysate: sc-364187.

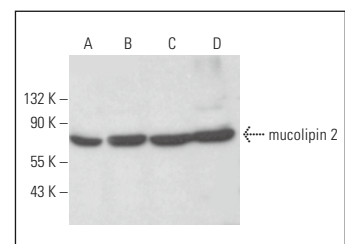
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



mucolipin 2 (F-1): sc-393538. Western blot analysis of mucolipin 2 expression in 3T3-L1 (A), C3H/10T1/2 (B), RAW 264.7 (C), EOC 20 (D) and Neuro-2A (E) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



mucolipin 2 (F-1): sc-393538. Western blot analysis of mucolipin 2 expression in RAW 264.7 (A), HEK293 (B), U-251-MG (C) and SJRH30 (D) whole cell lysates.

SELECT PRODUCT CITATIONS

- Yu, H., et al. 2021. Endolysosomal ion channel MCOLN2 (mucolipin 2) promotes prostate cancer progression via IL-1β/NFκB pathway. *Br. J. Cancer* 125: 1420-1431.

RESEARCH USE

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