

TMEM38A (G-12): sc-390054

BACKGROUND

TMEM38A (transmembrane protein 38A), also known as TRICA (trimeric intracellular cation channel type A), is a 299 amino acid multi-pass membrane protein that belongs to the TMEM38 family and exists as a homotrimer. The second transmembrane domain within TMEM38A has been proposed to cross only half of the lipid bilayer and to loop back into the cytosol. This results in the regions on each side of this domain to localize to the cytosolic face of the membrane. The cytosolic loop may form an ion-conducting pore. While it may act as a potassium counter-ion channel that functions in synchronization with calcium release from intracellular stores, TMEM38A is known to be a monovalent cation channel that is required for maintenance of rapid intracellular calcium release. The gene that encodes TMEM38A consists of approximately 27,893 bases and maps to human chromosome 19p13.11.

REFERENCES

1. Yazawa, M., et al. 2007. TRIC channels are essential for Ca²⁺ handling in intracellular stores. *Nature* 448: 78-82.
2. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611235. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Yamazaki, D., et al. 2009. Essential role of the TRIC-B channel in Ca²⁺ handling of alveolar epithelial cells and in perinatal lung maturation. *Development* 136: 2355-2361.
4. Yamazaki, D., et al. 2009. New molecular components supporting ryanodine receptor-mediated Ca²⁺ release: roles of junctophilin and TRIC channel in embryonic cardiomyocytes. *Pharmacol. Ther.* 121: 265-272.

CHROMOSOMAL LOCATION

Genetic locus: TMEM38A (human) mapping to 19p13.11; Tmem38a (mouse) mapping to 8 B3.3.

SOURCE

TMEM38A (G-12) is a mouse monoclonal antibody raised against a peptide mapping within a cytoplasmic domain of TMEM38A of human 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.

TMEM38A (G-12) is available conjugated to agarose (sc-390054 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390054 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390054 PE), fluorescein (sc-390054 FITC), Alexa Fluor® 488 (sc-390054 AF488), Alexa Fluor® 546 (sc-390054 AF546), Alexa Fluor® 594 (sc-390054 AF594) or Alexa Fluor® 647 (sc-390054 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390054 AF680) or Alexa Fluor® 790 (sc-390054 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390054 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

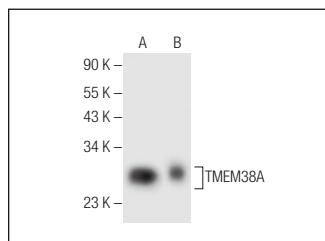
TMEM38A (G-12) is recommended for detection of TMEM38A of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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).

Suitable for use as control antibody for TMEM38A siRNA (h): sc-97105, TMEM38A siRNA (m): sc-154461, TMEM38A shRNA Plasmid (h): sc-97105-SH, TMEM38A shRNA Plasmid (m): sc-154461-SH, TMEM38A shRNA (h) Lentiviral Particles: sc-97105-V and TMEM38A shRNA (m) Lentiviral Particles: sc-154461-V.

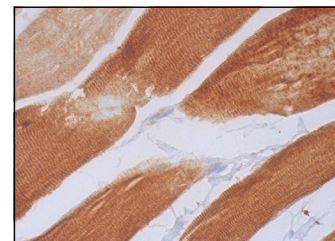
Molecular Weight of TMEM38A: 33 kDa.

Positive Controls: rat skeletal muscle extract: sc-364810 or mouse skeletal muscle extract: sc-364250.

DATA



TMEM38A (G-12): sc-390054. Western blot analysis of TMEM38A expression in rat skeletal muscle (A) and mouse skeletal muscle (B) tissue extracts.



TMEM38A (G-12): sc-390054. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Shrestha, N., et al. 2020. TRIC-A shapes oscillatory Ca²⁺ signals by interaction with STIM1/Orai1 complexes. *PLoS Biol.* 18: e3000700.
2. Nagel, S., et al. 2023. Establishment of the myeloid TBX-code reveals aberrant expression of T-box gene TBX1 in chronic myeloid leukemia. *Int. J. Mol. Sci.* 25: 32.

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.

PROTOCOLS

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

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