

TMEM38A (T-14): sc-241717

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.
5. Zhao, X., et al. 2010. Ca²⁺ overload and sarcoplasmic reticulum instability in tric-a null skeletal muscle. *J. Biol. Chem.* 285: 37370-37376.
6. Yamazaki, D., et al. 2011. TRIC-A channels in vascular smooth muscle contribute to blood pressure maintenance. *Cell Metab.* 14: 231-241.
7. Wilkie, G.S., et al. 2011. Several novel nuclear envelope transmembrane proteins identified in skeletal muscle have cytoskeletal associations. *Mol. Cell. Proteomics* 10: M110.003129.

CHROMOSOMAL LOCATION

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

SOURCE

TMEM38A (T-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TMEM38A 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-241717 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TMEM38A (T-14) is recommended for detection of TMEM38A of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with TMEM38B.

TMEM38A (T-14) is also recommended for detection of TMEM38A in additional species, including equine, canine, porcine and avian.

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.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.