

TMEM18 (H-54): sc-292005

BACKGROUND

TMEM18 (Transmembrane protein 18) is a 140 amino acid multi-pass membrane protein that localizes to the nuclear membrane and is expressed in the brain. TMEM18 functions as a cell migration modulator which enhances the glioma-specific migration ability of neural precursor and neural stem cells. Overexpression of TMEM18 increases migration of human and murine neural stem cells, whereas knockdown of TMEM18 mRNA reduces cellular migration. Two specific single nucleotide polymorphisms (SNPs) within the TMEM18 gene locus known as rs6548238 and rs756131 have been linked to obesity susceptibility.

REFERENCES

1. Jurvansuu, J., et al. 2008. Transmembrane protein 18 enhances the tropism of neural stem cells for glioma cells. *Cancer Res.* 68: 4614-4622.
2. Hotta, K., et al. 2009. Association between obesity and polymorphisms in Sec16B, TMEM18, GNPDA2, BDNF, FAIM2 and MC4R in a Japanese population. *J. Hum. Genet.* 54: 727-731.
3. Willer, C.J., et al. 2009. Six new loci associated with body mass index highlight a neuronal influence on body weight regulation. *Nat. Genet.* 41: 25-34.
4. Almén, M.S., et al. 2010. The obesity gene, TMEM18, is of ancient origin, found in majority of neuronal cells in all major brain regions and associated with obesity in severely obese children. *BMC Med. Genet.* 11: 58.
5. Elks, C.E., et al. 2010. Thirty new loci for age at menarche identified by a meta-analysis of genome-wide association studies. *Nat. Genet.* 42: 1077-1085.
6. Elks, C.E., et al. 2010. Genetic markers of adult obesity risk are associated with greater early infancy weight gain and growth. *PLoS Med.* 7: e1000284.
7. Holzapfel, C., et al. 2011. First investigation of two obesity-related loci (TMEM18, FTO) concerning their association with educational level as well as income: the MONICA/KORA study. *J. Epidemiol. Community Health* 65: 174-176.
8. Orkunoglu-Suer, F.E., et al. 2011. MC4R variant is associated with BMI but not response to resistance training in young females. *Obesity (Silver Spring)*. 19: 662-666.

CHROMOSOMAL LOCATION

Genetic locus: TMEM18 (human) mapping to 2p25.3; Tmem18 (mouse) mapping to 12 A2.

SOURCE

TMEM18 (H-54) is a rabbit polyclonal antibody raised against amino acids 76-129 mapping near the C-terminus of TMEM18 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.

APPLICATIONS

TMEM18 (H-54) is recommended for detection of TMEM18 of human, mouse and, to a lesser extent, rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TMEM18 siRNA (h): sc-94311, TMEM18 siRNA (m): sc-154418, TMEM18 shRNA Plasmid (h): sc-94311-SH, TMEM18 shRNA Plasmid (m): sc-154418-SH, TMEM18 shRNA (h) Lentiviral Particles: sc-94311-V and TMEM18 shRNA (m) Lentiviral Particles: sc-154418-V.

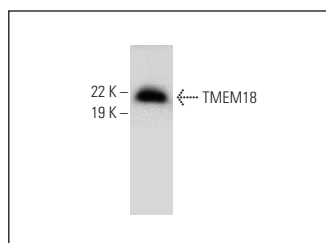
Molecular Weight of TMEM18: 18 kDa.

Positive Controls: T98G cell lysate: sc-2294 or U-87 MG cell lysate: sc-2411.

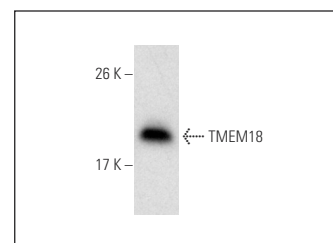
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



TMEM18 (H-54): sc-292005. Western blot analysis of TMEM18 expression in T98G whole cell lysate.



TMEM18 (H-54): sc-292005. Western blot analysis of TMEM18 expression in U-87 MG whole cell lysate.

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.