

# TMEM55A (N-14): sc-87458

## BACKGROUND

TMEM55A (transmembrane protein 55A) is a 257 amino acid multi-pass membrane protein that localizes to both the lysosomal and the late endosomal membranes. Expressed ubiquitously, TMEM55A functions to catalyze the H<sub>2</sub>O-dependent hydrolysis of the 4-position phosphate of phosphatidylinositol 4,5-bisphosphate, thereby playing a crucial role in the degradation of phosphatidylinositol-4,5-bisphosphate. The gene encoding TMEM55A maps to human chromosome 8, which consists of nearly 146 million base pairs, houses more than 800 genes and is associated with a variety of diseases and malignancies. Schizophrenia, bipolar disorder, Trisomy 8, Pfeiffer syndrome, congenital hypothyroidism, Waardenburg syndrome and some leukemias and lymphomas are thought to occur as a result of defects in specific genes that map to chromosome 8.

## REFERENCES

- Zhang, X. and Majerus, P.W. 1998. Phosphatidylinositol signalling reactions. *Semin. Cell Dev. Biol.* 9: 153-160.
- Wildenauer, D.B. and Schwab, S.G. 1999. Chromosomes 8 and 10 workshop. *Am. J. Med. Genet.* 88: 239-243.
- Kashino, G., Kodama, S., Suzuki, K., Oshimura, M. and Watanabe, M. 2001. Preferential expression of an intact WRN gene in Werner syndrome cell lines in which a normal chromosome 8 has been introduced. *Biochem. Biophys. Res. Commun.* 289: 111-115.
- Selicorni, A., Gueneri, S., Ratti, A. and Pizzuti, A. 2002. Cytogenetic mapping of a novel locus for type II Waardenburg syndrome. *Hum. Genet.* 110: 64-67.
- McQueen, M.B., Devlin, B., Faraone, S.V., Nimgaonkar, V.L., Sklar, P., Smoller, J.W., Abou Jamra, R., Albus, M., et al. 2005. Combined analysis from eleven linkage studies of bipolar disorder provides strong evidence of susceptibility loci on chromosomes 6q and 8q. *Am. J. Hum. Genet.* 77: 582-595.
- Ungewickell, A., Hugge, C., Kisseleva, M., Chang, S.C., Zou, J., Feng, Y., Galyov, E.E., Wilson, M. and Majerus, P.W. 2005. The identification and characterization of two phosphatidylinositol-4,5-bisphosphate 4-phosphatases. *Proc. Natl. Acad. Sci. USA* 102: 18854-18859.
- Astle, M.V., Seaton, G., Davies, E.M., Fedele, C.G., Rahman, P., Arsala, L. and Mitchell, C.A. 2006. Regulation of phosphoinositide signaling by the inositol polyphosphate 5-phosphatases. *IUBMB Life* 58: 451-456.
- Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 609864. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: TMEM55A (human) mapping to 8q21.3; Tmem55a (mouse) mapping to 4 A1.

## SOURCE

TMEM55A (N-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of TMEM55A of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-87458 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

TMEM55A (N-14) is recommended for detection of TMEM55A 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).

TMEM55A (N-14) is also recommended for detection of TMEM55A in additional species, including equine, bovine, porcine and avian.

Suitable for use as control antibody for TMEM55A siRNA (h): sc-77757, TMEM55A siRNA (m): sc-154479, TMEM55A siRNA (r): sc-156071, TMEM55A shRNA Plasmid (h): sc-77757-SH, TMEM55A shRNA Plasmid (m): sc-154479-SH, TMEM55A shRNA Plasmid (r): sc-156071-SH, TMEM55A shRNA (h) Lentiviral Particles: sc-77757-V, TMEM55A shRNA (m) Lentiviral Particles: sc-154479-V and TMEM55A shRNA (r) Lentiviral Particles: sc-156071-V.

Molecular Weight of TMEM55A: 28 kDa.

## 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) 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.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## RESEARCH USE

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