SANTA CRUZ BIOTECHNOLOGY, INC.

TMCC3 (F-2): sc-390162

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

TMCC3 (transmembrane and coiled-coil domains protein 3) is a 477 amino acid multi-pass membrane protein that belongs to the TEX28 family. The gene that encodes TMCC3 contains approximately 83,429 bases and maps to human chromosome 12q22. Encoding over 1,100 genes within 132 million bases, chromosome 12 makes up about 4.5% of the human genome. A number of skeletal deformities are linked to chromosome 12, including hypochondrogenesis, achondrogenesis and Kniest dysplasia. Noonan syndrome, which includes heart and facial developmental defects among the primary symptoms, is caused by a mutant form of PTPN11 gene product, SH-PTP2. Chromosome 12 is also home to a homeobox gene cluster, which encodes crucial transcription factors for morphogenesis, and the natural killer complex gene cluster, encoding C-type lectin proteins which mediate the NK cell response to MHC I interaction. Trisomy 12p leads to facial development defects, seizure disorders and a host of other symptoms which vary in severity depending on the extent of mosaicism. It is most severe in cases of complete trisomy.

REFERENCES

1. Allen, T.L., et al. 1996. Cytogenetic and molecular analysis in trisomy 12p. Am. J. Med. Genet. 63: 250-256.
2. Delgado Carrasco, J., et al. 2001. Achondrogenesis type II-hypochondrogenesis: radiological features. Case report. An. Esp. Pediatr. 55: 553-557.
3. Yokoyama, T., et al. 2003. A case of Kniest dysplasia with retinal detachment and the mutation analysis. Am. J. Ophthalmol. 136: 1186-1188.
4. Forzano, F., et al. 2007. A familial case of achondrogenesis type II caused by a dominant COL2A1 mutation and "patchy" expression in the mosaic father. Am. J. Med. Genet. A 143A: 2815-2820.
5. Wainwright, H. and Beighton, P. 2008. Visceral manifestations of hypochondrogenesis. Virchows Arch. 453: 203-207.
6. Lo, F.S., et al. 2009. High resolution melting analysis for mutation detection for PTPN11 gene: applications of this method for diagnosis of Noonan syndrome. Clin. Chim. Acta 409: 75-77.
7. Benussi, D.G., et al. 2009. Trisomy 12p and monosomy 4p: phenotype-genotype correlation. Genet. Test. Mol. Biomarkers 13: 199-204.

CHROMOSOMAL LOCATION

Genetic locus: TMCC3 (human) mapping to 12q22; Tmcc3 (mouse) mapping to 10 C2.

SOURCE

TMCC3 (F-2) is a mouse monoclonal antibody raised against a peptide mapping within an internal region of TMCC3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390162 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

TMCC3 (F-2) is recommended for detection of TMCC3 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 TMCC3 siRNA (h): sc-95908, TMCC3 siRNA (m): sc-154323, TMCC3 shRNA Plasmid (h): sc-95908-SH, TMCC3 shRNA Plasmid (m): sc-154323-SH, TMCC3 shRNA (h) Lentiviral Particles: sc-95908-V and TMCC3 shRNA (m) Lentiviral Particles: sc-154323-V.

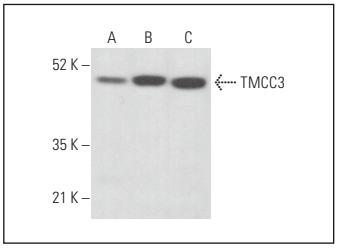
Molecular Weight of TMCC3: 54 kDa.

Positive Controls: TMCC3 (m): 293T Lysate: sc-124089, F9 cell lysate: sc-2245 or RAW 264.7 whole cell lysate: sc-2211.

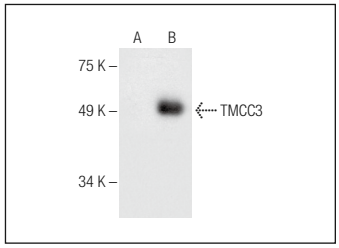
RECOMMENDED SUPPORT REAGENTS

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



TMCC3 (F-2): sc-390162. Western blot analysis of TMCC3 expression in NIH/3T3 (**A**), RAW 264.7 (**B**) and F9 (**C**) whole cell lysates.



TMCC3 (F-2): sc-390162. Western blot analysis of TMCC3 expression in non-transfected: sc-117752 (**A**) and mouse TMCC3 transfected: sc-124089 (**B**) 293T whole cell lysates.

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.