SANTA CRUZ BIOTECHNOLOGY, INC.

TMTC3 (N-15): sc-139095

BACKGROUND

The tetratricopeptide repeat (TPR) motif is a degenerate, 34 amino acid sequence found in many proteins that acts to mediate protein-protein interactions in various pathways. At the sequence level, there can be up to 16 tandem TPR repeats, each of which has a helix-turn-helix shape that stacks on other TPR repeats to achieve ligand binding specificity. TMTC3 (transmembrane and tetratricopeptide repeat containing 3), also known as SMILE, is a 915 amino acid multi-pass membrane protein belonging to the TMTC family and contains ten TPR repeats. Existing as two alternatively spliced isoforms, TMTC3 is encoded by a gene located on human chromosome 12q21.32. Encoding over 1,100 genes within 132 million bases, chromosome 12 makes up about 4.5% of the human genome.

REFERENCES

1. Young, J.C., et al. 1998. Specific binding of tetratricopeptide repeat proteins to the C-terminal 12-kDa domain of hsp90. J. Biol. Chem. 273: 18007-18010.
2. Cortajarena, A.L., et al. 2004. Protein design to understand peptide ligand recognition by tetratricopeptide repeat proteins. Protein Eng. Des. Sel. 17: 399-409.
3. Cliff, M.J., et al. 2005. Molecular recognition via coupled folding and binding in a TPR domain. J. Mol. Biol. 346: 717-732.
4. Cortajarena, A.L., et al. 2006. Ligand binding by TPR domains. Protein Sci. 15: 1193-1198.
5. Kajander, T., et al. 2007. Structure and stability of designed TPR protein superhelices: unusual crystal packing and implications for natural TPR proteins. Acta Crystallogr. D Biol. Crystallogr. 63: 800-811.
6. Karpenahalli, M.R., et al. 2007. TPRpred: a tool for prediction of TPR-, PPR- and SEL1-like repeats from protein sequences. BMC Bioinformatics 8: 2.
7. Pál, M., et al. 2007. Structurally related TPR subunits contribute differently to the function of the anaphase-promoting complex in *Drosophila melanogaster*. J. Cell Sci. 120: 3238-3248.
8. Yang, K.Q. 2007. TPR repeats and ELTR pattern: length variation as a function evolution mechanism. Wei Sheng Wu Xue Bao 47: 956-962.

CHROMOSOMAL LOCATION

Genetic locus: TMTC3 (human) mapping to 12q21.32; Tmtc3 (mouse) mapping to 10 D1.

SOURCE

TMTC3 (N-15) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of TMTC3 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-139095 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TMTC3 (N-15) is recommended for detection of TMTC3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with TMTC1, TMTC2 or TMTC4.

TMTC3 (N-15) is also recommended for detection of TMTC3 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for TMTC3 siRNA (h): sc-95711, TMTC3 siRNA (m): sc-154534, TMTC3 shRNA Plasmid (h): sc-95711-SH, TMTC3 shRNA Plasmid (m): sc-154534-SH, TMTC3 shRNA (h) Lentiviral Particles: sc-95711-V and TMTC3 shRNA (m) Lentiviral Particles: sc-154534-V.

Molecular Weight of TMTC3: 104 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.

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.