

TTI1 (F-6): sc-271851

BACKGROUND

TTI1 (TELO2-interacting protein 1 homolog), also known as SMG10, is a 1,089 amino acid protein that is widely expressed and belongs to the TTI1 family. TTI1 functions as a regulator of the DNA damage response (DDR) and is a component of the TTT complex, which is necessary for the stabilization of protein levels of the phosphatidylinositol 3-kinase (PIKK) family. The TTT complex is a part of the cellular resistance to DNA damage stresses such as ionizing radiation (IR), ultraviolet (UV) and mitomycin C (MMC). In combination with the TTT complex and HSP90, TTI1 may play a role in the proper folding of newly synthesized PIKKs. TTI1 also is involved in the assembly of mTORC1 and mTORC2 complexes, as well as their stabilization and maintenance. TTI1 is post-translationally modified at serine 459 and the gene encoding this protein maps to human chromosome 20.

REFERENCES

1. Ishikawa, K., et al. 1997. Prediction of the coding sequences of unidentified human genes. VIII. 78 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 4: 307-313.
2. Olsen, J.V., et al. 2006. Global, *in vivo*, and site-specific phosphorylation dynamics in signaling networks. Cell 127: 635-648.
3. Daub, H., et al. 2008. Kinase-selective enrichment enables quantitative phosphoproteomics of the kinome across the cell cycle. Mol. Cell 31: 438-448.
4. Hurov, K.E., et al. 2010. A genetic screen identifies the Triple T complex required for DNA damage signaling and ATM and ATR stability. Genes Dev. 24: 1939-1950.
5. Takai, H., et al. 2010. Tel2 structure and function in the Hsp90-dependent maturation of mTOR and ATR complexes. Genes Dev. 24: 2019-2030.
6. Kaizuka, T., et al. 2010. Tti1 and Tel2 are critical factors in mammalian target of rapamycin complex assembly. J. Biol. Chem. 285: 20109-20116.
7. Izumi, N., et al. 2010. AAA⁺ proteins RUVBL1 and RUVBL2 coordinate PIKK activity and function in nonsense-mediated mRNA decay. Sci. Signal. 3: ra27.

CHROMOSOMAL LOCATION

Genetic locus: TTI1 (human) mapping to 20q11.23; Tti1 (mouse) mapping to 2 H1.

SOURCE

TTI1 (F-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 5-29 at the N-terminus of TTI1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ 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-271851 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

TTI1 (F-6) is recommended for detection of TTI1 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).

TTI1 (F-6) is also recommended for detection of TTI1 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for TTI1 siRNA (h): sc-75381, TTI1 siRNA (m): sc-146444, TTI1 shRNA Plasmid (h): sc-75381-SH, TTI1 shRNA Plasmid (m): sc-146444-SH, TTI1 shRNA (h) Lentiviral Particles: sc-75381-V and TTI1 shRNA (m) Lentiviral Particles: sc-146444-V.

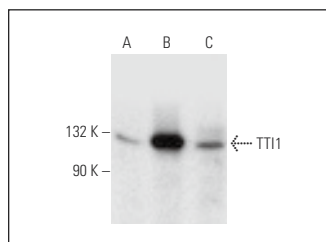
Molecular Weight of TTI1: 122 kDa.

Positive Controls: TTI1 (h2): 293 Lysate: sc-113814, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

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



TTI1 (F-6): sc-271851. Western blot analysis of TTI1 expression in non-transfected 293: sc-110760 (A), human TTI1 transfected 293: sc-113814 (B) and Jurkat (C) 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.