

TP1 (22): sc-136315

BACKGROUND

Telomerase is an RNA-dependent DNA polymerase that catalyzes the addition of telomeric repeat sequences to chromosome ends. In most human somatic cells, telomerase activity is undetectable and telomeres shorten with successive cell divisions. However, telomerase activity is detectable in immortal cells and in many human tumors. Two candidate mammalian telomerase proteins have been cloned. Human TP1 (for telomerase-associated protein 1), also designated TLP1 in rat (for telomerase protein component 1), is homologous to the Tetrahymena p80 telomerase protein and has been shown to interact with mammalian telomerase RNA. Human TRT (for telomerase reverse transcriptase), also designated hEST2 (for ever shorter telomeres), is homologous to the p123 telomerase protein from *Euplotes* and to the yeast Est2 protein. Expression of TRT mRNA has been shown to correlate with telomerase activity in various cell lines.

REFERENCES

- Counter, C.M., et al. 1992. Telomere shortening associated with chromosome instability is arrested in immortal cells which express telomerase activity. *EMBO J.* 11: 1921-1929.
- Kim, N.W., et al. 1994. Specific association of human telomerase activity with immortal cells and cancer. *Science* 266: 2011-2015.
- Greider, C.W. 1996. Telomere length regulation. *Annu. Rev. Biochem.* 65: 337-365.
- Harrington, L., et al. 1997. A mammalian telomerase-associated protein. *Science* 275: 973-977.
- Nakayama, J., et al. 1997. TLP1: a gene encoding a protein component of mammalian telomerase is a novel member of WD repeats family. *Cell* 88: 875-884.
- Nakamura, T.M., et al. 1997. Telomerase catalytic subunit homologs from fission yeast and human. *Science* 277: 955-959.
- Meyerson, M., et al. 1997. hEST2, the putative human telomerase catalytic subunit gene, is upregulated in tumor cells and during immortalization. *Cell* 90: 785-795.

CHROMOSOMAL LOCATION

Genetic locus: *Tep1* (mouse) mapping to 14 C1.

SOURCE

TP1 (22) is a mouse monoclonal antibody raised against amino acids 12-201 of TP1 of rat 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.

STORAGE

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

APPLICATIONS

TP1 (22) is recommended for detection of TP1 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000); not recommended for immunoprecipitation.

Suitable for use as control antibody for TP1 siRNA (m): sc-36704, TP1 shRNA Plasmid (m): sc-36704-SH and TP1 shRNA (m) Lentiviral Particles: sc-36704-V.

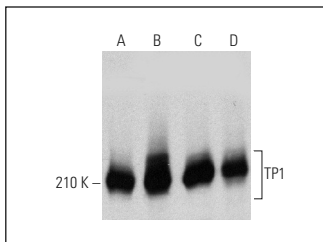
Molecular Weight of TP1 isoforms: 240/230 kDa.

Positive Controls: L8 cell lysate: sc-3807, rat liver extract: sc-2395 or RAT2 whole cell lysate: sc-364198.

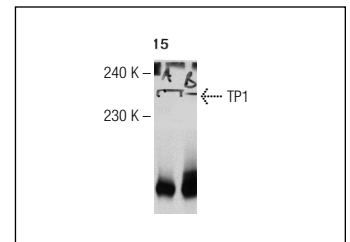
RECOMMENDED SUPPORT REAGENTS

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, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048.

DATA



TP1 (22): sc-136315. Western blot analysis of TP1 expression in PC-12 (A), H19-7/IGF-1R (B), RAT2 (C) and L8 (D) whole cell lysates.



TP1 (22): sc-136315. Western blot analysis of TP1 expression in rat liver tissue extract.

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.