

## TP1 (C-20)-R: sc-6370-R

### 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 eukaryotes 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 up-regulated in tumor cells and during immortalization. *Cell* 90: 785-795.

### CHROMOSOMAL LOCATION

Genetic locus: TEP1 (human) mapping to 14q11.2.

### SOURCE

TP1 (C-20)-R is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of TP1 (telomerase-associated protein 1) of human origin.

### PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-6370 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

TP1 (C-20)-R is recommended for detection of TP1 of human origin by Western Blotting (starting dilution 1:200, 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).

TP1 (C-20)-R is also recommended for detection of TP1 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for TP1 siRNA (h): sc-36703, TP1 shRNA Plasmid (h): sc-36703-SH and TP1 shRNA (h) Lentiviral Particles: sc-36703-V.

Molecular Weight of TP1 isoforms: 240/230 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or SK-N-SH cell lysate: sc-2410.

### 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

### SELECT PRODUCT CITATIONS

- Ali, A.S., et al. 2000. Detection of hTERT protein by flow cytometry. *Leukemia* 14: 2176-2181.

### 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](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **TP1 (B-1): sc-166620**, our highly recommended monoclonal alternative to TP1 (C-20).