

# POT1 (C-19): sc-27952

## BACKGROUND

POT1 (protection of telomeres 1 homolog (*S. pombe*)) human protein mediates chromosome end-protection and telomere-length regulation and has a strong sequence preference for binding telomeric repeat tracts. POT1 can disrupt telomeric repeat tracts that form intramolecular G-quadruplexes through Hoogsteen base-pairing. POT1 belongs to a family of oligonucleotide-binding (OB)-fold-containing proteins that include oxytricha nova TEBP, Cdc13 and spPot1, which specifically recognize telomeric single-stranded DNA (ssDNA). Telomere maintenance involves the cooperation of several telomeric factors, including telomerase, TRF1, TRF2, RAP1, TIN2, Tankyrase, PINX1 and POT1. Alterations in POT1 expression levels may be associated with stomach carcinogenesis and GC progression.

## REFERENCES

- Loayza, D., et al. 2003. POT1 as a terminal transducer of TRF1 telomere length control. *Nature* 423: 1013-1018.
- Colgin, L.M., et al. 2003. Human POT1 facilitates telomere elongation by telomerase. *Curr. Biol.* 13: 942-946.
- Loayza, D., et al. 2004. DNA binding features of human POT1: a nonamer 5'-TAGGGTTAG-3' minimal binding site, sequence specificity, and internal binding to multimeric sites. *J. Biol. Chem.* 279: 13241-13248.
- Kondo, T., et al. 2004. Expression of POT1 is associated with tumor stage and telomere length in gastric carcinoma. *Cancer Res.* 64: 523-529.
- Liu, D., et al. 2004. PTP interacts with POT1 and regulates its localization to telomeres. *Nat. Cell Biol.* 6: 673-680.
- Kelleher, C., et al. 2005. Human protection of telomeres 1 (POT1) is a negative regulator of telomerase activity *in vitro*. *Mol. Cell. Biol.* 25: 808-818.
- Yang, Q., et al. 2005. POT1 and TRF2 cooperate to maintain telomeric integrity. *Mol. Cell. Biol.* 25: 1070-1080.

## CHROMOSOMAL LOCATION

Genetic locus: POT1 (human) mapping to 7q31.33; Pot1a (mouse) mapping to 6 A3.1.

## SOURCE

POT1 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Protection of Telomeres 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-27952 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

POT1 (C-19) is recommended for detection of POT1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

POT1 (C-19) is also recommended for detection of POT1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for POT1 siRNA (h): sc-44032, POT1 siRNA (m): sc-44803, POT1 shRNA Plasmid (h): sc-44032-SH, POT1 shRNA Plasmid (m): sc-44803-SH, POT1 shRNA (h) Lentiviral Particles: sc-44032-V and POT1 shRNA (m) Lentiviral Particles: sc-44803-V.

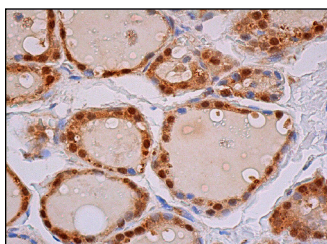
Molecular Weight of POT1 isoforms: 38/52/58/71 kDa.

Positive Controls: mouse brain extract: sc-2253.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



POT1 (C-19): sc-27952. Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing nuclear and cytoplasmic staining of glandular cells.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

**MONOS**  
Satisfaction  
Guaranteed

Try **POT1 (M1-P1H5): sc-81711**, our highly recommended monoclonal alternative to POT1 (C-19).