

POT1 (H-200): sc-33789

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

- Colgin, L.M., et al. 2003. Human POT1 facilitates telomere elongation by telomerase. *Curr. Biol.* 13: 942-946.
- Loayza, D., et al. 2003. POT1 as a terminal transducer of TRF1 telomere length control. *Nature* 423: 10313-1018.

CHROMOSOMAL LOCATION

Genetic locus: POT1 (human) mapping to 7q31.33; Pot1 (mouse) mapping to 6 A3.1.

SOURCE

POT1 (H-200) is a rabbit polyclonal antibody raised against amino acids 11-210 mapping near the N-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.

RESEARCH USE

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

APPLICATIONS

POT1 (H-200) is recommended for detection of POT1 isoforms 1-5 of mouse, rat and 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).

POT1 (H-200) is also recommended for detection of POT1 isoforms 1-5 in additional species, including canine and bovine.

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.

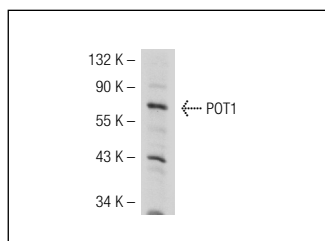
Molecular Weight of POT1 isoforms: 38/52/58/71 kDa.

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 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.

DATA



POT1 (H-200): sc-33789. Western blot analysis of POT1 expression in mouse brain tissue extract.

SELECT PRODUCT CITATIONS

- Kim, S.H., et al. 2008. Telomere dysfunction and cell survival: roles for distinct TIN2-containing complexes. *J. Cell Biol.* 181: 447-460.
- Bhattacharyya, S., et al. 2009. Telomerase associated protein 1, HSP 90 and topoisomerase II α associate directly with the BLM helicase in immortalized cells using ALT and modulate its helicase activity using telomeric DNA substrates. *J. Biol. Chem.* 284: 14966-14977.
- Uhlířová, R., et al. 2010. SUV39h- and A-type lamin-dependent telomere nuclear rearrangement. *J. Cell. Biochem.* 109: 915-926.
- Polanská, E., et al. 2012. HMGB1 gene knockout in mouse embryonic fibroblasts results in reduced telomerase activity and telomere dysfunction. *Chromosoma* 121: 419-431.
- Ponsot, E., et al. 2012. Telomere length and regulatory proteins in human skeletal muscle with and without ongoing regenerative cycles. *Exp. Physiol.* 97: 774-784.

STORAGE

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

MONOS
Satisfaction
Guaranteed

Try **POT1 (M1-P1H5): sc-81711**, our highly recommended monoclonal alternative to POT1 (H-200).