

# Tankyrase-1/2 (H-350): sc-8337

## BACKGROUND

Tankyrase-1 (TRF1-interacting ankyrin-related ADP-ribose polymerase 1) and the closely related homolog Tankyrase-2 are poly(ADP-ribose) polymerases (PARPs) that co-localize and use an ankyrin-repeat domain to bind diverse proteins, including TRF-1 (telomere-repeat-binding factor 1), IRAP (insulin-responsive aminopeptidase) and TAB182. Tankyrase-1 (also known as TNKS and TNKS1) and Tankyrase-2 (also known as TNKS2, TNKL and TANK2) interact with the same set of proteins and probably mediate overlapping functions, both at telomeres and in vesicular compartments. Overexpression of Tankyrase-1 in the nucleus promotes telomere elongation, suggesting that Tankyrase-1 may regulate access of telomerase to the telomeric complex. Overexpression of Tankyrase-2 in the nucleus releases endogenous TRF1 from telomeres, establishing Tankyrase-2 as a PARP with itself and TRF1 as acceptors of ADP-ribosylation, and suggesting the possibility of a role for Tankyrase-2 at telomeres. The ankyrin (ANK) domain of Tankyrase-2 comprises five subdomains that provide redundant binding sites for IRAP. Tankyrase-2 lacks the N-terminal histidine/proline/serine-rich region of Tankyrase-1, but contains a corresponding ankyrin repeat region, sterile  $\alpha$  motif module and poly(ADP-ribose) polymerase homology domain. The gene encoding Tankyrase-2 is widely expressed, with mRNA transcripts particularly abundant in skeletal muscle and placenta.

## CHROMOSOMAL LOCATION

Genetic locus: TNKS (human) mapping to 8p23.1, TNKS2 (human) mapping to 10q23.32; Tnks (mouse) mapping to 8 A4, Tnks2 (mouse) mapping to 19 C2.

## SOURCE

Tankyrase-1/2 (H-350) is a rabbit polyclonal antibody raised against amino acids 745-1094 of Tankyrase-1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Tankyrase-1/2 (H-350) is recommended for detection of Tankyrase-1 and Tankyrase-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], 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).

Tankyrase-1/2 (H-350) is also recommended for detection of Tankyrase-1 and Tankyrase-2 in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of Tankyrase-1 isoforms: 130/170 kDa.

Positive Controls: A549 cell lysate: sc-2413, Jurkat whole cell lysate: sc-2204 or rat testis extract: sc-2400.

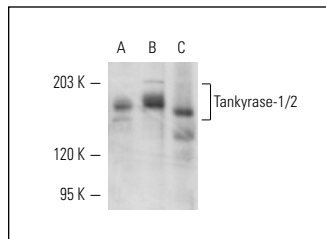
## RESEARCH USE

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

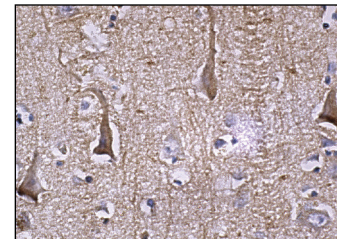
## STORAGE

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

## DATA



Tankyrase-1/2 (H-350): sc-8337. Western blot analysis of Tankyrase-1/2 expression in A549 (A) and Jurkat (B) whole cell lysates and rat testis tissue extract (C).



Tankyrase-1/2 (H-350): sc-8337. Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing cytoplasmic staining of neuronal cells.

## SELECT PRODUCT CITATIONS

- Seimiya, H., et al. 2004. Functional subdomain in the ankyrin domain of Tankyrase-1 required for poly(ADP-ribosylation) of TRF1 and telomere elongation. *Mol. Cell. Biol.* 24: 1944-1955.
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- Yeh, T.Y., et al. 2005. Tankyrase-1 overexpression reduces genotoxin-induced cell death by inhibiting PARP-1. *Mol. Cell. Biochem.* 276: 183-192.
- Yeh, T.Y., et al. 2006. Tankyrase recruitment to the lateral membrane in polarized epithelial cells: regulation by cell-cell contact and protein poly(ADP-ribosylation). *Biochem. J.* 399: 415-425.
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- Shebzukhov, Y.V., et al. 2007. Human tankyrases are aberrantly expressed in colon tumors and contain multiple epitopes that induce humoral and cellular immune responses in cancer patients. *Cancer Immunol. Immunother.* 57: 871-881.
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- 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.
- Guo, H.L., et al. 2012. The Axin/TNKS complex interacts with KIF3A and is required for Insulin-stimulated GLUT4 translocation. *Cell Res.* 22: 1246-1257.

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Try **Tankyrase-1/2 (E-10): sc-365897** or **Tankyrase-1 (BL-2): sc-130422**, our highly recommended monoclonal alternatives to Tankyrase-1/2 (H-350).