

Tankyrase-2 (N-16): sc-22854

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 α 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.

REFERENCES

1. Kuimov, A.N., et al. 2001. Cloning and characterization of TNKL, a member of tankyrase gene family. *Genes Immun.* 2: 52-55.
2. Lyons, R.J., et al. 2001. Identification of a novel human tankyrase through its interaction with the adaptor protein Grb14. *J. Biol. Chem.* 276: 17172-17180.
3. Cook, B.D., et al. 2002. Role for the related poly(ADP-ribose) polymerases Tankyrase-1 and -2 at human telomeres. *Mol. Cell. Biol.* 22: 332-342.
4. Sbdio, J.I., et al. 2002. Tankyrase-2 oligomerizes with Tankyrase-1 and binds to both TRF1 (telomere-repeat-binding factor 1) and IRAP (insulin-responsive aminopeptidase). *Biochem. J.* 361: 451-459.
5. Sbdio, J.I., et al. 2002. Identification of a tankyrase-binding motif shared by IRAP, TAB182, and human TRF1 but not mouse TRF1. NuMA contains this RXXPDG motif and is a novel tankyrase partner. *J. Biol. Chem.* 277: 31887-31892.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607128. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: TNKS2 (human) mapping to 10q23.32.

SOURCE

Tankyrase-2 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Tankyrase-2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-22854 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Tankyrase-2 (N-16) is recommended for detection of Tankyrase-2 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Tankyrase-2 (N-16) is also recommended for detection of Tankyrase-2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Tankyrase-2 siRNA (h): sc-44378, Tankyrase-2 shRNA Plasmid (h): sc-44378-SH and Tankyrase-2 shRNA (h) Lentiviral Particles: sc-44378-V.

Molecular Weight of Tankyrase-2: 130 kDa.

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.

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 or our catalog for detailed protocols and support products.



Try **Tankyrase-1/2 (E-10): sc-365897**, our highly recommended monoclonal alternative to Tankyrase-2 (N-16).