

Tankyrase-1 (BL-2): sc-130422

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. Uchida, K., et al. 1987. Nucleotide sequence of a full-length cDNA for human fibroblast poly(ADP-ribose) polymerase. *Biochem. Biophys. Res. Commun.* 148: 617-622.
2. Schreiber, V., et al. 1992. The human poly(ADP-ribose) polymerase nuclear localization signal is a bipartite element functionally separate from DNA binding and catalytic activity. *EMBO J.* 11: 3263-3269.
3. Chong, L., et al. 1995. A human telomeric protein. *Science* 270: 1663-1667.
4. van Steensel, B., et al. 1997. Control of telomere length by the human telomeric protein TRF1. *Nature* 385: 740-743.
5. Smith, S., et al. 1998. Tankyrase, a poly(ADP-Ribose) polymerase at human telomeres. *Cell* 282: 1484-1487.
6. Smith, S., et al. 1999. Cell cycle dependent localization of the telomeric PARP, tankyrase, to nuclear pore complexes and centrosomes. *J. Cell Sci.* 112: 3649-2656.

CHROMOSOMAL LOCATION

Genetic locus: TNKS (human) mapping to 8p23.1; Tnks (mouse) mapping to 8 A4.

SOURCE

Tankyrase-1 (BL-2) is a mouse monoclonal antibody raised against recombinant Tankyrase-1 of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} kappa light chain in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Tankyrase-1 (BL-2) is recommended for detection of Tankyrase-1 of mouse, rat and human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Tankyrase-1 siRNA (h): sc-44139, Tankyrase-1 siRNA (m): sc-44140, Tankyrase-1 shRNA Plasmid (h): sc-44139-SH, Tankyrase-1 shRNA Plasmid (m): sc-44140-SH, Tankyrase-1 shRNA (h) Lentiviral Particles: sc-44139-V and Tankyrase-1 shRNA (m) Lentiviral Particles: sc-44140-V.

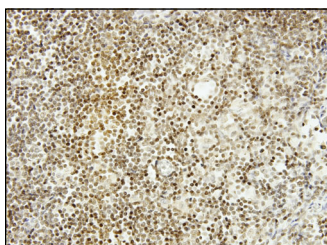
Molecular Weight of Tankyrase-1: 170 kDa.

Positive Controls: human lymph node extract: sc-363768.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



Tankyrase-1 (BL-2): sc-130422. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lymph node tissue showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Sun, X., et al. 2016. Sam68 is required for DNA damage responses via regulating poly(ADP-ribosylation). *PLoS Biol.* 14: e1002543.

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 for detailed protocols and support products.