SANTA CRUZ BIOTECHNOLOGY, INC.

Tankyrase-1 (N-20)-R: sc-8708-R

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Tankyrase-1 (TRF1-interacting ankyrin-related ADP-ribose polymerase 1) and the closely related homolog Tankyrase-2 arepoly(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.

CHROMOSOMAL LOCATION

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

SOURCE

Tankyrase-1 (N-20)-R is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of Tankyrase-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-8708 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

Tankyrase-1 (N-20)-R is recommended for detection of Tankyrase-1 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).

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.

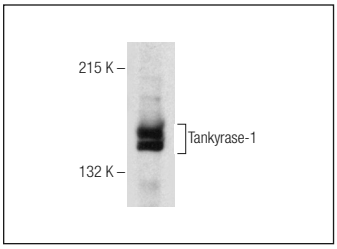
Molecular Weight of Tankyrase-1: 170 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

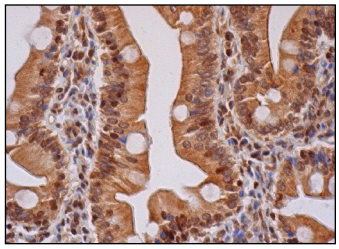
RECOMMENDED SECONDARY REAGENTS

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) 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



Tankyrase-1 (N-20)-R: sc-8708-R. Western blot analysis of Tankyrase-1 expression in Jurkat whole cell lysate.



Tankyrase-1 (N-20)-R: sc-8708-R. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic and nuclear staining of glandular cells.

STORAGE

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