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Product Specification Sheet

Tankyrase (TRF1 interacting ankyrin-related ADP-ribose polymerase, TANK1) Antibodies

Cat. # TANK11-P	Human TANK1 Control/blocking Peptide #1	**SIZE**: 100 ug
Cat. # TANK11-S	Rabbit Anti-Human TANK1 antiserum #1	**SIZE**: 100 ul
Cat. # TANK11-A	Rabbit Anti-Human TANK1 IgG # 1 (aff pure)	**SIZE**: 100 ug

Poly(ADP-ribose) polymerases (**PARPs**) catalyze formation of long, branched chain of poly(ADP-ribose) onto protein acceptors using NAD+ as a substrate. Poly(ADP)ribosylation is a transient posttranslational modification that can either enhance or reduce protein activity. **Tankyrase** (TRF1 interacting ankyrin-related ADP-ribose polymerase; human 1327 aa, **renamed as TNKS-1/TANK1,** chromosome 8), a modular protein with homology to ankyrin and poly(adenosine diphosphate-ribose) polymerase (PARP) has been cloned and localized to telomere. TANK1 is alternatively spliced to isoform 1 and 2 (missing 644-1327). The N-terminal **HPS domain** contains multiple run of histidine, proline, and serine residue homopolymers. TANK1 has 24 ankyrin repeats in TRF-1 interacting domain near the N-terminus. The 33-aa ANK repeat motif mediates protein-protein interactions. The ANK domain is followed another protein interaction motif called the sterile alpha-module (**SAM**). The C-terminal region of TANK1 contains the PARP activity. TANK1 uses its ANK domain to bind TRF1 and its PARP domain to ADP-ribosylate itself and TRF1, and thereby inhibiting the ability of TRF1 to bind telomere. The homology between tankyrase and PARPs is limited to catalytic domain. Takyrase-1 is expressed in many tissues and targeted to various intracellular compartments. Tanyrase-1, devoid of NLS (nuclear localization signal), is translocated to telomere (nucleus) through binding of its ANK domain to TRF1.

FUNCTION: May regulate vesicle trafficking and modulate the subcellular distribution of SLC2A4/GLUT4-vesicles. Has PARP activity and can modify TERF1, and thereby contribute to the regulation of telomere length.
SUBUNIT: Oligomerizes and associates with TNKS2. Interacts with the cytoplasmic domain of LNPEP/Otase in SLC2A4/GLUT4-vesicles. Binds to the N-terminus of telomeric TERF1 via the ANK repeats. Found in a complex with POT1; TERF1 and TINF2.
SUBCELLULAR LOCATION: Cytoplasm. Golgi apparatus membrane; Peripheral membrane protein. Nucleus, nuclear pore complex.

Source of Antigen, Antibodies, and Positive Controls

Antigen	21-aa peptide from **human TANK1 (**protein accession # O95271, TNK1, TNKS-1, refs 1**); Designation (TANK11 -P, control or blocking peptide**) conjugated to KLH; epitope location ~ within the CT, PARP domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#**TANK11** -S) and IgG, purified over antigen-agarose (Cat # **TANK11** -A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
100ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage
Short-term: unopened, undiluted liquid vials at 20°C and powder at 4°C or -20°C..
Long-term: at –20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20°C or below.
Shipping: 4°C for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure antibody using ECL technique). TANK1 ~142 kDa. (2)

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: Not tested. We recommend the use of affinity purified ab at 2-20 ug/ml.

Specificity & Cross-reactivity

The human TANK11-P peptide sequence is not found in TANK-1 isoform 2. It is 100% conserved in mouse TANK1. It has minimal sequence conservation with TANK2. Antibody crossreactivity in various species is not established. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity.
General References: (1) Smith S (1998) Science 282, 1484; Smith S (1999) J. Cell Sci. 112, 3649; Chi NW (2000) JBC 275, 38437; Cook BD (2002) Mol Cell. Biol. 22, 332-342,

(2) Citations of ADI's Antibodies (see web site for updated list)
Gelmini S 2004, Cancer Letters 216, 81-87, WB

*This product is for In vitro research use only.

Related material available from ADI
Antibodies TANK1/2, TRF1-2, TP1, Est2, GRBP14, Tab182, Glut4

TANK11-S-A-P 70901A

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