

Product Specification Sheet

Tankyrase (TRF1 interacting ankyrin-related ADP-ribose polymerase, TANK2/TNKL) Antibodies

Cat. # TANK21-P	Human TANK2 control/blocking Peptide #1	SIZE: 100 ug
Cat. # TANK21-S	Rabbit Anti-Human TANK2 antiserum #1	SIZE: 100 ul
Cat. # TANK21-A	Rabbit Anti-Human TANK2 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. 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 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. More recently a second tankyrase termed **tankyrase-2/TANK2/TNKL**, has been cloned and characterized. TANK2 gene (chromosome 10q23.2) encodes a ~130-kDa, 1166 aa protein with ~83% identity with TANK1. TANK2 has a unique N-terminus and lacks the HPS domain found in TANK1. TANK2 interacted with TRF1 and displayed APRP activity. It is widely expressed with more abundant expression in skeletal muscle and placenta. Unlike TANK1, TANK2 over expression caused rapid cell death.

FUNCTION: May regulate vesicle trafficking and modulate the subcellular distribution of SLC2A4/GLUT4-vesicles. Has PARP activity and can modify TRF1, and thereby contribute to the regulation of telomere length.

SUBCELLULAR LOCATION: Cytoplasm. Golgi apparatus membrane; Peripheral membrane protein. Nucleus.

SIMILARITY: Contains 15 ANK repeats.

Protein name Tankyrase-2

Synonyms EC 2.4.2.30

TANK2, Tankyrase II, TNKS-2

TRF1-interacting ankyrin-related ADP-ribose polymerase 2

Tankyrase-like protein, Tankyrase-related protein

Gene name Name: TNKS2; Synonyms: PARP5B, TANK2, TNKL

Source of Antigen, Antibodies, and Positive Controls

Antigen	14-aa peptide from human TANK2 (1) ; (protein accession #Q9H2K2, refs 1) Designation (#TANK21-P, control/blocking peptide) conjugated to KLH; Epitope location ~ between the ANK15 and SAM domain
Ab Host/type	Rabbit, Polyclonal Aff pure IgG, (Cat # TANK21-A) purified over the antigen column
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control	# 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 1 mg/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)..

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

Human TANK21-P control peptide sequence is 92% conserved in rat and 85% in mouse 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) Kuimov AN et al (2001) Genes Immuno. 2, 52; Lyons RJ et al (2001) JBC 276, 17172; Kaminker PG et al (2001) JBC 276, 25891; Sboido JI et al (2002) Biochem. J. 361, 451; Chi-N-W et al (2000) JBC 275, 38347;

*This product is for In vitro research use only.

Related material available from ADI

Antibodies TANK1/2, TRF1-2, TP1, Est2, GRBP14, Tab182, Glut4

TANK21-S-A-P

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