ALPHA DIAGNOSTIC INTERNATIONAL

Life Technologies™ Your Molecular & Cell Technology Partner

Product Specification Sheet

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

Cat. # TANK13-M Mouse Anti-Human TANK1 IgG # 3 **SIZE**: 100 ul

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	Human Tankyrase protein was expressed as his-tag protein in Baculovirus cells and purified (>.95%). Purified TANK protein was and injected into mice
Ab Host/type	A clone secreting antibodies to human TANK (IgG) was expanded as ascites, and IgG (cat # TANK13-M) purified by protein A/G column.
2-Ab	**Goat Anti-mouse IgG-HRP conjugate** Cat # 40320 (AP, biotin, FITC conjugates also available)
-ve control IgG	Cat # 20008-1, Mouse (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG
100ul solution 50 ul lyophilized powder
Buffer: PBS pH 7.4 and 0.05% sodium azide
Reconstitute in the original vol. of water

Storage
Short-term: unopened, undiluted vials for less than a week at 4oC.
Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.

Shipping: 4oC for solutions and room temp for powder.

Recommended Usage

Western Blotting (1-5 ug/ml antibody using ECL technique). TANK1 ~120-140 kDa in HeLa cells. A lower band of 60-70 kda of unknown origin may also be recognized.

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

Histochemistry & Immunofluorescence: Not tested. We recommend testing at 2-20 ug/ml.

Specificity & Cross-reactivity

Antibody detects human TANK protein. Antibody crossreactivity in various species is not established.

General References: (1) Smith S et al (1998) Science 282, 1484; Smith S et al (1999) J. Cell Sci. 112, 3649; Chi NW et al (2000) JBC 275, 38437; Cook BD et al (2002) Mol Cell. Biol. 22, 332-342, Meyerson M et al (1997) Cell 90, 785-795

*This product is for In vitro research use only.

Related material available from ADI

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

TANK13-M 70901A

India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com