

TLK1 (D-15): sc-11592

BACKGROUND

The Tousled-like kinases (TLK1 and TLK2, also designated PKU- β and PKU- α , respectively) are the human homologues of the Tousled gene from *Arabidopsis thaliana*, which encodes a serine/threonine kinase that is necessary for proper organ morphogenesis. Both TLKs contain a nuclear localization signal and a predicted coiled-coil region in the N-terminal domain. TLK is ubiquitously expressed, and is prevalent in mouse testis, especially in pachytene spermatocytes and round spermatids. TLK displays a propensity to dimerize through an interaction between its coiled coil structure and is able to autophosphorylate, as well as phosphorylate exogenous substrates. TLK1 and TLK2 are regulated by the cell cycle, showing maximum activity during S phase. Subsequently, they are thought to regulate the development of multicellular organisms, including playing a key role in spermatogenesis, through a series of phosphorylations.

REFERENCES

- Roe, J.L., et al. 1993. The Tousled gene in *A. thaliana* encodes a protein kinase homolog that is required for leaf and flower development. *Cell* 75: 939-950.
- Yamakawa, A., et al. 1997. cDNA cloning and chromosomal mapping of genes encoding novel protein kinases termed PKU- α and PKU- β , which have nuclear localization signal. *Gene* 202: 193-201.
- Roe, J.L., et al. 1997. TOUSLED is a nuclear serine/threonine protein kinase that requires a coiled-coil region for oligomerization and catalytic activity. *J. Biol. Chem.* 171: 5838-5845.
- Roe, J.L., et al. 1997. TOUSLED participates in apical tissue formation during gynoecium development in *Arabidopsis*. *Plant Cell* 9: 335-353.
- Sillje, H.H., et al. 1999. Mammalian homologues of the plant Tousled gene code for cell-cycle-regulated kinases with maximal activities linked to ongoing DNA replication. *EMBO J.* 18: 5691-5702.

CHROMOSOMAL LOCATION

Genetic locus: TLK1 (human) mapping to 2q31.1; Tlk1 (mouse) mapping to 2 C2.

SOURCE

TLK1 (D-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TLK1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-11592 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

TLK1 (D-15) is recommended for detection of TLK1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TLK1 (D-15) is also recommended for detection of TLK1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for TLK1 siRNA (h): sc-45973, TLK1 siRNA (m): sc-45974, TLK1 shRNA Plasmid (h): sc-45973-SH, TLK1 shRNA Plasmid (m): sc-45974-SH, TLK1 shRNA (h) Lentiviral Particles: sc-45973-V and TLK1 shRNA (m) Lentiviral Particles: sc-45974-V.

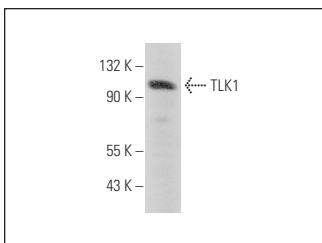
Molecular Weight of TLK1: 90 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, Jurkat nuclear extract: sc-2132 or HeLa whole well lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



TLK1 (D-15): sc-11592. Western blot analysis of TLK1 expression in Jurkat nuclear extract.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.