SANTA CRUZ BIOTECHNOLOGY, INC.

TLK2 (E-12): sc-393506

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The tousled-like kinases (TLK1 and TLK2, also designated PKU-β and PKU-α, respectively) are the human homologs 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. It 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.

CHROMOSOMAL LOCATION

Genetic locus: TLK2 (human) mapping to 17q23.2; Tlk2 (mouse) mapping to 11 E1.

SOURCE

TLK2 (E-12) is a mouse monoclonal antibody raised against amino acids 89-229 mapping near the N-terminus of TLK2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TLK2 (E-12) is available conjugated to agarose (sc-393506 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393506 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393506 PE), fluorescein (sc-393506 FITC), Alexa Fluor® 488 (sc-393506 AF488), Alexa Fluor® 546 (sc-393506 AF546), Alexa Fluor® 594 (sc-393506 AF594) or Alexa Fluor® 647 (sc-393506 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393506 AF680) or Alexa Fluor® 790 (sc-393506 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

TLK2 (E-12) is recommended for detection of TLK2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Suitable for use as control antibody for TLK2 siRNA (h): sc-106801, TLK2 siRNA (m): sc-154294, TLK2 shRNA Plasmid (h): sc-106801-SH, TLK2 shRNA Plasmid (m): sc-154294-SH, TLK2 shRNA (h) Lentiviral Particles: sc-106801-V and TLK2 shRNA (m) Lentiviral Particles: sc-154294-V.

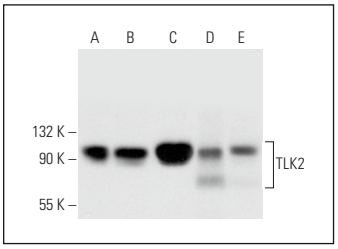
Molecular Weight of TLK2: 88 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, NTERA-2 cl.D1 whole cell lysate: sc-364181 or Y79 cell lysate: sc-2240.

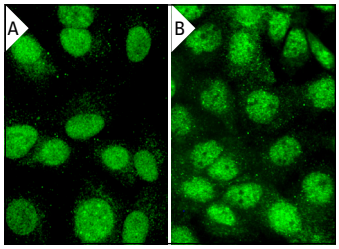
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



TLK2 (E-12): sc-393506. Western blot analysis of TLK2 expression in HeLa nuclear extract (**A**), NTERA-2 cl.D1 (**B**) and Y79 (**C**) whole cell lysates and rat testis (**D**) and human testis (**E**) tissue extracts.



TLK2 (E-12): sc-393506. Immunofluorescence staining of methanol-fixed Hep G2 cells showing nuclear localization (**A**). Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear and cytoplasmic vesicles localization (**B**).

SELECT PRODUCT CITATIONS

1. Lin, C.L., et al. 2020. ERα-related chromothripsis enhances concordant gene transcription on chromosome 17q11.1-q24.1 in luminal breast cancer. BMC Med. Genomics 13: 69.
2. Lee, K.Y., et al. 2021. Chk1 promotes non-homologous end joining in G_1 through direct phosphorylation of ASF1A. Cell Rep. 34: 108680.
3. Simon, B., et al. 2022. Tousled-like kinase 2 targets ASF1 histone chaperones through client mimicry. Nat. Commun. 13: 749.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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