

TTK (H-130): sc-25420

BACKGROUND

Progression of cells through the cell cycle is regulated by variations in the levels and activities of a series of protein kinases as well as by oscillation in the levels of their regulatory subunits (i.e., cyclins). The full length sequence for a unique protein kinase of human origin, designated TTK, was cloned by screening a T cell expression library with anti-phosphotyrosine anti-bodies. Similarly, the mouse homolog of TTK was isolated from an embryonal carcinoma (EC) cell line by expression cloning. TTK/Esk are novel members of the serine-threonine/tyrosine family of protein kinases and are expressed in a broad range of proliferating human cells and tissues. TTK-Esk expression is reduced or absent in resting cells and in cells with a low proliferative index. When cells are induced to enter the cell cycle, levels of TTK/Esk mRNA, protein and kinase activity increase at the G₁ to S phase of the cell cycle and peak in the G₂ to M phase, suggesting that TTK/Esk may function as a cell cycle regulatory component.

REFERENCES

1. Mills, G.B., et al. 1992. Expression of TTK, a novel human protein kinase, is associated with cell proliferation. *J. Biol. Chem.* 267: 16000-16006.
2. Douville, E.M., et al. 1992. Multiple cDNAs encoding the esk kinase predict transmembrane and intracellular enzyme isoforms. *Mol. Cell. Biol.* 12: 2681-2689.
3. Nurse, P. 1994. Ordering S phase and M phase in the cell cycle. *Cell* 79: 547-550.
4. Sherr, C.J. 1994. G₁ phase progression: cycling on cue. *Cell* 79: 551-555.
5. King, R.W., et al. 1994. Mitosis in transition. *Cell* 79: 563-571.
6. Hunter, T., et al. 1994. Cyclins and cancer II: cyclin D and CDK inhibitors come of age. *Cell* 79: 573-582.
7. Hogg, D., et al. 1994. Cell cycle dependent regulation of the protein kinase TTK. *Oncogene* 9: 89-96.

CHROMOSOMAL LOCATION

Genetic locus: TTK (human) mapping to 6q14.1; Ttk (mouse) mapping to 9 E2.

SOURCE

TTK (H-130) is a rabbit polyclonal antibody raised against amino acids 712-841 of TTK of human origin.

PRODUCT

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

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.

APPLICATIONS

TTK (H-130) is recommended for detection of TTK of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

TTK (H-130) is also recommended for detection of TTK in additional species, including equine, canine and porcine.

Suitable for use as control antibody for TTK siRNA (h): sc-36758, TTK siRNA (m): sc-36759, TTK shRNA Plasmid (h): sc-36758-SH, TTK shRNA Plasmid (m): sc-36759-SH, TTK shRNA (h) Lentiviral Particles: sc-36758-V and TTK shRNA (m) Lentiviral Particles: sc-36759-V.

Molecular Weight of TTK: 97 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, BJAB whole cell lysate: sc-2207 or HISM cell lysate: sc-2229.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Cui, Y. and Guadagno, T.M. 2008. B-Raf(V600E) signaling deregulates the mitotic spindle checkpoint through stabilizing Mps1 levels in melanoma cells. *Oncogene* 27: 3122-3133.

PROTOCOLS

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


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Try **TTK (D-8): sc-376842** or **TTK (N1): sc-56968**, our highly recommended monoclonal alternatives to TTK (H-130).