SANTA CRUZ BIOTECHNOLOGY, INC.

TTK (D-8): sc-376842

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 antibodies. 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 mRNA, protein and kinase activity increase at the G_1 to S phase of the cell cycle and peak in the G_2 to M phase, suggesting that TTK/Esk may function as cell cycle regulatory components.

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. G_1 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. and Pines, J. 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 (D-8) is a mouse monoclonal antibody raised against amino acids 712-841 of TTK of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain 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.

PROTOCOLS

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

APPLICATIONS

TTK (D-8) is recommended for detection of TTK 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), immunohistochemistry (including paraffin-embedded sections) (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 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.

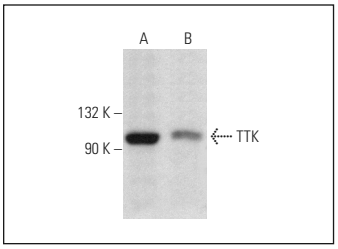
Molecular Weight of TTK: 97 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, RPE-J cell lysate: sc-24771 or HeLa whole cell lysate: sc-2200.

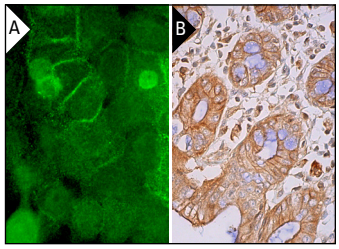
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



TTK (D-8): sc-376842. Western blot analysis of TTK expression in KNRK (**A**) and RPE-J (**B**) whole cell lysates.



TTK (D-8): sc-376842. Immunofluorescence staining of formalin-fixed A-431 cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing cytoplasmic and membrane staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Liu, Y., et al. 2021. TTK is a potential therapeutic target for cisplatin-resistant ovarian cancer. J. Ovarian Res. 14: 128.

RESEARCH USE

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