

## Esk (C-20): sc-541

### 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. Sherr, C.J. 1994. G1 phase progression: cycling on cue. *Cell.* 79: 551-555.
4. Hunter, T., et al. 1994. Cyclins and cancer II: cyclin D and CDK inhibitors come of age. *Cell.* 79: 573-582.
5. Nurse, P. 1994. Ordering S phase and M phase in the cell cycle. *Cell.* 79: 547-550.
6. King, R.W., et al. 1994. Mitosis in transition. *Cell.* 79: 563-571.
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 6q13-q21; Ttk (mouse) mapping to 9 E2.

### SOURCE

Esk (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Esk of mouse origin.

### PRODUCT

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

Blocking peptide available for competition studies, sc-541 P, (100 µg 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

Esk (C-20) is recommended for detection of Esk of mouse origin by Esk (C-20) is recommended for detection of Esk of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

### 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) 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. Fisk, H.A., et al. 2001. The mouse Mps1p-like kinase regulates centrosome duplication. *Cell.* 106: 95-104.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.