

Sak (T-20): sc-49104

BACKGROUND

The Plk (polo-like kinase) family consists of serine/threonine kinases that are closely related to polo and CDC5 proteins, which are required for passage through mitosis in *Drosophila* and *Saccharomyces*, respectively. Polo-like kinases, which include Plk, Snk (serum-inducible kinase, also designated Plk2), Fnk (FGF-inducible kinase, also designated Plk3 or PRK) and Sak (also designated Plk4), all play a role in cell proliferation. Sak differs from other polo-like kinases because it has only a single polo box, which forms a dimer fold that resides in the nucleolus, centrosomes and the cleavage furrow. Sak expression slowly increases during S through M phase, and Sak mediates late mitotic progression, cell survival and postgastrulation embryonic development. APC/C destroys Sak by proteolysis. Reduced Sak expression causes increased incidence of apoptosis and anaphase arrest, while haploinsufficiency of the Sak gene causes spontaneous tumors to develop, primarily in the liver.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: PLK4 (human) mapping to 4q27-q28; Plk4 (mouse) mapping to 3 B.

SOURCE

Sak (T-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Sak 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.

Blocking peptide available for competition studies, sc-49104 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Sak (T-20) is recommended for detection of Sak 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).

Suitable for use as control antibody for Sak siRNA (h): sc-61491, Sak siRNA (m): sc-61492, Sak shRNA Plasmid (h): sc-61491-SH, Sak shRNA Plasmid (m): sc-61492-SH, Sak shRNA (h) Lentiviral Particles: sc-61491-V and Sak shRNA (m) Lentiviral Particles: sc-61492-V.

Molecular Weight of Sak: 104 kDa.

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.

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 or our catalog for detailed protocols and support products.



Try **Sak (19-Y7): sc-100413**, our highly recommended monoclonal alternative to Sak (T-20).