SANTA CRUZ BIOTECHNOLOGY, INC.

Sak (H-288): sc-98929

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

1. Fode, C., et al. 1994. Sak, a murine protein-serine/threonine kinase that is related to the *Drosophila* polo kinase and involved in cell proliferation. Proc. Natl. Acad. Sci. USA 91: 6388-6392.
2. Hudson, J.W., et al. 2001. Late mitotic failure in mice lacking Sak, a polo-like kinase. Curr. Biol. 11: 441-446.

CHROMOSOMAL LOCATION

Genetic locus: PLK4 (human) mapping to 4q28.2; Plk4 (mouse) mapping to 3 B.

SOURCE

Sak (H-288) is a rabbit polyclonal antibody raised against amino acids 671-958 mapping near the C-terminus 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.

APPLICATIONS

Sak (H-288) 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), 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).

Sak (H-288) is also recommended for detection of Sak in additional species, including equine, canine, bovine and porcine.

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.

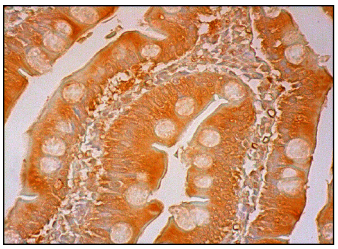
Molecular Weight of Sak: 104 kDa.

Positive Controls: HeLa nuclear extract: sc-2120.

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



Sak (H-288): sc-98929. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic and nuclear staining of glandular cells.

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 or our catalog for detailed protocols and support products.

RESEARCH USE

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