

Sak (19-Y7): sc-100413

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 4q28.2.

SOURCE

Sak (19-Y7) is a mouse monoclonal antibody raised against recombinant Sak of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Sak (19-Y7) is recommended for detection of Sak of 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)] 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 shRNA Plasmid (h): sc-61491-SH and Sak shRNA (h) Lentiviral Particles: sc-61491-V.

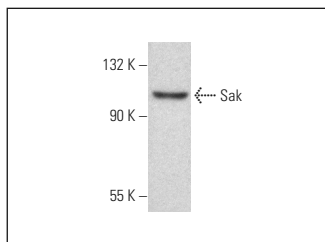
Molecular Weight of Sak: 104 kDa.

Positive Controls: HeLa nuclear extract: sc-2120 or NCI-H1299 whole cell lysate: sc-364234.

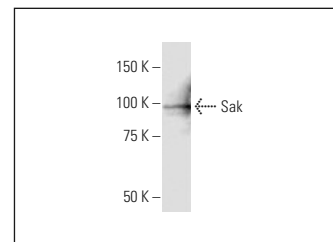
RECOMMENDED SUPPORT REAGENTS

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).

DATA



Sak (19-Y7): sc-100413. Western blot analysis of Sak expression in NCI-H1299 whole cell lysate.



Sak (19-Y7): sc-100413. Western blot analysis of Sak expression in HeLa nuclear extract.

SELECT PRODUCT CITATIONS

- Alfaro-Mora, Y., et al. 2021. MPS1 is involved in the HPV16-E7-mediated centrosomes amplification. Cell Div. 16: 6.

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 for detailed protocols and support products.