

SIAH-1/2 (4B4B6): sc-81786

BACKGROUND

SIAH, the human homolog of the *Drosophila* seven in absentia (*sina*) gene, is a tumor suppressor protein that is expressed in intestinal epithelium and activated during apoptosis. Human SIAH proteins are produced as two distinct gene products, SIAH-1, and the slightly larger protein SIAH-2, which share a highly conserved C-terminal sequence and differ in their N-terminal regions. SIAH-1 is a protein that contains an N-terminal RING-finger domain, which is required for proteolysis, and a cystein-rich C-terminal domain, which regulates oligomerization and SIAH binding to target proteins. As a tumor suppressor, SIAH-1 binds DCC (deleted in colorectal cancer) and regulates DCC degradation via the ubiquitin-proteasome pathway. SIAH-1 also binds a Bcl-2 related protein, Bag-1, thereby inhibiting cell growth. The majority of SIAH-1 is localized to the nucleus, however a small percentage is detected in the cytoplasm. This nuclear localization suggests that SIAH proteins may interact with other nuclear matrix proteins and DNA.

REFERENCES

1. Nemani, M., et al. 1996. Activation of the human homologue of the *Drosophila* *sina* gene in apoptosis and tumor suppression. *Proc. Natl. Acad. Sci. USA* 93: 9039-9042.
2. Hu, G., et al. 1997. Characterization of human homologs for the *Drosophila* seven in absentia (*sina*) gene. *Genomics* 46: 103-111.
3. Hu, G., et al. 1997. Mammalian homologs of seven in absentia regulate DCC via the ubiquitin-proteasome pathway. *Genes Dev.* 11: 2701-2714.
4. Matsuzawas, S., et al. 1998. P53-inducible human homologue of *Drosophila* seven in absentia (SIAH) inhibits cell growth: suppression by Bag-1. *EMBO J.* 17: 2736-2747.
5. Hu, G., et al. 1999. SIAH-1 N-terminal RING domain is required for proteolysis function, and C-terminal sequence regulate oligomerization and binding to target proteins. *Mol. Cell. Biol.* 19: 724-732.
6. Roperch, J., et al. 1999. SIAH-1 promotes apoptosis and tumor suppression through a network involving the regulation of protein folding, unfolding, and trafficking: Identification of common effectors with p53 and p21 (WAF1). *Proc. Natl. Acad. Sci. USA* 96: 8070-8073.
7. Bruzzoni-Giovanelli, H., et al. 1999. SIAH-1 inhibits cell growth by altering the mitotic process. *Oncogene* 18: 7101-7109.
8. Imaoka, S., et al. 2007. Isolation of *Xenopus* HIF-prolyl 4-hydroxylase and rescue of a small-eye phenotype caused by SIAH-2 over-expression. *Biochem. Biophys. Res. Commun.* 355: 419-425.
9. Yoshibayashi, H., et al. 2007. SIAH-1 causes growth arrest and apoptosis in hepatoma cells through β -catenin degradation-dependent and -independent mechanisms. *Oncol. Rep.* 17: 549-556.

CHROMOSOMAL LOCATION

Genetic locus: SIAH1 (human) mapping to 16q12.1, SIAH2 (human) mapping to 3q25.1.

RESEARCH USE

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

SOURCE

SIAH-1/2 (4B4B6) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to a region near the C-terminus of SIAH of *Drosophila melanogaster* origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SIAH-1/2 (4B4B6) is recommended for detection of SIAH-1 and SIAH-2 of human and *Drosophila melanogaster* 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

SIAH-1/2 (4B4B6) is also recommended for detection of SIAH-1 and SIAH-2 in additional species, including porcine.

Suitable for use as control antibody for SIAH-1/2 siRNA (h): sc-44102, SIAH-1/2 shRNA Plasmid (h): sc-44102-SH and SIAH-1/2 shRNA (h) Lentiviral Particles: sc-44102-V.

Molecular Weight of SIAH-1/2: 32 kDa.

Positive Controls: HISM cell lysate: sc-2229.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

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.