

# SIAH-1/2 (H-18): sc-5504

## 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 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 fo 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 p21Waf1. 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.

## SOURCE

SIAH-1/2 (H-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of SIAH-1 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-5504 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

SIAH-1/2 (H-18) is recommended for detection of SIAH-1 and SIAH-2 of mouse, rat and human 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).

SIAH-1/2 (H-18) is also recommended for detection of SIAH-1 and SIAH-2 in additional species, including equine, canine, bovine, porcine and avian.

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 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) 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.

## SELECT PRODUCT CITATIONS

1. Liani, E., et al. 2004. Ubiquitylation of synphilin-1 and  $\alpha$ -synuclein by SIAH and its presence in cellular inclusions and Lewy bodies imply a role in Parkinson's disease. Proc. Natl. Acad. Sci. USA 101: 5500-5505.
2. Rott, R., et al. 2008. Monoubiquitylation of  $\alpha$ -synuclein by seven in absentia homolog (SIAH) promotes its aggregation in dopaminergic cells. J. Biol. Chem. 283: 3316-3328.
3. Szargel, R., et al. 2009. Synphilin-1A inhibits seven in absentia homolog (SIAH) and modulates  $\alpha$ -synuclein monoubiquitylation and inclusion formation. J. Biol. Chem. 284: 11706-11716.

## 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.



Try **SIAH-1/2 (4B4B6): sc-81786** or **SIAH-1/2 (8G7H12): sc-81785**, our highly recommended monoclonal alternatives to SIAH-1/2 (H-18).