

SSH2 (K-13): sc-160844

BACKGROUND

SSH2 (slingshot homolog 2) is a 1,423 amino acid protein that localizes to both the cytoplasm and the cytoskeleton and is a human homolog of the *Drosophila* slingshot (*ssh*) protein. Containing one tyrosine-protein phosphatase domain, SSH2 functions as a protein phosphatase that regulates Actin filament dynamics via the dephosphorylation of target proteins, such as Cofilin, which mediate Actin filament assembly and disassembly. Four isoforms of SSH2 exist due to alternative splicing events. The gene encoding SSH2 maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Tumor suppressor p53 is necessary for maintenance of cellular genetic integrity by moderating cell fate through DNA repair versus cell death. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome. Like p53, BRCA1 is directly involved in DNA repair, though specifically it is recognized as a genetic determinant of early onset breast cancer and predisposition to cancers of the ovary, colon, prostate gland and fallopian tubes.

REFERENCES

1. Niwa, R., et al. 2002. Control of Actin reorganization by Slingshot, a family of phosphatases that dephosphorylate ADF/Cofilin. *Cell* 108: 233-246.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606779. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Ohta, Y., et al. 2003. Differential activities, subcellular distribution and tissue expression patterns of three members of Slingshot family phosphatases that dephosphorylate Cofilin. *Genes Cells* 8: 811-824.
4. Soosairajah, J., et al. 2005. Interplay between components of a novel LIM kinase-Slingshot phosphatase complex regulates Cofilin. *EMBO J.* 24: 473-486.
5. Olsen, J.V., et al. 2006. Global, *in vivo*, and site-specific phosphorylation dynamics in signaling networks. *Cell* 127: 635-648.
6. Kligys, K., et al. 2007. The Slingshot family of phosphatases mediates Rac1 regulation of Cofilin phosphorylation, Laminin 332 organization, and motility behavior of keratinocytes. *J. Biol. Chem.* 282: 32520-32528.

CHROMOSOMAL LOCATION

Genetic locus: SSH2 (human) mapping to 17q11.2; Ssh2 (mouse) mapping to 11 B5.

SOURCE

SSH2 (K-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SSH2 of human origin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

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-160844 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SSH2 (K-13) is recommended for detection of SSH2 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); non cross-reactive with SSH1 or SSH3.

SSH2 (K-13) is also recommended for detection of SSH2 in additional species, including bovine.

Suitable for use as control antibody for SSH2 siRNA (h): sc-94039, SSH2 siRNA (m): sc-153843, SSH2 shRNA Plasmid (h): sc-94039-SH, SSH2 shRNA Plasmid (m): sc-153843-SH, SSH2 shRNA (h) Lentiviral Particles: sc-94039-V and SSH2 shRNA (m) Lentiviral Particles: sc-153843-V.

Molecular Weight of SSH2: 158 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) 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.

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.