

SSH3 (h): 293T Lysate: sc-158987

BACKGROUND

SSH3 (slingshot homolog 3), also known as SSH3L, is a 659 amino acid protein that localizes to both the nucleus and cytoplasm and is a human homolog of the *Drosophila* slingshot (SSH) protein. Functioning as a protein phosphatase, SSH3 is thought to regulate Actin filament dynamics through its control of proteins such as ADF (Actin-depolymerizing factor) and Cofilin. The ADF/Cofilin family consists of stimulus-responsive mediators that rapidly depolymerize and disassemble F-Actin in a stoichiometric manner and can be deactivated by a variety of kinases. SSH3 acts to catalytically dephosphorylate the ADF/Cofilin proteins, thereby reactivating them and allowing them to resume their control over Actin dynamics. SSH3 contains one tyrosine-protein phosphatase domain and is expressed as five isoforms due to alternative splicing events.

REFERENCES

1. Bamburg, J.R. 1999. Proteins of the ADF/Cofilin family: essential regulators of actin dynamics. *Annu. Rev. Cell Dev. Biol.* 15: 185-230.
2. Gsponer, J. and Caflisch, A. 2001. Role of native topology investigated by multiple unfolding simulations of four SH3 domains. *J. Mol. Biol.* 309: 285-298.
3. Niwa, R., Nagata-Ohashi, K., Takeichi, M., Mizuno, K. and Uemura, T. 2002. Control of actin reorganization by Slingshot, a family of phosphatases that dephosphorylate ADF/Cofilin. *Cell* 108: 233-246.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606780. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Ohta, Y., Kousaka, K., Nagata-Ohashi, K., Ohashi, K., Muramoto, A., Shima, Y., Niwa, R., Uemura, T. and Mizuno, K. 2003. Differential activities, sub-cellular distribution and tissue expression patterns of three members of slingshot family phosphatases that dephosphorylate Cofilin. *Genes Cells* 8: 811-824.
6. Gungabissoon, R.A. and Bamburg, J.R. 2003. Regulation of growth cone actin dynamics by ADF/Cofilin. *J. Histochem. Cytochem.* 51: 411-420.
7. Soosairajah, J., Maiti, S., Wiggan, O., Sarmiere, P., Moussi, N., Sarcevic, B., Sampath, R., Bamburg, J.R. and Bernard, O. 2005. Interplay between components of a novel LIM kinase-slingshot phosphatase complex regulates Cofilin. *EMBO J.* 24: 473-486.
8. Kligys, K., Claiborne, J.N., DeBiase, P.J., Hopkinson, S.B., Wu, Y., Mizuno, K. and Jones, J.C. 2007. The slingshot family of phosphatases mediates Rac 1 regulation of Cofilin phosphorylation, Laminin-332 organization, and motility behavior of keratinocytes. *J. Biol. Chem.* 282: 32520-32528.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CHROMOSOMAL LOCATION

Genetic locus: SSH3 (human) mapping to 11q13.2.

PRODUCT

SSH3 (h): 293T Lysate represents a lysate of human SSH3 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

SSH3 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive SSH3 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

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