

HOOK2 (E-3): sc-374169

BACKGROUND

Microtubules mediate the spatial organization of diverse membrane-trafficking systems. The HOOK proteins, HOOK1, HOOK2 and HOOK3, comprise a family of cytosolic coiled-coil proteins that contain conserved N-terminal domains, which attach to microtubules; and more divergent C-terminal domains, which mediate binding to organelles. HOOK2 (also known as HK2) is 719 amino acids in length. It exists as a homodimer, most likely mediated through its central coiled-coil domain. HOOK2 may associate with SURF1 and Zic2, and all three may be potential esophageal cancer tumor antigens. HOOK2 expression is strong in the larynx and the esophagus. Unlike HOOK3, which localizes to the Golgi, HOOK2 localizes to discrete subcellular structures not corresponding to early or late endosomes, mitochondria, Golgi complex, endoplasmic reticulum, lysosomes or multivesicular bodies.

REFERENCES

1. Krämer, H. and Phistry, M. 1999. Genetic analysis of hook, a gene required for endocytic trafficking in *Drosophila*. *Genetics* 151: 675-684.
2. Walenta, J.H., et al. 2001. The Golgi-associated HOOK3 protein is a member of a novel family of microtubule-binding proteins. *J. Cell Biol.* 152: 923-934.
3. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607824. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Shimada, H., et al. 2005. Serological identification of tumor antigens of esophageal squamous cell carcinoma. *Int. J. Oncol.* 26: 77-86.
5. Simpson, F., et al. 2005. A novel HOOK-related protein family and the characterization of HOOK-related protein 1. *Traffic* 6: 442-458.
6. Szebenyi, G., et al. 2007. HOOK2 contributes to aggresome formation. *BMC Cell Biol.* 8: 19.
7. Xu, L., et al. 2008. An FTS/HOOK/p107^{FHIP} complex interacts with and promotes endosomal clustering by the homotypic vacuolar protein sorting complex. *Mol. Biol. Cell* 19: 5059-5071.

CHROMOSOMAL LOCATION

Genetic locus: HOOK2 (human) mapping to 19p13.2; Hook2 (mouse) mapping to 8 C3.

SOURCE

HOOK2 (E-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 151-185 within an internal region of HOOK2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-374169 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

HOOK2 (E-3) is recommended for detection of HOOK2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for HOOK2 siRNA (h): sc-60798, HOOK2 siRNA (m): sc-60799, HOOK2 shRNA Plasmid (h): sc-60798-SH, HOOK2 shRNA Plasmid (m): sc-60799-SH, HOOK2 shRNA (h) Lentiviral Particles: sc-60798-V and HOOK2 shRNA (m) Lentiviral Particles: sc-60799-V.

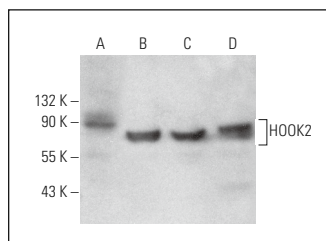
Molecular Weight of HOOK2: 83 kDa.

Positive Controls: human esophagus extract: sc-363760, EOC 20 whole cell lysate: sc-364187 or c4 whole cell lysate: sc-364186.

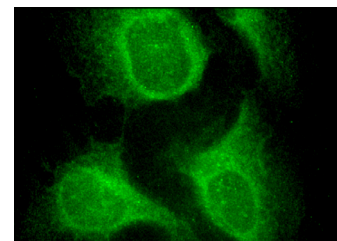
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



HOOK2 (E-3): sc-374169. Western blot analysis of HOOK2 expression in human esophagus tissue extract (A) and EOC 20 (B), c4 (C) and HeLa (D) whole cell lysates.



HOOK2 (E-3): sc-374169. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

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.