Revision 1

Store at -20C

#13873

Phospho-SSH3 (Ser37) Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Endogenous	90	Rabbit	#Q8TE77	54961

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Phospho-SSH3 (Ser37) Antibody recognizes endogenous levels of SSH3 protein only when phosphorylated at Ser37.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser37 of human SSH3 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Slingshot homolog 3 (SSH3) is a protein phosphatase that modifies actin cytoskeleton dynamics via cofilin dephosphorylation. Cofilin is an evolutionarily conserved, actin-binding protein that severs actin filaments during processes that rely on actin filament dynamics, including cytokinesis, cell migration, invasion, and neuronal development. Actin severing and filament depolymerization are regulated through the controlled cycling of cofilin between the phosphorylated and dephosphorylated forms (1). The kinases LIMK and TESK inactivate cofilin by phosphorylating it at Ser3 (2,3). The slingshot homologs (SSH1, SSH2, and, to a lesser extent, SSH3) and chronophin/PDXP phosphatases remove phosphate from cofilin at Ser3, enabling cofilin binding to actin and filament depolymerization (3). SSH3 is widely expressed in epithelial tissues, and has been found to be non-essential for viability and fertility in knockout mice (4). While its biological function remains elusive, phosphorylation at Ser37 of SSH3 has been identified in several phosphoproteomic studies (5-7).

Background References

1. Mizuno, K. (2013) *Cell Signal* 25, 457-69.
2. Toshima, J. et al. (2001) *J Biol Chem* 276, 31449-58.
3. Huang, T.Y. et al. (2006) *Curr Opin Cell Biol* 18, 26-31.
4. Kousaka, K. et al. (2008) *Genesis* 46, 246-55.
5. Dephoure, N. et al. (2008) *Proc Natl Acad Sci U S A* 105, 10762-7.
6. Olsen, J.V. et al. (2010) *Sci Signal* 3, ra3.
7. Chen, L. et al. (2010) *J Proteome Res* 9, 174-8.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human

Trademarks and Patents

Limited Uses

force or effect.

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