Revision 1

Store at -20C

#4569

Phospho-Cortactin (Tyr421) 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 M R Hm Mk B	Endogenous	80-85	Rabbit	#Q14247	2017

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-Cortactin (Tyr421) Antibody detects endogenous levels of cortactin protein only when phosphorylated at Tyr421.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr421 of human cortactin. Antibodies are purified using protein A and peptide affinity chromatography.

Background

Cortactin is a cortical actin binding protein. Its amino-terminal acidic domain (NTA) associates with the Arp2/3 and WASP complex at F-actin branches. The central region of the protein contains six repeats of 37 amino acids that are important in F-actin binding and cross-linking. The carboxy-terminus contains a proline-rich region and an SH3 domain that can interact with numerous scaffolding proteins, such as CortBP1 and Shank3 (1,2). Cortactin is involved in signaling events that coordinate actin reorganization during cell movement. The human cortactin homologue EMS1 is overexpressed in numerous cancers with poor patient prognosis (3). Cortactin may also play an important role in the organization of transmembrane receptors at postsynaptic densities (PSD) and tight junctions by linking scaffolding proteins to the actin network (4).
Cortactin is phosphorylated at tyrosine residues 421, 466, and 482. Tyrosine phosphorylation of cortactin regulates cell motility (5), rac1-mediated actin dynamics (6), cadherin-dependent adhesion (7), chemokine trafficking and chemokine-dependent chemotaxis (8).

Background References

1. Du, Y. et al. (1998) *Mol Cell Biol* 18, 5838-51.
2. Naisbitt, S. et al. (1999) *Neuron* 23, 569-82.
3. Rodrigo, J.P. et al. (2000) *Clin Cancer Res* 6, 3177-82.
4. Weed, S.A. and Parsons, J.T. (2001) *Oncogene* 20, 6418-34.
5. Huang, C. et al. (1998) *J Biol Chem* 273, 25770-6.
6. Head, J.A. et al. (2003) *Mol Biol Cell* 14, 3216-29.
7. El Sayegh, T.Y. et al. (2004) *J Cell Sci* 117, 5117-31.
8. Luo, C. et al. (2006) *J Biol Chem* 281, 30081-93.

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 BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Hm:** Hamster **Mk:** Monkey **B:** Bovine

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Limited Uses

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