

Phospho-Talin (Ser425) Antibody



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

Applications: W	Reactivity: H M R Mk	Sensitivity: Endogenous	MW (kDa): 270	Source/Isotype: Rabbit	UniProt ID: #Q9Y490	Entrez-Gene Id: 7094
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Product Usage Information

Application

Western Blotting

Dilution

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-Talin (Ser425) Antibody detects endogenous levels of talin protein only when phosphorylated at Ser425.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser425 of human talin protein. Antibodies are purified using protein A and peptide affinity chromatography.

Background

Focal adhesions connect the cytoskeleton with the extracellular matrix (ECM), a complex structure of secreted macromolecules that surrounds mammalian organs and tissues. Integrins clustered on the extracellular side of focal adhesions signal from the ECM to intracellular protein complexes, which in turn signal to the actin cytoskeleton to regulate the tension needed for cell motility. Internal signals also converge on focal adhesions to regulate integrin affinity and avidity. Signaling through focal adhesions regulates cell adhesion, migration, proliferation, apoptosis, and gene expression, and impacts cellular processes such as development, wound healing, immune response, invasion, metastasis, and angiogenesis (reviewed in 1-3). Talin is a large, multidomain focal adhesion protein that interacts with the intracellular domains of integrins and other focal adhesion proteins. Talin is involved in the formation of focal adhesions and in linking focal adhesions to the actin cytoskeleton (4). The interaction between talin and integrins increases the affinity between integrin and both insoluble and soluble ECM proteins (5,6).

Phosphorylation of talin at Ser425 was discovered using mass spectrometry. This site is a potential substrate of CDK5 (7).

Background References

- Burridge, K. et al. (1988) *Annu Rev Cell Biol* 4, 487-525.
- Calderwood, D.A. et al. (2000) *J Biol Chem* 275, 22607-10.
- French-Constant, C. and Colognato, H. (2004) *Trends Cell Biol* 14, 678-86.
- Nayal, A. et al. (2004) *Curr Opin Cell Biol* 16, 94-8.
- Tanentzapf, G. and Brown, N.H. (2006) *Nat Cell Biol* 8, 601-6.
- Tadokoro, S. et al. (2003) *Science* 302, 103-6.
- Ratnikov, B. et al. (2005) *J Cell Sci* 118, 4921-3.

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 **Mk:** Monkey

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