

#3237 Store at -20C

Profilin-1 Antibody


Cell Signaling
TECHNOLOGY®

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Web: info@cellsignal.com
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3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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

| Applications: | Reactivity: | Sensitivity: | MW (kDa): | Source: | UniProt ID: | Entrez-Gene Id: |
|------------------|-------------|--------------|-----------|---------|-------------|-----------------|
| WB, IF-IC, FC-FP | H M R B | Endogenous | 15 | Rabbit | #P07737 | 5216 |

Product Usage Information

Application

Western Blotting
Immunofluorescence (Immunocytochemistry)
Flow Cytometry (Fixed/Permeabilized)

Dilution

1:1000
1:50
1:100

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

Profilin-1 Antibody detects endogenous levels of total profilin-1 protein. The antibody may cross-react with profilin-2.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to human profilin-1. Antibodies are purified using protein A and peptide affinity chromatography.

Background

The dynamic polymerization and depolymerization of actin filaments, a process governed by external and internal signaling events, is vital for cell motility (immune cell function, migration, invasion, metastasis, angiogenesis), cell division and adhesion. Among the many regulators of actin dynamics are profilins. Profilins are conserved actin binding proteins that affect the rate of actin polymerization by binding actin monomers and promoting the exchange of ADP for ATP (reviewed in 1). Profilins bind to proteins involved in the regulation of actin dynamics including palladin (2), dynamin-1 (3), VASP (4) and N-WASP (5). In mice, knockout of the ubiquitously expressed profilin-1 indicates that the protein is essential for embryonic development (6). Profilin-2 is primarily expressed in brain and functions in the regulation of neurite outgrowth (7), membrane trafficking and endocytosis (3). The recently cloned profilin-3 is expressed in kidney and testes (8).

Background References

1. Witke, W. (2004) *Trends Cell Biol* 14, 461-9.
2. Boukhelifa, M. et al. (2006) *FEBS J* 273, 26-33.
3. Gareus, R. et al. (2006) *J Biol Chem* 281, 2803-11.
4. Reinhard, M. et al. (1995) *EMBO J* 14, 1583-9.
5. Suetsugu, S. et al. (1998) *EMBO J* 17, 6516-26.
6. Witke, W. et al. (2001) *Proc Natl Acad Sci U S A* 98, 3832-6.
7. Da Silva, J.S. et al. (2003) *J Cell Biol* 162, 1267-79.
8. Hu, E. et al. (2001) *Exp Nephrol* 9, 265-74.

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

WB: Western Blotting **IF-IC:** Immunofluorescence (Immunocytochemistry)
FC-FP: Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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