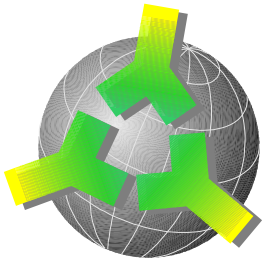
a n t i - P r o f i l i n
affinity purified rabbit antibody IG706

Lot: #188 **Data Sheet: 200607018 — catalog #: 0022-01**



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Background information

Profilin is an ubiquitous small (12-15 kDa) phosphoinositides[1,2] and poly-L-proline[3,4] binding protein that plays a role both in signal transduction pathways[5-10] and actin filament dynamics[8-15]. There are two mammalian profilins with similar biochemical properties[16,17] but different expression patterns[18,19]. Whereas profilin I appears to be highly expressed in most tissues except for skeletal muscle, profilin II is predominantly expressed in brain and at lower levels also in skeletal muscle, uterus and kidney[18,19]. Profilin is a mainly cytosolic protein with higher concentrations in dynamic membrane areas like the leading edge and ruffling membranes[20,21].

Profilin binding to PIP_2 interferes with PIP_2 hydrolysis by soluble phospholipase Cγ, an inhibition that can be overcome by tyrosine phosphorylation of PLCγ.[39] Besides actin monomer sequestration and stimulation of actin nucleotide exchange, profilin can also promote cellular actin filament growth[8-15]. Profilin is involved in the actin dependent intracellular motility of cytopathogenic bacteria[22-27], the regulation of cell adhesion[28], and possibly also in linking the actin cytoskeleton and endocytosis[19].

Profilin has been found to associate with defined complexes, containing proteins such as Arp2/3[29] or the Rho/Rac pathways constituents ROCK2 and HEM2/NAP1[19]. The profilin poly-L-proline binding site is primarily thought to anchor profilin at discrete subcellular sites. Ligands of this site include the focal adhesion proteins VASP[30] and Mena[31], N-WASP[40], Spinal Muscular Atrophy Protein SMN[41], and formin-related proteins like the mammalian Diaphanous homologue p140mDia[32], *Drosophila* Cappuchino[33], *S. pombe* Cdc12p[34], as well as *S. cerevisiae* Bni1p[35,36] and Bnr1p[36]. In addition, dynamin I[19] and annexin I[37] have also been characterized as profilin binding proteins.

Antibody preparation and storage

100 µl of purified antibody in PBS containing 1 mg/ml BSA, 0.02% (w/v) NaN_3. Antibody concentration: 100 µg/ml. Vials have been overfilled by 10% to ensure complete recovery of the specified amount. Short term storage at 4°C, stable for one year from date of shipment when stored at -20°C. Avoid repeated freezing and thawing! Do not store in "frost-free" freezers.

Antigen

The antibody was raised against human profilin and has been affinity purified on the antigen.

Species cross-reactivity

human, porcine, mouse, rat, and marsupial profilin

Applications

Western (immuno) blotting (0.1-0.2 µg/ml). The given dilutions refer to the analysis of mammalian cells and tissues with intermediate levels of profilin expression and must be viewed as approximate.

Positive control

Human platelet protein (500 µg), supplied at 5 mg/ml in SDS sample buffer. Use 5 µl (25 µg) per lane for Western blotting of tricine gels (13% acrylamide)[38] or 15% Laemmli gels.

Related products

- affinity purified rabbit antibody to human VASP, 25 µg (catalog # 0012-02)
- monoclonal mouse antibody IE273 to human VASP, 50 µg (catalog # 0016-05)
- affinity purified rabbit antibody to human LPP, 50 µg (catalog #0032-05)
- rabbit antiserum to human mDia, 100 µl (catalog #0040-10)
- positive control: human platelet protein in SDS-stop solution, 500 µg (catalog # 8010-50)

References

(∗: papers referring to antibody IG706)

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