

Profilin-4 (K-14): sc-243867

BACKGROUND

Profilin-4, also known as Profilin IV or PFN4 (Profilin family, member 4), is a 129 amino acid protein that belongs to the Profilin family and localizes to cytoplasm and cytoskeleton. Profilin-4 binds to actin and plays a role in cytoskeleton structure. Encoded by a gene that maps to human chromosome 2p23.3, Profilin-4 is conserved in dog, cow, mouse, rat and chicken. Multiple Profilin isoforms exist in mammals, with four known to be expressed in mammalian testis: Profilin-1, Profilin-2, Profilin-3 and Profilin-4. Similar to Profilin-3, testis-specific Profilin-4 may have a specialized role in spermatogenic cells distinct from known functions fulfilled by the "somatic" Profilins, Profilin-1 and Profilin-2. Conversely, the actin-binding site of Profilin-3 is conserved and approximately half of the common poly-L-proline binding site is retained, while Profilin-4 has lost both polyproline and actin binding sites completely. Although Profilin-4 does not interact with actin or polyproline *in vitro*, it appears to be specialized for phospholipid binding and may provide cellular functions that are distinct from actin dynamics regulation.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: PFN4 (human) mapping to 2p23.3; Pfn4 (mouse) mapping to 12 A1.1.

SOURCE

Profilin-4 (K-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Profilin-4 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-243867 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Profilin-4 (K-14) is recommended for detection of Profilin-4 of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with Profilin-1, Profilin-2 or Profilin-3.

Profilin-4 (K-14) is also recommended for detection of Profilin-4 in additional species, including bovine.

Suitable for use as control antibody for Profilin-4 siRNA (h): sc-94769, Profilin-4 siRNA (m): sc-152478, Profilin-4 shRNA Plasmid (h): sc-94769-SH, Profilin-4 shRNA Plasmid (m): sc-152478-SH, Profilin-4 shRNA (h) Lentiviral Particles: sc-94769-V and Profilin-4 shRNA (m) Lentiviral Particles: sc-152478-V.

Molecular Weight of Profilin-4: 14 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.