

p-Adducin (Ser 726): sc-16736

BACKGROUND

Adducins are a family of cytoskeleton proteins encoded by three genes (α , β and γ). Adducin is a protein associated with the inner leaflet of the plasma membrane and is one of the proteins localized at the spectrin-Actin junction of the membrane skeleton. Adducins promote association of spectrin with Actin and cap the fast growing end of Actin filaments. Adducins contain an N-terminal core, neck and C-terminal tail domains, are substrates for protein kinase A (PKA) and C (PKC), and bind to Ca^{2+} /calmodulin. The major phosphorylation sites common to the Adducins are Ser 726 and Ser 713 in the C-terminal MARCKS-related domains of Adducin α and Adducin β , and they are phosphorylated by PKA and PKC, respectively. In addition, PKA phosphorylates Adducin α at Ser 408, 436 and 481. Calmodulin-binding is inhibited by phosphorylation of Adducin β that, in turn, inhibits the rate of phosphorylation of Adducin β , but not Adducin α . Rho-kinase can phosphorylate Adducin α at Thr 445 and Thr 480 downstream of Rho *in vivo*. The phosphorylation of Adducin by Rho-kinase plays an important role in the regulation of membrane ruffling and cell motility. In addition, phosphorylation at Ser 726 of Adducin α is required for cleavage by caspase-3.

SOURCE

p-Adducin (Ser 726) is available as either goat (sc-16736) or rabbit (sc-16736-R) polyclonal antibody raised against a short amino acid sequence containing Ser 726 phosphorylated Adducin of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-16736 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-Adducin (Ser 726) is recommended for detection of Ser 726 phosphorylated Adducin α and correspondingly phosphorylated Adducin β and Adducin γ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], 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).

p-Adducin (Ser 726) is also recommended for detection of correspondingly phosphorylated Adducin α , Adducin β and Adducin γ in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of p-Adducin α : 120 kDa.

Molecular Weight of p-Adducin β : 97 kDa.

Molecular Weight of p-Adducin γ : 94 kDa.

Positive Controls: SK-N-MC cell lysate: sc-2237, NIH/3T3 whole cell lysate: sc-2210 or K-562 + PMA cell lysate: sc-2280.

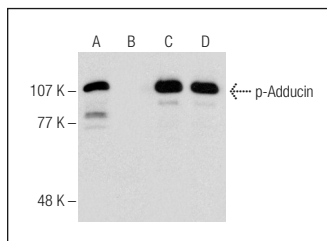
RESEARCH USE

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

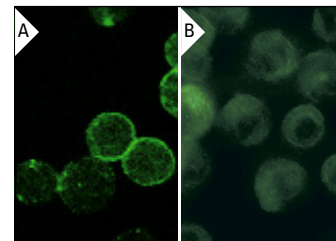
STORAGE

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

DATA



Western blot analysis of Adducin phosphorylation in untreated (A,C) and lambda protein phosphatase (sc-200312A) treated (B,D) HL-60 whole cell lysates. Antibodies tested include p-Adducin (Ser 726)-R: sc-12614-R (A,B) and Adducin α (H-100): sc-25731 (C,D).



p-Adducin (Ser 726)-R: sc-16736-R. Immunofluorescence staining of methanol-fixed K-562 cells showing membrane localization (A,B).

SELECT PRODUCT CITATIONS

- Zhang, M., et al. 2003. ROCK-dependent and ROCK-independent control of cochlear outer hair cell electromotility. *J. Biol. Chem.* 278: 35644-35650.
- Chen, C.L., et al. 2007. Phosphorylation of Adducin by protein kinase C δ promotes cell motility. *J. Cell Sci.* 120: 1157-1167.
- Tanaka, S., et al. 2010. Suppression of injury-induced epithelial-mesenchymal transition in a mouse lens epithelium lacking tenascin-C. *Mol. Vis.* 16: 1194-1205.
- Naydenov, N.G., et al. 2010. Adducins regulate remodeling of apical junctions in human epithelial cells. *Mol. Biol. Cell* 21: 3506-3517.

PROTOCOLS

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