

p-Dynamin I (Ser 774): sc-135689

BACKGROUND

Dynamin I is a GTPase enzyme required for the retrieval of synaptic vesicles after exocytosis and functions in endocytosis by stimulating assembly of invaginating synaptic vesicles. Dynamin I is phosphorylated in nerve terminals exclusively in the cytosolic compartment and *in vitro* by protein kinase C (PKC). The phosphorylation site in PKC-phosphorylated Dynamin I is a single site at Serine 795, which is located near a binding site for the SH3 domain of p85, the regulatory subunit of phosphatidylinositol 3-kinase. Dephosphorylation is required for synaptic vesicle retrieval, suggesting that phosphorylation affects the subcellular localization of Dynamin I. Mouse, rat and human Dynamin I are phosphorylated on serine residues, including Ser 778, by Cdk5, regulating PACSIN1 recruitment and enabling synaptic vesicle endocytosis.

REFERENCES

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6. Graham, M.E., Anggono, V., Bache, N., Larsen, M.R., Craft, G.E. and Robinson, P.J. 2007. The *in vivo* phosphorylation sites of rat brain Dynamin I. *J. Biol. Chem.* 282: 14695-14707.

CHROMOSOMAL LOCATION

Genetic locus: DNM1 (human) mapping to 9q34.11; Dnm1 (mouse) mapping to 2 B.

SOURCE

p-Dynamin I (Ser 774) is a sheep polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 774 of Dynamin I of rat origin.

PRODUCT

Each vial contains IgG in 100 µl of 10 mM HEPES with 150 mM NaCl, 50% glycerol and < 0.1% BSA.

RESEARCH USE

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

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

APPLICATIONS

p-Dynamin I (Ser 774) is recommended for detection of Ser 774 phosphorylated Dynamin I of mouse, rat and human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:5000), immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution to be determined by researcher, dilution range 1:50-1:2500).

Suitable for use as control antibody for Dynamin I siRNA (h): sc-43737, Dynamin I siRNA (m): sc-35234, Dynamin I shRNA Plasmid (h): sc-43737-SH, Dynamin I shRNA Plasmid (m): sc-35234-SH, Dynamin I shRNA (h) Lentiviral Particles: sc-43737-V and Dynamin I shRNA (m) Lentiviral Particles: sc-35234-V.

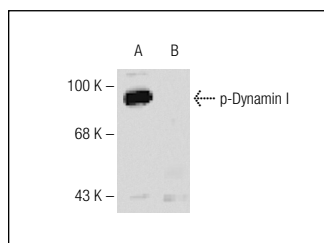
Molecular Weight of p-Dynamin I: 100 kDa.

Positive Controls: forskolin stimulated rat hippocampal tissue extract.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-sheep IgG-HRP: sc-2473 (dilution range: 1:500-1:10,000), High Range Prestained Molecular Weight Standards: sc-2362, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunofluorescence: use donkey anti-sheep IgG-FITC: sc-2476 (dilution range: 1:100-1:400) or donkey anti-sheep IgG-TR: sc-3913 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



p-Dynamin I (Ser 774): sc-135689. Western blot analysis of Dynamin I phosphorylation in forskolin-stimulated (A) and lambda protein phosphatase (sc-200312A) treated and forskolin-stimulated (B) rat hippocampal tissue extracts.

PROTOCOLS

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