

p-Dynamin I (Ser 778): sc-135690

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 778) is a sheep polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 778 of Dynamin I of rat origin.

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.

PRODUCT

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

APPLICATIONS

p-Dynamin I (Ser 778) is recommended for detection of Ser 778 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) and immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)].

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.

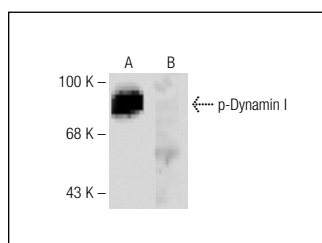
Molecular Weight of p-Dynamin I: 100 kDa.

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 778): sc-135690. 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.

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.