SANTA CRUZ BIOTECHNOLOGY, INC.

Dynamin III (Q-15): sc-69473

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Dynamin III (DNM3, Dyna III, T Dynamin) is a microtubule-associated, force-producing GTPase that can form helical structures around the neck of vesicles. GTP hydrolysis-dependent extension of the helical structure releases the vesicle. Dynamin III contains a pair of phosphorylation sites at Ser 759 and Ser 763. Both 3.0 and 7.2 kb Dynamin III transcripts are detectable in brain. The 3.0 kb Dynamin III transcript is also detectable in testis. The 7.2 kb Dynamin III transcript is brain-specific for a protein thought to influence synaptogenesis in the CNS through recycling, neurotransmitter reuptake and growth factor-receptor signaling, in a thyroid hormone-dependent manner. A 6 kb antisense transcript (Dnm3os) contained within an intron of the mouse Dnm3 gene may be under transregulation by twist during mouse development. Dynamin III and Dnm3os transcripts overlap during embryogenesis and in adult tissues, except that Dynamin III is abundant in adult brain and testis whereas Dnm3os is abundant in embryos and gravid uterus.

REFERENCES

1. Arnold, A.M., et al. 2003. A novel Dynamin III isoform is up-regulated in the central nervous system in hypothyroidism. Int. J. Dev. Neurosci. 21: 267-275.
2. Nichols, B. 2003. Caveosomes and endocytosis of lipid rafts. J. Cell Sci. 116: 4707-4714.
3. Larsen, M.R., et al. 2004. Improved detection of hydrophilic phosphopeptides using graphite powder microcolumns and mass spectrometry: evidence for *in vivo* doubly phosphorylated Dynamin I and Dynamin III. Mol. Cell. Proteomics 3: 456-465.
4. Rappoport, J.Z., et al. 2004. Understanding living clathrin-coated pits. Traffic 5: 327-337.
5. Schafer, D.A. 2004. Regulating Actin dynamics at membranes: a focus on Dynamin. Traffic 5: 463-469.
6. Praefcke, G.J., et al. 2004. The Dynamin superfamily: universal membrane tubulation and fission molecules? Nat. Rev. Mol. Cell Biol. 5: 133-147.
7. McNiven, M.A., et al. 2004. The role of Dynamin in the assembly and function of podosomes and invadopodia. Front. Biosci. 9: 1944-1953.
8. Loebel, D.A., et al. 2005. A conserved noncoding intronic transcript at the mouse Dnm3 locus. Genomics 85: 782-789.

CHROMOSOMAL LOCATION

Genetic locus: DNM3 (human) mapping to 1q24.3; Dnm3 (mouse) mapping to 1 H2.1.

SOURCE

Dynamin III (Q-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of Dynamin III of human origin.

STORAGE

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

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-69473 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Dynamin III (Q-15) is recommended for detection of Dynamin III of mouse, rat 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).

Dynamin III (Q-15) is also recommended for detection of Dynamin III in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Dynamin III siRNA (h): sc-41208, Dynamin III siRNA (m): sc-41209, Dynamin III shRNA Plasmid (h): sc-41208-SH, Dynamin III shRNA Plasmid (m): sc-41209-SH, Dynamin III shRNA (h) Lentiviral Particles: sc-41208-V and Dynamin III shRNA (m) Lentiviral Particles: sc-41209-V.

Molecular Weight of Dynamin III: 98 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.

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.