**BACKGROUND**

Synapsins are synaptic vesicle-associated phosphoproteins that regulate synaptic vesicle exocytosis and may be involved in synaptogenesis. Evidence suggests that Synapsin I, Synapsin II and Synapsin Illa are ATP-binding proteins that are regulated by Ca^{2+} and calmodulin binding. Ca^{2+} has been shown to stimulate ATP binding to Synapsin I, to have no effect on Synapsin II and to inhibit Synapsin III. Synapsin I and Synapsin II both undergo alternative splicing to produce two forms of each protein, Synapsin la and lb and Synapsin Ila and llb, respectively. Synapsin III gives rise to at least three isoforms: Synapsin Illa, llb and llc. Synapsin III plays unique roles both in early axon outgrowth and in the regulation of synaptic vesicle trafficking. In cultured mouse hippocampal neurons, Synapsin III is expressed early during development, with levels peaking seven days after plating and declining thereafter. Synapsin III is highly concentrated in growth cones.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: SYN1 (human) mapping to Xp11.23; Syn1 (mouse) mapping to X A1.3.

**SOURCE**

Synapsin la/b (D-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 651-665 near the C-terminus of Synapsin la of human origin.

**PRODUCT**

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Blocking peptide available for competition studies, sc-390867 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

**STORAGE**

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

**APPLICATIONS**

Synapsin la/b (D-8) is recommended for detection of Synapsin la and Synapsin lb of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Suitable for use as control antibody for Synapsin la/b siRNA (h): sc-37012, Synapsin la/b siRNA (m): sc-37013, Synapsin la/b shRNA Plasmid (h): sc-37012-SH, Synapsin la/b shRNA Plasmid (m): sc-37013-SH, Synapsin la/b siRNA (h) Lentiviral Particles: sc-37012-V and Synapsin la/b shRNA (m) Lentiviral Particles: sc-37013-V.

Molecular Weight of Synapsin Ia: 80 kDa.
Molecular Weight of Synapsin Ib: 86 kDa.
Positive Controls: mouse brain extract: sc-2253 or rat cerebellum extract: sc-2398.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-lgGx BK-HP: sc-516102 or m-lgGx BK-HP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516Z14 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml), 3) Immunofluorescence: use m-IgGx BK-FITC: sc-516140 or m-IgGx BK-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

**DATA**

![Synapsin la/b (D-8): sc-390867. Western blot analysis of Synapsin la/b expression in mouse brain (A) and rat cerebellum (B) tissue extracts.](image)

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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