

# Synapsin Ia/b (C-20): sc-8295

## 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 IIIa are ATP-binding proteins that are regulated by  $\text{Ca}^{2+}$  and calmodulin binding.  $\text{Ca}^{2+}$  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 Ia and Ib and Synapsin IIIa and IIIb, respectively. Synapsin III gives rise to at least three isoforms: Synapsin IIIa, IIIb and IIIc. 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Synapsin Ia/b (C-20) is available as either goat (sc-8295) or rabbit (sc-8295-R) affinity purified polyclonal antibody raised against a peptide mapping at the C-terminus of Synapsin Ia/b of human origin.

## PRODUCT

Each vial contains 200  $\mu\text{g}$  IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8295 P, (100  $\mu\text{g}$  peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

Synapsin Ia/b (C-20) is recommended for detection of Synapsin Ia/b of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu\text{g}$  per 100-500  $\mu\text{g}$  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); may cross-react with EMILIN-2. Synapsin Ia/b (C-20) is also recommended for detection of Synapsin Ia/b in additional species, including canine, bovine and porcine.

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

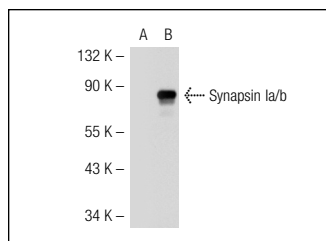
Molecular Weight of Synapsin Ia: 80 kDa.

Molecular Weight of Synapsin Ib: 86 kDa.

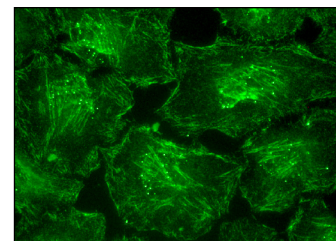
## RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



Synapsin Ia/b (C-20): sc-8295. Western blot analysis of Synapsin Ia/b expression in non-transfected: sc-117752 (A) and mouse Synapsin Ia/b transfected: sc-123862 (B) 293T whole cell lysates.



Synapsin Ia/b (C-20)-R: sc-8295-R. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

## SELECT PRODUCT CITATIONS

1. Tavares, A., et al. 2001. Profile of phosphoprotein labelling in organotypic slice cultures of rat hippocampus. *Neuroreport* 12: 2705-2709.
2. Nowicka, D., et al. 2003. A surface antigen delineating a subset of neurons in the primary somatosensory cortex of the mouse. *Acta Neurobiol. Exp.* 63: 185-195.
3. Maiya, R., et al. 2007. Defining the dopamine transporter proteome by convergent biochemical and in silico analyses. *Genes Brain Behav.* 6: 97-106.
4. Revest, J.M., et al. 2010. The enhancement of stress-related memory by glucocorticoids depends on synapsin-Ia/Ib. *Mol. Psychiatry* 15: 1125, 1140-1151.

## RESEARCH USE

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

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Try **Synapsin Ia/b (A-8): sc-376623**, our highly recommended monoclonal alternative to Synapsin Ia/b (C-20).