

# Synaptotagmin I/II (D-18): sc-12466

## BACKGROUND

Synaptotagmins are a large gene family of synaptic vesicle type III integral membrane proteins that function as regulators of both exocytosis and endocytosis and are involved in neurotransmitter secretion from small secretory vesicles. Calcium binds to Synaptotagmin I which triggers neurotransmitter release at the synapse. Synaptotagmin II is phosphorylated by WNK1 in a process that regulates calcium-dependent interactions. Synaptotagmin III is involved in calcium-dependent exocytosis of secretory vesicles in endocrine cells and neurons. Synaptotagmin IV is expressed in neuronal tissues, and has the highest mRNA levels in the hippocampus. The proximity of the Synaptotagmin IV gene to markers of several psychiatric disorders suggest an involvement of Synaptotagmin IV in human disease. Synaptotagmin V is a dense-core vesicle-specific protein that regulates a specific type of calcium-regulated secretion. Synaptotagmin VI interacts with adaptor protein-2 in a calcium-independent manner. Synaptotagmin VII is widely expressed in non-neuronal tissues.

## CHROMOSOMAL LOCATION

Genetic locus: SYT1 (human) mapping to 12q21.2, SYT2 (human) mapping to 1q32.1; Syt1 (mouse) mapping to 10 D1, Syt2 (mouse) mapping to 1 E4.

## SOURCE

Synaptotagmin I/II (D-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Synaptotagmin I of human origin.

## 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-12466 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Synaptotagmin I/II (D-18) is recommended for detection of Synaptotagmin I/II of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Synaptotagmin I/II (D-18) is also recommended for detection of Synaptotagmin I/II in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for Synaptotagmin I/II siRNA (h): sc-44135, Synaptotagmin I/II shRNA Plasmid (h): sc-44135-SH and Synaptotagmin I/II shRNA (h) Lentiviral Particles: sc-44135-V.

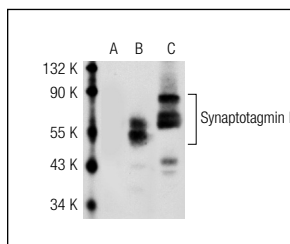
Molecular Weight of Synaptotagmin I/II: 40/65 kDa.

Positive Controls: Synaptotagmin I (h): 293T Lysate: sc-116669, mouse brain extract: sc-2253 or rat brain extract: sc-2392.

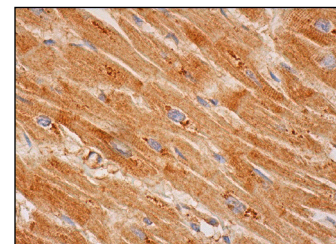
## RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



Synaptotagmin I/II (D-18): sc-12466. Western blot analysis of Synaptotagmin I expression in non-transfected 293T: sc-117752 (A) and human Synaptotagmin I transfected 293T: sc-116669 (B) whole cell lysates and mouse brain tissue extract (C).



Synaptotagmin I/II (D-18): sc-12466. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

## SELECT PRODUCT CITATIONS

1. Tadokoro, S., et al. 2005. Complexin II facilitates exocytotic release in mast cells by enhancing Ca<sup>2+</sup> sensitivity of the fusion process. *J. Cell Sci.* 118: 2239-2246.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **Synaptotagmin I/II (H-9): sc-393392**, our highly recommended monoclonal alternative to Synaptotagmin I/II (D-18).