SANTA CRUZ BIOTECHNOLOGY, INC.

Synaptotagmin IV (H-140): sc-30095

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: SYT4 (human) mapping to 18q12.3; Syt4 (mouse) mapping to 18 B1.

SOURCE

Synaptotagmin IV (H-140) is a rabbit polyclonal antibody raised against amino acids 51-190 mapping within an internal region of Synaptotagmin IV 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.

RESEARCH USE

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

APPLICATIONS

Synaptotagmin IV (H-140) is recommended for detection of Synaptotagmin IV 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Synaptotagmin IV (H-140) is also recommended for detection of Synaptotagmin IV in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Synaptotagmin IV siRNA (h): sc-41316, Synaptotagmin IV siRNA (m): sc-41317, Synaptotagmin IV shRNA Plasmid (h): sc-41316-SH, Synaptotagmin IV shRNA Plasmid (m): sc-41317-SH, Synaptotagmin IV shRNA (h) Lentiviral Particles: sc-41316-V and Synaptotagmin IV shRNA (m) Lentiviral Particles: sc-41317-V.

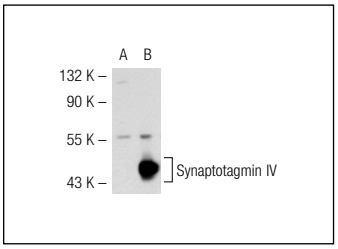
Molecular Weight of Synaptotagmin IV: 41-44 kDa.

Positive Controls: Synaptotagmin IV (m): 293T Lysate: sc-123868, SK-N-SH cell lysate: sc-2410 or Jurkat whole cell lysate: sc-2204.

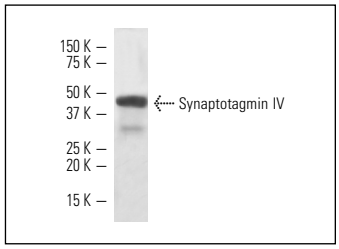
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Synaptotagmin IV (H-140): sc-30095. Western blot analysis of Synaptotagmin IV expression in non-transfected: sc-117752 (**A**) and mouse Synaptotagmin IV transfected: sc-123868 (**B**) 293T whole cell lysates.



Synaptotagmin IV (H-140): sc-30095. Western blot analysis of Synaptotagmin IV expression in Jurkat whole cell lysate.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.