

Synaptotagmin IV (E-14): sc-27625

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 (E-14) is an affinity purified goat polyclonal antibody raised against a peptide 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.

Blocking peptide available for competition studies, sc-27625 P, (100 µg 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

Synaptotagmin IV (E-14) 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).

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.

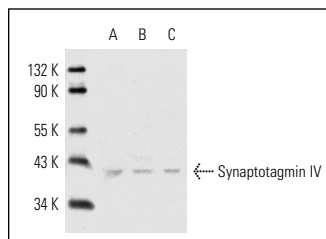
Molecular Weight of Synaptotagmin IV: 41-44 kDa.

Positive Controls: SK-N-MC cell lysate: sc-2237, SK-N-SH cell lysate: sc-2410 or SK-N-MC + forskolin cell lysate: sc-2288.

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



Synaptotagmin IV (E-14): sc-27625. Western blot analysis of Synaptotagmin IV expression in SK-N-MC (A), SK-N-SH (B) and forskolin-treated SK-N-MC (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Bartl, J., et al. 2010. Effects of methylphenidate: the cellular point of view. *Atten. Defic. Hyperact. Disord.* 2: 225-232.

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.

MONOS
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Try **Synaptotagmin IV (H-4): sc-271936** or **Synaptotagmin IV (28-N): sc-101302**, our highly recommended monoclonal alternatives to Synaptotagmin IV (E-14).