

Synaptotagmin IX (E-11): sc-398592

BACKGROUND

Synaptotagmins are a large 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. Synaptotagmin IX, also known as SYT9 (Synaptotagmin-9), is a 491 amino acid protein that localizes to the membrane. Like other Synaptotagmin proteins, Synaptotagmin IX is involved in the calcium-dependent exocytosis of secretory vesicles and is thought to act as a calcium sensor during vesicular trafficking. Synaptotagmin IX contains two C2 domains through which it can bind three calcium ions per subunit. It has been suggested that Synaptotagmin IX is required for the Ca²⁺-dependent release of norepinephrine.

REFERENCES

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- Mizutani, A., et al. 2000. SYNCRIP, a cytoplasmic counterpart of heterogeneous nuclear ribonucleoprotein R, interacts with ubiquitous Synaptotagmin isoforms. *J. Biol. Chem.* 275: 9823-9831.
- Dubois, T., et al. 2002. Identification of casein kinase α interacting protein partners. *FEBS Lett.* 517: 167-171.
- Fukuda, M., et al. 2002. Synaptotagmin IX regulates Ca²⁺-dependent secretion in PC12 cells. *J. Biol. Chem.* 277: 4601-4604.
- Zhang, X., et al. 2002. Ca²⁺-dependent Synaptotagmin binding to SNAP-25 is essential for Ca²⁺-triggered exocytosis. *Neuron* 34: 599-611.
- Haberman, Y., et al. 2003. Synaptotagmin IX, a possible linker between the perinuclear endocytic recycling compartment and the microtubules. *J. Cell Sci.* 116: 4307-4318.

CHROMOSOMAL LOCATION

Genetic locus: SYT9 (human) mapping to 11p15.4; Syt9 (mouse) mapping to 7 E3.

SOURCE

Synaptotagmin IX (E-11) is a mouse monoclonal antibody raised against amino acids 77-131 mapping near the N-terminus of Synaptotagmin IX of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Synaptotagmin IX (E-11) is available conjugated to agarose (sc-398592 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398592 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398592 PE), fluorescein (sc-398592 FITC), Alexa Fluor[®] 488 (sc-398592 AF488), Alexa Fluor[®] 546 (sc-398592 AF546), Alexa Fluor[®] 594 (sc-398592 AF594) or Alexa Fluor[®] 647 (sc-398592 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-398592 AF680) or Alexa Fluor[®] 790 (sc-398592 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Synaptotagmin IX (E-11) is recommended for detection of Synaptotagmin IX of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

Suitable for use as control antibody for Synaptotagmin IX siRNA (h): sc-96623, Synaptotagmin IX siRNA (m): sc-153974, Synaptotagmin IX shRNA Plasmid (h): sc-96623-SH, Synaptotagmin IX shRNA Plasmid (m): sc-153974-SH, Synaptotagmin IX shRNA (h) Lentiviral Particles: sc-96623-V and Synaptotagmin IX shRNA (m) Lentiviral Particles: sc-153974-V.

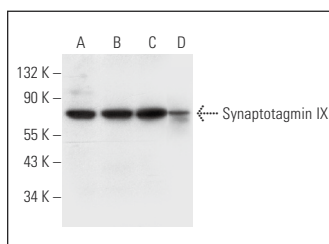
Molecular Weight of Synaptotagmin IX: 70 kDa.

Positive Controls: T98G cell lysate: sc-2294, RT-4 whole cell lysate: sc-364257 or human liver extract: sc-363766.

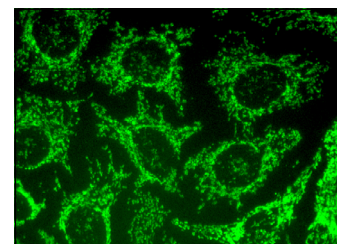
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



Synaptotagmin IX (E-11): sc-398592. Western blot analysis of Synaptotagmin IX expression in T98G (A), RT-4 (B) and U-251-MG (C) whole cell lysates and human liver tissue extract (D).



Synaptotagmin IX (E-11): sc-398592. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic vesicles localization.

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.

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