SANTA CRUZ BIOTECHNOLOGY, INC.

Endophilin II (E-15): sc-10876

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The Power to Question

BACKGROUND

The endophilins comprise a family of three SH3 domain-containing proteins designated Endophilin I, II and III, or alternatively known as SH3P4, SH3P8 and SH3P13, respectively. These proteins associate with amphiphysin, synaptojanin and dynamin and are implicated in presynaptic vesicle trafficking at nerve terminals. The expression patterns of the Endophilins are consistent with their cellular functions at the neuronal synapse as Endophilin I is expressed only in the brain. Both Endophilin II and Endophilin III are detected in a variety of tissues. Endophilin I is also implicated in modulating G protein-coupled receptor signaling by functioning as an adapter protein and directing β1 adrenergic receptors to the endocytic machinery.

REFERENCES

1. Giachino, C., et al. 1997. Novel SH3-containing human gene family preferentially expressed in the central nervous system. Genomics 41: 427-434.
2. Ringstad, N., et al. 1997. The SH3p4/Sh3p8/ SH3p13 protein family: binding partners for synaptojanin and dynamin via a GRB2-like Src homology 3 domain. Proc. Natl. Acad. Sci. USA 94: 8569-8574.
3. Micheva, K.D., et al. 1997 SH3 domain-dependent interactions of Endophilin with amphiphysin. FEBS Lett. 414: 308-312.
4. Cestra, G., et al. 1999. The SH3 domains of Endophilin and amphiphysin bind to the proline-rich region of synaptojanin 1 at distinct sites that display an unconventional binding specificity. J. Biol. Chem. 274: 32001-32007.
5. Schmidt, A., et al. 1999. Endophilin I mediates synaptic vesicle formation by transfer of arachidonate to lysophosphatidic acid. Nature 401: 133-141.
6. Simpson, F., et al. 1999. SH3-domain-containing proteins function at distinct steps in clathrin-coated vesicle formation. Nat. Cell Biol. 1: 119-124.
7. Tang, Y., et al. 1999. Identification of the Endophilins (SH3p4/p8/p13) as novel binding partners for the β1 adrenergic receptor. Proc. Natl. Acad. Sci. USA 96: 12559-12564.

CHROMOSOMAL LOCATION

Genetic locus: SH3GL1 (human) mapping to 19p13.3; Sh3gl1 (mouse) mapping to 17 D.

SOURCE

Endophilin II (E-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Endophilin II of mouse 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-10876 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

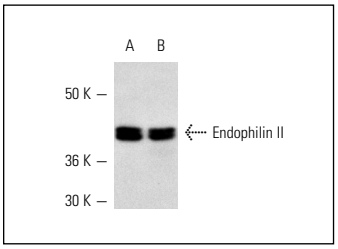
Endophilin II (E-15) is recommended for detection of Endophilin II and human SH3GL1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting 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 Endophilin II siRNA (h): sc-35306, Endophilin II siRNA (m): sc-35307, Endophilin II shRNA Plasmid (h): sc-35306-SH, Endophilin II shRNA Plasmid (m): sc-35307-SH, Endophilin II shRNA (h) Lentiviral Particles: sc-35306-V and Endophilin II shRNA (m) Lentiviral Particles: sc-35307-V.

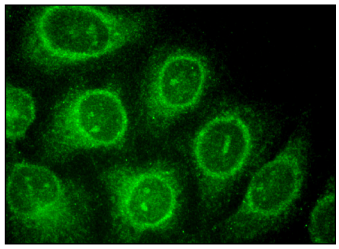
Molecular Weight of Endophilin II: 45 kDa.

Positive Controls: mouse testis extract: sc-2405 or mouse brain extract: sc-2253.

DATA



Endophilin II (E-15): sc-10876. Western blot analysis of Endophilin II expression in mouse testis (**A**) and brain (**B**) extracts.



Endophilin II (E-15): sc-10876. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Chen, Y., et al. 2003. Formation of an endophilin-Ca^{2+} channel complex is critical for clathrin-mediated synaptic vesicle endocytosis. Cell 115: 37-48.
2. Chowdhury, S., et al. 2006. Arc/Arg3.1 interacts with the endocytic machinery to regulate AMPA receptor trafficking. Neuron 52: 445-459.

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.