SANTA CRUZ BIOTECHNOLOGY, INC.

Complexin-1/2 (B-9): sc-514321

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Complexin-1 and Complexin-2, also designated Synaphin-1 and Synaphin-2, contain an α-helical middle domain of approximately 58 amino acids. Complexin-1 and Complexin-2 are expressed in presynaptic terminals of inhibitory and excitatory hippocampal neurons, respectively, and in cytoplasmic pools during early stages of development. Complexins promote SNARE (soluble N-ethylmaleimide-sensitive factor attachment protein receptors) pre-complex formation by binding to synaxin with its α-helical domain. Complexins are important regulators of transmitter release at a late step in calcium dependent neurotransmitter release or immediately after the calcium-triggering step of fast synchronous transmitter release and preceding vesicle fusion. Neurons lacking complexins show reduced transmitter release efficiency due to decreased calcium sensitivity of the synaptic secretion process. Complexin-2 may play a role in only LTP (long term potentiation) following tetanic stimulation. A progressive loss of Complexin-2 occurs in the brains of mice carrying the Huntington disease mutation, an autosomal dominant neurodegenerative disorder. Changes in the neurotransmitter release might contribute to the motor, emotional and cognitive dysfunctions seen in these mice.

REFERENCES

1. McMahon, H.T., Missler, M., Li, C. and Südhof, T.C. 1995. Complexins: cytosolic proteins that regulate SNAP receptor function. Cell 83: 111-119.
2. Pabst, S., Hazzard J.W., Antonin W., Südhof, T.C., Jahn, R., Rizo, J. and Fasshauer, D. 2000. Selective interaction of complexin with the neuronal SNARE complex. J. Biol. Chem. 275: 19808-19818.
3. Eastwood, S.L. and Harrison, P.J. 2000. Hippocampal synaptic pathology in schizophrenia, bipolar desorder and major depression: a study of complexin mRNAs. Mol. Psychiatry 5: 425-432.
4. Huang, G.Z., Ujihara, J., Takahasi, S., Kaba, H., Yagi, T. and Inoue, S. 2000. Involvement of complexin II in synaptic plasticity in the CA1 region of the hippocampus: the use of complexin II-lacking mice. Jpn. J. Phormacol. 84: 179-187.

CHROMOSOMAL LOCATION

Genetic locus: CPLX1 (human) mapping to 4p16.3, CPLX2 (human) mapping to 5q35.2.

SOURCE

Complexin-1/2 (B-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 54-73 within an internal region of Complexin-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-514321 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Complexin-1/2 (B-9) is recommended for detection of Complexin-1 and Complexin-2 of human origin by Western Blotting (starting dilution 1:100, 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).

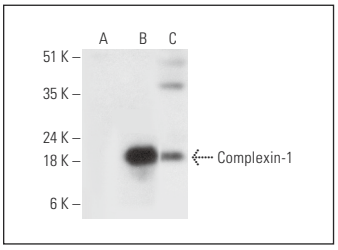
Molecular Weight of Complexin-1/2: 15 kDa.

Positive Controls: Complexin-1 (h): 293T Lysate: sc-110107 or human cerebral cortex extract: sc-516707.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



Complexin-1/2 (B-9): sc-514321. Western blot analysis of Complexin-1/2 expression in non-transfected 293T: sc-117752 (**A**) and human Complexin-1 transfected 293T: sc-110107 (**B**) whole cell lysates and human cerebral cortex tissue extract (**C**).

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 for detailed protocols and support products.