neuroligin 1 (h): 293T Lysate: sc-115314



The Power to Question

BACKGROUND

Neuroligins are a family of plasma membrane proteins that possess an N-terminal hydrophobic domain, a large esterase homology domain, a single transmembrane region, a short cytoplasmic domain, and an EF-hand binding domain. Members of the neuroligin family include neuroligin 1, neuroligin 2 and neuroligin 3. Neuroligins are expressed in excitatory neuronal synaptic clefts. Neuroligins play a role in the formation and remodeling of CNS synapses by binding to β -neurexins, a family of neuronal cell surface proteins. Neurexin 1β binds to the EF-hand domain of neuroligin 1 and requires calcium ion. Neuroligins also bind to PSD-95, which may recruit ion channels and neurotransmitter receptors to the synapses.

REFERENCES

- Ichtchenko, K., Nguyen, T. and Südhof, T.C. 1996. Structures, alternative splicing, and neurexin binding of multiple neuroligins. J. Biol. Chem. 271: 2676-2682.
- 2. Nguyen, T. and Sudhof, T.C. 1997. Binding properties of neuroligin 1 and neurexin 1β reveal fuction as heterophilic cell adhesion molecules. J. Biol. Chem. 272: 26032-26039.
- Irie, M., Hata, Y., Takeuchi, M., Ichtchenko, K., Toyoda, A., Hirao, K., Takai, Y., Rosahl, T.W. and Südhof, T.C. 1997. Binding of neurolgin to PSD-95. Science 277: 1511-1515.
- Song, J.Y., Ichtchenko, K., Südhof, T.C. and Brose, N. 1999. Neuroligin 1 is a postsynaptic cell-adhesion molecule of excitatory synapses. Proc. Natl. Acad. Sci. USA 96: 1100-1105.
- Tsigelny, I., Shindyalov, I.N., Bourne, P.E., Sudhof, T.C. and Taylor, P. 2000.
 Common EF-hand motifs in cholinesterases and neuroligins suggest a role for Ca²⁺ binding in cell surface associations. Protein Sci. 9: 180-185.
- Philibert, R.A., Winfield, S.L., Sandhu, H.K., Martin, B.M. and Ginns, E.I. 2000. The structure and expression of the human neuroligin 3 gene. Gene 246: 303-310.
- 7. Scheiffele, P., Fan, J., Choih, J., Fetter, R. and Serafini, T. 2000. Neuroligin expressed in nonneuronal cells triggers presynaptic development in contacting axons. Cell 100: 657-669.

CHROMOSOMAL LOCATION

Genetic locus: NLGN1 (human) mapping to 3q26.31.

PRODUCT

neuroligin 1 (h): 293T Lysate represents a lysate of human neuroligin 1 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

APPLICATIONS

neuroligin 1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive neuroligin 1 antibodies. Recommended use: $10\text{-}20~\mu\text{l}$ per lane.

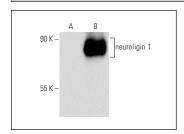
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

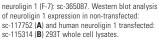
neuroligin 1 (F-7): sc-365087 is recommended as a positive control antibody for Western Blot analysis of enhanced human neuroligin 1 expression in neuroligin 1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

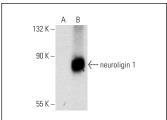
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-lgG κ BP-HRP: sc-516102 or m-lgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA







neuroligin 1 (A-4): sc-365110. Western blot analysis of neuroligin 1 expression in non-transfected: sc-117752 (A) and human neuroligin 1 transfected: sc-115314 (B) 293T whole cell lysates.

PROTOCOLS

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

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