SANTA CRUZ BIOTECHNOLOGY, INC.

Complexin-3 siRNA (h): sc-90105

BACKGROUND

Members of the Complexin protein family promote SNARE (soluble N-ethyl-maleimide-sensitive factor attachment protein receptors) precomplex formation by binding to Syntaxin via an 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. Neurons lacking Complexins show reduced transmitter release efficiency due to decreased calcium sensitivity of the synaptic secretion process. Complexin-3, also known as CPXIII, CPX-III, Nbla11589 or CPLX3, is a 158 amino acid member of the complexin/synaphin family. Complexin-3 is involved in the regulation of synaptic vesicle exocytosis. Complexin-3 binds to the SNARE core complex containing SNAP 25, VAMP-2 and Syntaxin 1.

REFERENCES

1. McMahon, H.T., et al. 1995. Complexins: cytosolic proteins that regulate SNAP receptor function. Cell 83: 111-119.
2. Pabst, S., et al. 2000. Selective interaction of complexin with the neuronal SNARE complex. Determination of the binding regions. J. Biol. Chem. 275: 19808-19818.
3. Huang, G.Z., et al. 2000. Involvement of complexin II in synaptic plasticity in the CA1 region of the hippocampus: the use of complexin II-lacking mice. Jpn. J. Pharmacol. 84: 179-187.
4. Eastwood, S.L. and Harrison, P.J. 2000. Hippocampal synaptic pathology in schizophrenia, bipolar disorder and major depression: a study of complexin mRNAs. Mol. Psychiatry 5: 425-432.
5. Reim, K., et al. 2001. Complexins regulate a late step in Ca^{2+}-dependent neurotransmitter release. Cell 104: 71-81.
6. Tokumaru, H., et al. 2001. SNARE complex oligomerization by synaphin/complexin is essential for synaptic vesicle exocytosis. Cell 104: 421-432.
7. Yoon, T.Y., et al. 2008. Complexin and Ca^{2+} stimulate SNARE-mediated membrane fusion. Nat. Struct. Mol. Biol. 15: 707-713.

CHROMOSOMAL LOCATION

Genetic locus: CPLX3 (human) mapping to 15q24.1.

PRODUCT

Complexin-3 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Complexin-3 shRNA Plasmid (h): sc-90105-SH and Complexin-3 shRNA (h) Lentiviral Particles: sc-90105-V as alternate gene silencing products.

For independent verification of Complexin-3 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-90105A, sc-90105B and sc-90105C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Complexin-3 siRNA (h) is recommended for the inhibition of Complexin-3 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

Complexin-3 (C-8): sc-365941 is recommended as a control antibody for monitoring of Complexin-3 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Complexin-3 gene expression knockdown using RT-PCR Primer: Complexin-3 (h)-PR: sc-90105-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.