SANTA CRUZ BIOTECHNOLOGY, INC.

β-NAP siRNA (h): sc-41163

BACKGROUND

A widely expressed adaptor-like complex AP-3 is involved in protein sorting in exocytic/endocytic pathways and is composed of four distinct subunits. One of these subunits, β-3A (β3A-adaptin), is closely related to the neuron-specific protein β-NAP (61% overall identity). β-NAP (also known as β-3B) is a homologue of the β/β'-adaptins. β-NAP is related to one of the adaptor subunits of clathrin-coated vesicles, and is part of an adaptor-like complex, which not associated with clathrin. Casein kinase I selectively phosphorylates the β-3A and β-NAP subunits at its hinge domain and inhibiting the kinase hinders the recruitment of AP-3 to synaptic vesicles.

REFERENCES

1. Simpson, F., et al. 1996. A novel adaptor-related protein complex. J. Cell Biol. 133: 749-760.
2. Dell'Angelica, E.C., et al. 1997. β3A-adaptin, a subunit of the adaptor-like complex AP-3. J. Biol. Chem. 272: 15078-15084.
3. Dell'Angelica, E.C., et al. 1997. AP-3: an adaptor-like protein complex with ubiquitous expression. EMBO J. 16: 917-928.
4. Simpson, F., et al. 1997. Characterization of the adaptor-related protein complex, AP-3. J. Cell Biol. 137: 835-845.
5. Dell'Angelica, E.C., et al. 1998. Association of the AP-3 adaptor complex with clathrin. Science 280: 431-434.
6. Mullins, C., et al. 2000. Distinct requirements for the AP-3 adaptor complex in pigment granule and synaptic vesicle biogenesis in *Drosophila melanogaster.* Mol. Gen. Genet. 263: 1003-1014.
7. Faundez, V.V., et al. 2000. The AP-3 complex required for endosomal synaptic vesicle biogenesis is associated with a casein kinase Iα-like isoform. Mol. Biol. Cell 11: 2591-2604.

CHROMOSOMAL LOCATION

Genetic locus: AP3B2 (human) mapping to 15q25.2.

PRODUCT

β-NAP 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 β-NAP shRNA Plasmid (h): sc-41163-SH and β-NAP shRNA (h) Lentiviral Particles: sc-41163-V as alternate gene silencing products.

For independent verification of β-NAP (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-41163A, sc-41163B and sc-41163C.

PROTOCOLS

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

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

β-NAP siRNA (h) is recommended for the inhibition of β-NAP 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor β-NAP gene expression knockdown using RT-PCR Primer: β-NAP (h)-PR: sc-41163-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.