SANTA CRUZ BIOTECHNOLOGY, INC.

# AP-3β siRNA (h): sc-41165

## BACKGROUND

The 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, AP-3β, also known as β3A-Adaptin, is closely related to the neuron-specific protein β-NAP and shares 61% overall identity. β-NAP (also known as β-3B-Adaptin) is a homolog of the β/β'-Adaptins. β-NAP is related to one of the adaptor subunits of Clathrin-coated vesicles and is also part of an adaptor-like complex which is not associated with Clathrin. Casein kinase I selectively phosphorylates the AP-3β and β-NAP subunits at its hinge domain; 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.


## CHROMOSOMAL LOCATION

Genetic locus: AP3B1 (human) mapping to 5q14.1.

## PRODUCT

AP-3β 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 AP-3β shRNA Plasmid (h): sc-41165-SH and AP-3β shRNA (h) Lentiviral Particles: sc-41165-V as alternate gene silencing products.

For independent verification of AP-3β (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-41165A, sc-41165B and sc-41165C.

## 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

AP-3β siRNA (h) is recommended for the inhibition of AP-3β 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

AP-3β (3B4): sc-517083 is recommended as a control antibody for monitoring of AP-3β 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 AP-3β gene expression knockdown using RT-PCR Primer: AP-3β (h)-PR: sc-41165-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS


1. Danelishvili, L. and Bermudez, L.E. 2015. *Mycobacterium avium* MAV_2941 mimics phosphoinositol-3-kinase to interfere with macrophage phagosome maturation. Microbes Infect. 17: 628-637.
2. Subramanian, G., et al. 2024. AP3B1 has type I interferon-independent antiviral function against SARS-CoV-2. Viruses 16: 1377.


## 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.