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# NECAP 2 siRNA (m): sc-149897

## BACKGROUND

Clathrin-coated vesicles (CCVs) select cargo for endocytotic entry into cells and generate carrier vesicles for transport between the endosomal system and *trans*-Golgi network (TGN). NECAP 1 and NECAP 2 are essential protein paralogues for clathrin-mediated membrane trafficking that are enriched in CCV coats. NECAP 2 (NECAP endocytosis associated 2), also known as adaptin ear-binding coat-associated protein 2, is a 263 amino acid protein belonging to the NECAP family that localizes to the clathrin-coated vesicle membrane. NECAP 2 is encoded by a gene that maps to human chromosome 1p36.13 and exists as three alternatively spliced isoforms. NECAP 2 colocalizes with AP-2 at the plasma membrane by binding AP-2's  $\alpha$ -ear domain, and interacts with AP-1, AP-2 and several GAE domain proteins termed GGA1, GGA2 and GGA3.

## REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611623. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Ritter, B., Philie, J., Girard, M., Tung, E.C., Blondeau, F. and McPherson, P.S. 2003. Identification of a family of endocytic proteins that define a new  $\alpha$ -adaptin ear-binding motif. *EMBO Rep.* 4: 1089-1095.
3. Ritter, B., Blondeau, F., Denisov, A.Y., Gehring, K. and McPherson, P.S. 2004. Molecular mechanisms in clathrin-mediated membrane budding revealed through subcellular proteomics. *Biochem. Soc. Trans.* 32: 769-773.
4. Mattera, R., Ritter, B., Sidhu, S.S., McPherson, P.S. and Bonifacino, J.S. 2004. Definition of the consensus motif recognized by  $\gamma$ -adaptin ear domains. *J. Biol. Chem.* 279: 8018-8028.
5. McPherson, P.S. and Ritter, B. 2005. Peptide motifs: building the clathrin machinery. *Mol. Neurobiol.* 32: 73-87.

## CHROMOSOMAL LOCATION

Genetic locus: Necap2 (mouse) mapping to 4 D3.

## PRODUCT

NECAP 2 siRNA (m) 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NECAP 2 shRNA Plasmid (m): sc-149897-SH and NECAP 2 shRNA (m) Lentiviral Particles: sc-149897-V as alternate gene silencing products.

For independent verification of NECAP 2 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-149897A, sc-149897B and sc-149897C.

## PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

NECAP 2 siRNA (m) is recommended for the inhibition of NECAP 2 expression in mouse 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  $\mu$ M in 66  $\mu$ l. 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 NECAP 2 gene expression knockdown using RT-PCR Primer: NECAP 2 (m)-PR: sc-149897-PR (20  $\mu$ l). 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.