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Calcoco2 siRNA (m): sc-141979

BACKGROUND

Calcoco2 (calcium-binding and coiled-coil domain-containing protein 2), also known as NDP52 (nuclear dot protein 52), is a 446 amino acid protein that localizes to the perinuclear region of the cytoplasm and to nuclear dots, where it functions as a subunit of nuclear domain 10 (ND10) bodies. ND10 bodies are nuclear domains that are thought to be associated with the nuclear matrix and may have a role in the life cycles of various viruses, such as HSV-1. Expressed ubiquitously with highest expression in skeletal muscle, Calcoco2 exists as a complex with proteins such as Myosin VI and is involved in Actin cytoskeleton organization and in ruffle formation. Calcoco2 may also regulate cell adhesion, cytokine signaling and constitutive secretion within the cell, suggesting an important role in membrane trafficking pathways and developmental events.

REFERENCES

1. Koriath, F., et al. 1995. Molecular characterization of NDP52, a novel protein of the nuclear domain 10, which is redistributed upon virus infection and interferon treatment. *J. Cell Biol.* 130: 1-13.
2. Koriath, F., et al. 1996. The nuclear domain 10 (ND10) is disrupted by the human cytomegalovirus gene product IE1. *Exp. Cell Res.* 229: 155-158.
3. Sternsdorf, T., et al. 1997. Cellular localization, expression, and structure of the nuclear dot protein 52. *J. Cell Biol.* 138: 435-448.
4. Florin, L., et al. 2002. Reorganization of nuclear domain 10 induced by papillomavirus capsid protein I2. *Virology* 295: 97-107.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 60458. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
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7. Everett, R.D., et al. 2004. Formation of nuclear foci of the herpes simplex virus type 1 regulatory protein ICP4 at early times of infection: localization, dynamics, recruitment of ICP27, and evidence for the *de novo* induction of ND10-like complexes. *J. Virol.* 78: 1903-1917.

CHROMOSOMAL LOCATION

Genetic locus: Calcoco2 (mouse) mapping to 11 D.

PRODUCT

Calcoco2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Calcoco2 shRNA Plasmid (m): sc-141979-SH and Calcoco2 shRNA (m) Lentiviral Particles: sc-141979-V as alternate gene silencing products.

For independent verification of Calcoco2 (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-141979A, sc-141979B and sc-141979C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Calcoco2 siRNA (m) is recommended for the inhibition of Calcoco2 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 μ M in 66 μ 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 Calcoco2 gene expression knockdown using RT-PCR Primer: Calcoco2 (m)-PR: sc-141979-PR (20 μ l, 505 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Kim, S., et al. 2016. Fisetin stimulates autophagic degradation of phosphorylated Tau via the activation of TFEB and Nrf2 transcription factors. *Sci. Rep.* 6: 24933.

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.