



ZNRF2 siRNA (h): sc-89499

BACKGROUND

Ubiquitination is an important mechanism through which three classes of enzymes act in concert to target short-lived or abnormal proteins for destruction. The three classes of enzymes involved in ubiquitination are the ubiquitin-activating enzymes (E1s), the ubiquitin-conjugating enzymes (E2s) and the ubiquitin-protein ligases (E3s). ZNRF2 (zinc and ring finger 2), also known as RNF202, is a 242 amino acid peripheral membrane protein that contains one RING-type zinc finger and localizes to the lysosome, as well as the endosome and the cell junction. Expressed at high levels in brain tissue, ZNRF2 is thought to function as an E3 ubiquitin-protein ligase that may be involved in the establishment and maintenance of neuronal transmission and plasticity. Upon DNA damage, ZNRF2 is subject to phosphorylation, probably by ATR or ATM.

REFERENCES

1. Ciechanover, A. 1994. The ubiquitin-mediated proteolytic pathway: mechanisms of action and cellular physiology. *Biol. Chem. Hoppe-Seyler* 375: 565-581.
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3. Hochstrasser, M. 1995. Ubiquitin, proteasomes, and the regulation of intracellular protein degradation. *Curr. Opin. Cell Biol.* 7: 215-223.
4. Hochstrasser, M. 1996. Ubiquitin-dependent protein degradation. *Annu. Rev. Genet.* 30: 405-439.
5. Haas, A.L., et al. 1997. Pathways of ubiquitin conjugation. *FASEB J.* 11: 1257-1268.
6. Araki, T., et al. 2003. ZNRF proteins constitute a family of presynaptic E3 ubiquitin ligases. *J. Neurosci.* 23: 9385-9394.
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CHROMOSOMAL LOCATION

Genetic locus: ZNRF2 (human) mapping to 7p14.3.

PRODUCT

ZNRF2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ZNRF2 shRNA Plasmid (h): sc-89499-SH and ZNRF2 shRNA (h) Lentiviral Particles: sc-89499-V as alternate gene silencing products.

For independent verification of ZNRF2 (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-89499A, sc-89499B and sc-89499C.

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 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

ZNRF2 siRNA (h) is recommended for the inhibition of ZNRF2 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 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 ZNRF2 gene expression knockdown using RT-PCR Primer: ZNRF2 (h)-PR: sc-89499-PR (20 μ 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.