

Ubr7 siRNA (m): sc-154876

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). Ubr7 (ubiquitin protein ligase E3 component N-recognin 7), also known as C14orf130 or N-recognin-7, is a 425 amino acid protein that contains one Ubr-type zinc finger and one PHD zinc finger. Participating in protein modification events within the N-end rule pathway, Ubr7 functions as an E3 ubiquitin-protein ligase that recognizes and binds proteins that contain destabilizing N-terminal residues, thereby leading to their ubiquitination and subsequent degradation.

REFERENCES

1. Aasland, R., Gibson, T.J. and Stewart, A.F. 1995. The PHD finger: implications for chromatin-mediated transcriptional regulation. *Trends Biochem. Sci.* 20: 56-59.
2. Varshavsky, A. 1996. The N-end rule: functions, mysteries, uses. *Proc. Natl. Acad. Sci. USA* 93: 12142-12149.
3. Xie, Y. and Varshavsky, A. 1999. The E2-E3 interaction in the N-end rule pathway: the RING-H2 finger of E3 is required for the synthesis of multi-ubiquitin chain. *EMBO J.* 18: 6832-6844.
4. Tasaki, T., Mulder, L.C., Iwamatsu, A., Lee, M.J., Davydov, I.V., Varshavsky, A., Muesing, M. and Kwon, Y.T. 2005. A family of mammalian E3 ubiquitin ligases that contain the Ubr box motif and recognize N-degrons. *Mol. Cell. Biol.* 25: 7120-7136.
5. Lim, J., Hao, T., Shaw, C., Patel, A.J., Szabó, G., Rual, J.F., Fisk, C.J., Li, N., Smolyar, A., Hill, D.E., Barabási, A.L., Vidal, M. and Zoghbi, H.Y. 2006. A protein-protein interaction network for human inherited ataxias and disorders of Purkinje cell degeneration. *Cell.* 125: 801-814.

CHROMOSOMAL LOCATION

Genetic locus: Ubr7 (mouse) mapping to 12 E.

PRODUCT

Ubr7 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 Ubr7 shRNA Plasmid (m): sc-154876-SH and Ubr7 shRNA (m) Lentiviral Particles: sc-154876-V as alternate gene silencing products.

For independent verification of Ubr7 (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-154876A, sc-154876B and sc-154876C.

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

Ubr7 siRNA (m) is recommended for the inhibition of Ubr7 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 Ubr7 gene expression knockdown using RT-PCR Primer: Ubr7 (m)-PR: sc-154876-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.