SANTA CRUZ BIOTECHNOLOGY, INC.

erasin siRNA (h): sc-94539

BACKGROUND

Erasin, also known as UBXD2 (UBX domain containing protein 2) or UBXDC1, is an endoplasmic reticulum (ER) and nuclear envelope membrane protein. Expressed in a variety of tissues, such as brain, placenta, heart, liver, prostate, kidney, pancreas, lung and skeletal muscle, erasin contains one UBX domain and participates in the clearing of ERAD (endoplasmic reticulum-associated protein degradation) substrates. The UBX domain of erasin is responsible for mediating its direct interaction with VCP (valosin-containing protein), an AAA-ATPase molecular chaperone. In response to ER stress, erasin expression is induced. The knockdown of erasin expression leads to the inhibition of ERAD, suggesting an important function of erasin in the ERAD pathway. In addition, erasin may be involved in Alzheimer's disease, as it is known to accumulate in neurofibrillary degenerating neurons in patients with Alzheimer's disease.

REFERENCES

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2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611216. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Cras-Méneur, C., et al. 2004. An expression profile of human pancreatic islet mRNAs by serial analysis of gene expression (SAGE). Diabetologia 47: 284-299.
4. Liang, J., et al. 2006. Characterization of erasin (UBXD2): a new ER protein that promotes ER-associated protein degradation. J. Cell Sci. 119: 4011-4024.
5. Yamauchi, S., et al. 2007. Differen-tial expression pattern of UBX family genes in *Caenorhabditis elegans*. Biochem. Biophys. Res. Commun. 358: 545-552.
6. Veerla, S., et al. 2008. Promoter analysis of epigenetically controlled genes in bladder cancer. Genes Chromosomes Cancer 47: 368-378.

CHROMOSOMAL LOCATION

Genetic locus: UBXN4 (human) mapping to 2q21.3.

PRODUCT

erasin 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 erasin shRNA Plasmid (h): sc-94539-SH and erasin shRNA (h) Lentiviral Particles: sc-94539-V as alternate gene silencing products.

For independent verification of erasin (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-94539A, sc-94539B and sc-94539C.

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

erasin siRNA (h) is recommended for the inhibition of erasin 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor erasin gene expression knockdown using RT-PCR Primer: erasin (h)-PR: sc-94539-PR (20 µl). 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.