SANTA CRUZ BIOTECHNOLOGY, INC.

Importin-11 siRNA (m): sc-146232

BACKGROUND

The Importin complex consists of Importin-α and Importin-β proteins which assist in the transport of arginine- or serine-rich (SR) peptides across the nucleus. Importin-11, also known as IPO11 or RanBP11, is a 975 amino acid protein that contains one importin N-terminal domain and 15 HEAT repeats and belongs to the Importin-β family. Localized to both the nucleus and the cytoplasm, Importin-11 interacts with UBE2E3 and plays a role in nuclear protein import, specifically functioning as a nuclear transport receptor that mediates the docking of the Importin complex to the nuclear pore complex (NPC). The gene encoding Importin-11 maps to human chromosome 5, which contains 181 million base pairs and comprises nearly 6% of the human genome. Deletion of the p arm of chromosome 5 leads to Cri du chat syndrome, while deletion of the q arm or of chromosome 5 altogether is common in therapy-related acute myelogenous leukemias and myelodysplastic syndrome.

REFERENCES

1. Plafker, S.M. and Macara, I.G. 2000. Importin-11, a nuclear import receptor for the ubiquitin-conjugating enzyme, UbcM2. EMBO J. 19: 5502-5513.
2. Plafker, S.M. and Macara, I.G. 2002. Ribosomal protein L12 uses a distinct nuclear import pathway mediated by Importin-11. Mol. Cell. Biol. 22: 1266-1275.
3. Wang, W., Yang, Y., Li, L. and Shi, Y. 2003. Synleurin, a novel leucine-rich repeat protein that increases the intensity of pleiotropic cytokine responses. Biochem. Biophys. Res. Commun. 305: 981-988.
4. Plafker, S.M., Plafker, K.S., Weissman, A.M. and Macara, I.G. 2004. Ubiquitin charging of human class III ubiquitin-conjugating enzymes triggers their nuclear import. J. Cell Biol. 167: 649-659.
5. Zhang, X.D. and Matunis, M.J. 2005. Ub in charge: regulating E2 enzyme nuclear import. Nat. Cell Biol. 7: 12-14.
6. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 610889. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Ipo11 (mouse) mapping to 13 D2.1.

PRODUCT

Importin-11 siRNA (m) is a target-specific 19-25 nt siRNA 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 Importin-11 shRNA Plasmid (m): sc-146232-SH and Importin-11 shRNA (m) Lentiviral Particles: sc-146232-V as alternate gene silencing products.

For independent verification of Importin-11 (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-146232A, sc-146232B and sc-146232C.

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

Importin-11 siRNA (m) is recommended for the inhibition of Importin-11 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 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.

GENE EXPRESSION MONITORING

Importin-11 (14): sc-136531 is recommended as a control antibody for monitoring of Importin-11 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Importin-11 gene expression knockdown using RT-PCR Primer: Importin-11 (m)-PR: sc-146232-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.