

# Importin-11 shRNA (m) Lentiviral Particles: sc-146232-V

## BACKGROUND

The Importin complex consists of Importin- $\alpha$  and Importin- $\beta$  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- $\beta$  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

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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. Syneleurin, 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 shRNA (m) Lentiviral Particles are concentrated, transduction-ready viral particles containing a target-specific construct that encodes a 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200  $\mu$ l frozen stock containing  $1.0 \times 10^6$  infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see Importin-11 siRNA (m): sc-146232 and Importin-11 shRNA Plasmid (m): sc-146232-SH as alternate gene silencing products.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## APPLICATIONS

Importin-11 shRNA (m) Lentiviral Particles is recommended for the inhibition of Importin-11 expression in mouse cells.

## SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200  $\mu$ l frozen viral stock containing  $1.0 \times 10^6$  infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

## 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  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

## STORAGE

Store lentiviral particles at -80° C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at 4° C for up to one week. Avoid repeated freeze thaw cycles.

## RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.