SANTA CRUZ BIOTECHNOLOGY, INC.

Exportin 7 siRNA (m): sc-144983

BACKGROUND

Exportin 7 is also known as RanBP16 (ran-binding protein 16) or XPO7 and is a 1,087 amino acid protein. Exportin 7 is primarily expressed in testis, thyroid and bone marrow, but is also expressed in lung, liver and small intestine. Exportin 7 translocates proteins and large RNAs through the nuclear pore complex (NPC) and is localized to the cytoplasm and nucleus. Exportin 7 has two types of receptors, designated importins and exportins, both of which recognize proteins that contain nuclear localization signals (NLSs) and are targeted for transport either in or out of the nucleus via the NPC. Additionally, the nucleocytoplasmic RanGTP gradient regulates Exportin 7 distribution, and enables Exportin 7 to bind and release proteins and large RNAs before and after their transportation. Exportin 7 is thought to play a role in erythroid differentiation and may also interact with cancer-associated proteins, suggesting a role for Exportin 7 in tumorigenesis.

REFERENCES

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2. Koch, P., et al. 2000. Identification of a novel putative Ran-binding protein and its close homologue. Biochem. Biophys. Res. Commun. 278: 241-249.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606140. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Mingot, J.M., et al. 2004. Exportin 7 defines a novel general nuclear export pathway. EMBO J. 23: 3227-3236.
5. Cooke, S.L., et al. 2008. High-resolution array CGH clarifies events occurring on 8p in carcinogenesis. BMC Cancer 8: 288.
6. Dorfman, J., et al. 2008. STRADα regulates LKB1 localization by blocking access to Importin-α, and by association with Crm1 and Exportin-7. Mol. Biol. Cell 19: 1614-1626.
7. Quan, Y., et al. 2008. Evolutionary and transcriptional analysis of karyopherin β superfamily proteins. Mol. Cell. Proteomics 7: 1254-1269.

CHROMOSOMAL LOCATION

Genetic locus: Xpo7 (mouse) mapping to 14 D2.

PRODUCT

Exportin 7 siRNA (m) is a pool of 2 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 Exportin 7 shRNA Plasmid (m): sc-144983-SH and Exportin 7 shRNA (m) Lentiviral Particles: sc-144983-V as alternate gene silencing products.

For independent verification of Exportin 7 (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-144983A and sc-144983B.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

Exportin 7 siRNA (m) is recommended for the inhibition of Exportin 7 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

Exportin 7 (A-11): sc-390025 is recommended as a control antibody for monitoring of Exportin 7 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Exportin 7 gene expression knockdown using RT-PCR Primer: Exportin 7 (m)-PR: sc-144983-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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