SANTA CRUZ BIOTECHNOLOGY, INC.

Exportin T siRNA (h): sc-41275

BACKGROUND

Exportin T, a nuclear export receptor for tRNA, selectively exports mature tRNA with correctly processed 5' and 3' ends. The TpsiC loop present in mature tRNA is also critical for the selection process. Exportin T binds tRNA in a RanGTP-dependent manner to form a nuclear export complex. Exportin T shuttles bidirectionally through nuclear pore complexes. The steady-state distribution of Exportin T is dependent on its RanGTP interaction. The RanGTP-dependent interaction between Exportin T and various nucleoporins increase the efficiency of Exportin T by holding empty and tRNA-bound Exportin T near nuclear pore complexes. The gene encoding human Exportin T maps to chromosome 12q14.2.

REFERENCES

1. Arts, G.J., Fornerod, M. and Mattaj, I.W. 1998. Identification of a nuclear export receptor for tRNA. Curr. Biol. 8: 305-314.
2. Kutay, U., Lipowsky, G., Izaurralde, E., Bischoff, F.R., Schwarzmaier, P., Hartmann, E. and Gorlich, D. 1998. Identification of a tRNA-specific nuclear export receptor. Mol. Cell 1: 359-369.
3. Arts, G.J., Kuersten, S., Romby, P., Ehresmann, B. and Mattaj, I.W. 1998. The role of Exportin T in selective nuclear export of mature tRNAs. EMBO J. 17: 7430-7441.
4. Lipowsky, G., Bischoff, F.R., Izaurralde, E., Kutay, U., Schafer, S., Gross, H.J., Beier, H. and Gorlich, D. 1999. Coordination of tRNA nuclear export with processing of tRNA. RNA 5: 539-549.
5. Kuersten, S., Arts, G.J., Walther, T.C., Englmeier, L. and Mattaj, I.W. 2002. Steady-state nuclear localization of Exportin T involves RanGTP binding and two distinct nuclear pore complex interaction domains. Mol. Cell. Biol. 22: 5708-5720.
6. LocusLink Report (LocusID: 11260) http://www.ncbi.nlm.nih.gov/LocusLink

CHROMOSOMAL LOCATION

Genetic locus: XPOT (human) mapping to 12q14.2.

PRODUCT

Exportin T 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 Exportin T shRNA Plasmid (h): sc-41275-SH and Exportin T shRNA (h) Lentiviral Particles: sc-41275-V as alternate gene silencing products.

For independent verification of Exportin T (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-41275A, sc-41275B and sc-41275C.

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 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 T siRNA (h) is recommended for the inhibition of Exportin T 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.

GENE EXPRESSION MONITORING

Exportin T (D-11): sc-514591 is recommended as a control antibody for monitoring of Exportin T 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 T gene expression knockdown using RT-PCR Primer: Exportin T (h)-PR: sc-41275-PR (20 µl, 385 bp). 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.