SANTA CRUZ BIOTECHNOLOGY, INC.

karyopherin 13 siRNA (h): sc-62521

BACKGROUND

Belonging to the importin β family, karyopherin 13 (Kap13), also known as Importin-13 (IPO13) or Ran-binding protein 13, is a 963 amino acid protein that contains 20 HEAT repeats and one importin N-terminal domain. Localizing to the nucleus as well as the cytoplasm, karyopherin 13 is expressed in fetal brain, heart, intestine and kidney. Karyopherin 13 acts as a nuclear transport receptor, participating in nuclear protein import and nuclear localization signals (NLS) in cargo substrates, in a Ras-related nuclear protein-GTPase dependent system. Karyopherin 13 mediates the nuclear import and/or export of UBC9, the RBM8A/MAGOH complex, Pax-6, eIF1AY and Ran. The gene encoding karyopherin 13 maps to human chromosome 1p34.1 and mouse chromosome 4 D2.1.

REFERENCES

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2. Zhang, C., et al. 2000. A novel karyopherin-β homolog is developmentally and hormonally regulated in fetal lung. Am. J. Respir. Cell Mol. Biol. 22: 451-459.
3. Mingot, J.M., et al. 2001. Importin 13: a novel mediator of nuclear import and export. EMBO J. 20: 3685-3694.
4. Ploski, J.E., et al. 2004. Paired-type homeodomain transcription factors are imported into the nucleus by karyopherin 13. Mol. Cell. Biol. 24: 4824-4834.
5. Bono, F., et al. 2010. Nuclear import mechanism of the EJC component Mago-Y14 revealed by structural studies of importin 13. Mol. Cell 37: 211-222.
6. Grünwald, M. and Bono, F. 2011. Structure of Importin13-Ubc9 complex: nuclear import and release of a key regulator of sumoylation. EMBO J. 30: 427-438.

CHROMOSOMAL LOCATION

Genetic locus: IPO13 (human) mapping to 1p34.1.

PRODUCT

karyopherin 13 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 karyopherin 13 shRNA Plasmid (h): sc-62521-SH and karyopherin 13 shRNA (h) Lentiviral Particles: sc-62521-V as alternate gene silencing products.

For independent verification of karyopherin 13 (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-62521A, sc-62521B and sc-62521C.

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

karyopherin 13 siRNA (h) is recommended for the inhibition of karyopherin 13 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

karyopherin 13 (D-3): sc-271218 is recommended as a control antibody for monitoring of karyopherin 13 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 karyopherin 13 gene expression knockdown using RT-PCR Primer: karyopherin 13 (h)-PR: sc-62521-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.