



PHAX siRNA (m): sc-152202

BACKGROUND

Assembly of spliceosomal U snRNPs requires nuclear export of U snRNA precursors. PHAX (phosphorylated adaptor for RNA export, also designated resiniferatoxin-binding protein RBP-26) is the additional factor required for U snRNA export complex assembly *in vitro*. PHAX is present in sensory neuron cell bodies. *In vivo*, PHAX is required for U snRNA export but not for CRM1-mediated export in general. PHAX acts as an adaptor between the CBC/RNA complex and the CRM1/RanGTP proteins. PHAX is phosphorylated in the nucleus and then exported with RNA to the cytoplasm, where it is dephosphorylated. PHAX phosphorylation is essential for export complex assembly and its dephosphorylation causes export complex disassembly.

REFERENCES

1. Ninkina, N.N., Willoughby, J.J., Beech, M.M., Coote, P.R. and Wood, J.N. 1994. Molecular cloning of a resiniferatoxin-binding protein. *Brain Res. Mol. Brain Res.* 22: 39-48.
2. Fischer, U., Huber, J., Boelens W.C., Mattaj, I.W. and Luhrmann, R. 1995. The HIV-1 Rev activation domain is a nuclear export signal that accesses an export pathway used by specific cellular RNAs. *Cell* 82: 475-483.
3. Fornerod, M., Ohno, M., Yoshida, M. and Mattaj, I.W. 1997. CRM1 is an export receptor for leucine-rich nuclear export signals. *Cell* 90: 1051-1060.
4. Izaurralde, E., Kutay, U., von Kobbe, C., Mattaj, I.W. and Gorlich, D. 1997. The asymmetric distribution of the constituents of the Ran system is essential for transport into and out of the nucleus. *EMBO J.* 16: 6535-6547.
5. Ohno, M., Segref, A., Bachi, A., Wilm, M. and Mattaj, I.W. 2000. PHAX, a mediator of U snRNA nuclear export whose activity is regulated by phosphorylation. *Cell* 101: 187-198.

CHROMOSOMAL LOCATION

Genetic locus: Phax (mouse) mapping to 18 D3.

PRODUCT

PHAX siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PHAX shRNA Plasmid (m): sc-152202-SH and PHAX shRNA (m) Lentiviral Particles: sc-152202-V as alternate gene silencing products.

For independent verification of PHAX (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-152202A, sc-152202B and sc-152202C.

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.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

PHAX siRNA (m) is recommended for the inhibition of PHAX 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 μ M in 66 μ l. 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PHAX gene expression knockdown using RT-PCR Primer: PHAX (m)-PR: sc-152202-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.