

PHAX (R-20): sc-11706

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 (human) mapping to 5q23.2; Phax (mouse) mapping to 18 D3.

SOURCE

PHAX (R-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PHAX of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-11706 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

PHAX (R-20) is recommended for detection of PHAX of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PHAX siRNA (h): sc-106785, PHAX siRNA (m): sc-152202, PHAX shRNA Plasmid (h): sc-106785-SH, PHAX shRNA Plasmid (m): sc-152202-SH, PHAX shRNA (h) Lentiviral Particles: sc-106785-V and PHAX shRNA (m) Lentiviral Particles: sc-152202-V.

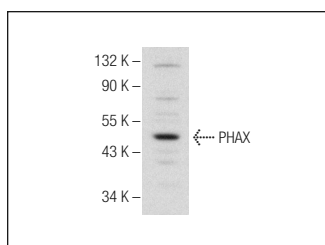
Molecular Weight of PHAX: 44 kDa.

Positive Controls: HeLa nuclear extract: sc-2120 or mouse cerebellum extract: sc-2403.

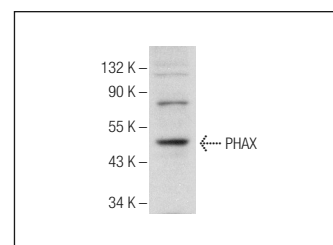
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PHAX (R-20): sc-11706. Western blot analysis of PHAX expression in HeLa nuclear extract.



PHAX (R-20): sc-11706. Western blot analysis of PHAX expression in mouse cerebellum tissue extract.

RESEARCH USE

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