

B23 (h): 293 Lysate: sc-111207

BACKGROUND

The transport of proteins across the nuclear envelope is a selective, multi-step process involving several cytoplasmic factors. Proteins must be recognized as import substrates, dock at the nuclear pore complex and translocate across the nuclear envelope in an ATP-dependent fashion. Several cytosolic and nuclear proteins that are central to this process have been identified. For example, two cytosolic factors critically involved in the recognition and docking process are the karyopherin α and karyopherin β proteins. The karyopherin holoenzyme is a heterodimer of α and β subunits. The nuclear protein B23 (also referred to as nucleophosmin) is involved in ribosomal assembly and rRNA transport. B23 is an abundant protein that is highly phosphorylated by Cdc2 kinase during mitosis.

REFERENCES

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3. Lounsbury, K.M., Richards, S.A., Perlungher, R.R. and Macara, I.G. 1996. Ran binding domains promote the interaction of Ran with p97/karyopherin β , linking the docking and translocation steps of nuclear import. *J. Biol. Chem.* 271: 2357-2360.
4. Moroianu, J., Blobel, G. and Radu, A. 1996. The binding site of karyopherin α for karyopherin β overlaps with a nuclear localization sequence. *Proc. Natl. Acad. Sci. USA* 93: 6572-6576.
5. Moroianu, J., Blobel, G. and Radu, A. 1996. Nuclear protein import: Ran-GTP dissociates the karyopherin α/β heterodimer by displacing α from an overlapping binding site on β . *Proc. Natl. Acad. Sci. USA* 93: 7059-7062.
6. Nozawa, Y., Van Belzen, N., Van der Made, A.C., Dinjens, W.N. and Bosman, F.T. 1996. Expression of nucleophosmin/B23 in normal and neoplastic colorectal mucosa. *J. Pathol.* 178: 48-52.
7. Lu, Y.Y., Lam, C.Y. and Yung, B.Y. 1996. Decreased accumulation and dephosphorylation of the mitosis-specific form of nucleophosmin/B23 in Staurosporine-induced chromosome decondensation. *Biochem. J.* 317: 321-327.

CHROMOSOMAL LOCATION

Genetic locus: NPM1 (human) mapping to 5q35.1.

PRODUCT

B23 (h): 293 Lysate represents a lysate of human B23 transfected 293 cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

B23 (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive B23 antibodies. Recommended use: 10-20 μ l per lane.

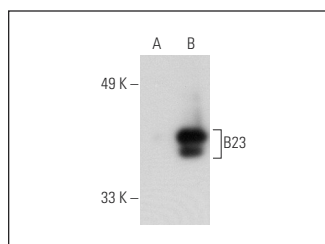
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

B23 (0412): sc-47725 is recommended as a positive control antibody for Western Blot analysis of enhanced human B23 expression in B23 transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

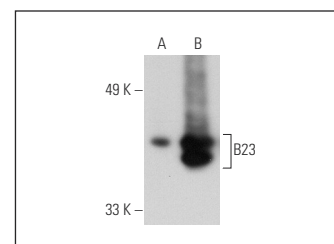
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



B23 (0412): sc-47725. Western blot analysis of B23 expression in non-transfected: sc-110760 (A) and human B23 transfected: sc-111207 (B) 293 whole cell lysates.



B23 (FC-8791): sc-32256. Western blot analysis of B23 expression in non-transfected: sc-110760 (A) and human B23 transfected: sc-111207 (B) 293 whole cell lysates.

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.