

karyopherin α 1 (h): 293T Lysate: sc-111624

BACKGROUND

Protein transport across the nucleus 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. Two cytosolic factors centrally involved in the recognition and docking process are the karyopherin α 1 and karyopherin β 1 subunits. Karyopherin α 1 functions in the recognition and targeting of substrates destined for nuclear import, while karyopherin β 1 serves as an adapter, tethering the karyopherin α 1/substrate complex to docking proteins on the nuclear envelope termed nucleoporins. Karyopherin α 2 has been shown to complex with Epstein-Barr virus nuclear antigen 1 (EBNA1). Certain RNA-binding proteins are imported to the nucleus by karyopherin β 2, and karyopherin β 3 appears to be involved in the import of some ribosomal proteins.

REFERENCES

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4. Moroianu, J., et al. 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., et al. 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.
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7. Yaseen, N.R., et al. 1997. Cloning and characterization of human karyopherin β 3. *Proc. Natl. Acad. Sci. USA* 94: 4451-4456.
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CHROMOSOMAL LOCATION

Genetic locus: KPNA1 (human) mapping to 3q21.1.

PRODUCT

karyopherin α 1 (h): 293T Lysate represents a lysate of human karyopherin α 1 transfected 293T 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

karyopherin α 1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive karyopherin α 1 antibodies. Recommended use: 10-20 μ l per lane.

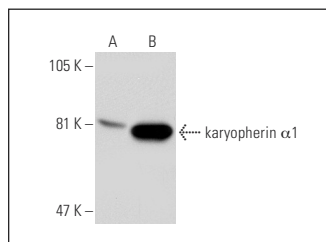
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

karyopherin α 1 (187.1): sc-101292 is recommended as a positive control antibody for Western Blot analysis of enhanced human karyopherin α 1 expression in karyopherin α 1 transfected 293T 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



karyopherin α 1 (187.1): sc-101292. Western blot analysis of karyopherin α 1 expression in non-transfected: sc-117752 (A) and human karyopherin α 1 transfected: sc-111624 (B) 293T 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.