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# karyopherin $\alpha$ 1 (h3): 293 Lysate: sc-171440

## 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  $\alpha$ 1 and karyopherin  $\beta$ 1 subunits. Karyopherin  $\alpha$ 1 functions in the recognition and targeting of substrates destined for nuclear import, while karyopherin  $\beta$ 1 serves as an adapter, tethering the karyopherin  $\alpha$ 1/substrate complex to docking proteins on the nuclear envelope termed nucleoporins. Karyopherin  $\alpha$ 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  $\beta$ 2, and karyopherin  $\beta$ 3 appears to be involved in the import of some ribosomal proteins.

## REFERENCES

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## CHROMOSOMAL LOCATION

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

## PRODUCT

karyopherin  $\alpha$ 1 (h3): 293 Lysate represents a lysate of human karyopherin  $\alpha$ 1 transfected 293 cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

## STORAGE

Store at -20 $^{\circ}$  C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## APPLICATIONS

karyopherin  $\alpha$ 1 (h3): 293 Lysate is suitable as a Western Blotting positive control for human reactive karyopherin  $\alpha$ 1 antibodies. Recommended use: 10-20  $\mu$ l per lane.

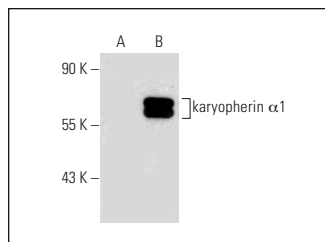
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

karyopherin  $\alpha$ 1 (187.1): sc-101292 is recommended as a positive control antibody for Western Blot analysis of enhanced human karyopherin  $\alpha$ 1 expression in karyopherin  $\alpha$ 1 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>TM</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## DATA



karyopherin  $\alpha$ 1 (187.1): sc-101292. Western blot analysis of karyopherin  $\alpha$ 1 expression in non-transfected: sc-110760 (A) and human karyopherin  $\alpha$ 1 transfected: sc-171440 (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](http://www.scbt.com) for detailed protocols and support products.