

karyopherin $\alpha 2$ (G-7): sc-514663

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 (EBNA-1). 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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- Yaseen, N.R., et al. 1997. Cloning and characterization of human karyopherin $\beta 3$. *Proc. Natl. Acad. Sci. USA* 94: 4451-4456.
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CHROMOSOMAL LOCATION

Genetic locus: KPNA2 (human) mapping to 17q24.2; Kpna2 (mouse) mapping to 11 E1.

SOURCE

karyopherin $\alpha 2$ (G-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 507-529 at the C-terminus of karyopherin $\alpha 2$ of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-514663 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

karyopherin $\alpha 2$ (G-7) is recommended for detection of karyopherin $\alpha 2$ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 karyopherin $\alpha 2$ siRNA (h): sc-35741, karyopherin $\alpha 2$ siRNA (m): sc-35742, karyopherin $\alpha 2$ shRNA Plasmid (h): sc-35741-SH, karyopherin $\alpha 2$ shRNA Plasmid (m): sc-35742-SH, karyopherin $\alpha 2$ shRNA (h) Lentiviral Particles: sc-35741-V and karyopherin $\alpha 2$ shRNA (m) Lentiviral Particles: sc-35742-V.

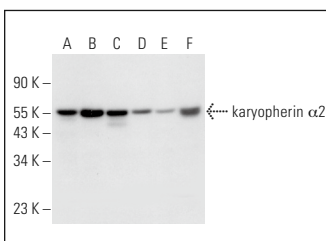
Molecular Weight of karyopherin $\alpha 2$: 52 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, BJAB whole cell lysate: sc-2207 or KNRK whole cell lysate: sc-2214.

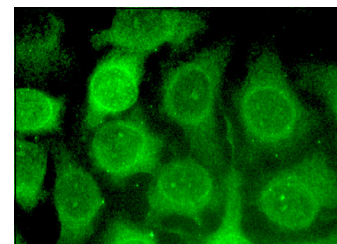
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



karyopherin $\alpha 2$ (G-7): sc-514663. Western blot analysis of karyopherin $\alpha 2$ expression in KNRK (A), BJAB (B), HeLa (C), MCF7 (D), Jurkat (E) and A-375 (F) whole cell lysates.



karyopherin $\alpha 2$ (G-7): sc-514663. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization.

RESEARCH USE

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