

karyopherin α 6 (H-54): sc-292794

BACKGROUND

Protein transport across the nucleus is a selective, multi-step process involving several cytoplasmic factors that mediate protein passage through the nuclear pore complex (NPC). Cytoplasmic proteins that contain nuclear localization signals (NLSs) must be recognized as import substrates, dock at the nuclear pore complex and translocate across the nuclear envelope in an ATP-dependent fashion. Karyopherin α 1 and karyopherin α 6 are widely expressed nuclear import proteins that act as adaptors for karyopherin β 1, specifically binding to and guiding NLS-containing proteins to the NPC. Both karyopherin α 1 and karyopherin α 6 contain one IBB domain and ten ARM repeats through which they convey their protein binding and localization function. Together, karyopherin α 1 and karyopherin α 6 are responsible for ensuring the nuclear import of NLS-containing substrates.

REFERENCES

- Moroianu, J., et al. 1995. Previously identified protein of uncertain function is karyopherin α and together with karyopherin β docks import substrate at nuclear pore complexes. *Proc. Natl. Acad. Sci. USA* 92: 2008-2011.
- Moroianu, J., et al. 1995. Protein export from the nucleus requires the GTPase Ran and GTP hydrolysis. *Proc. Natl. Acad. Sci. USA* 92: 4318-4322.
- Lounsbury, K.M., et al. 1996. Ran binding domains promote the interaction of Ran with p97/ β -karyopherin, linking the docking and translocation steps of nuclear import. *J. Biol. Chem.* 271: 2357-2360.
- 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.
- 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.
- Fischer, N., et al. 1997. Epstein-Barr virus nuclear antigen 1 forms a complex with the nuclear transporter karyopherin α 2. *J. Biol. Chem.* 272: 3999-4005.

CHROMOSOMAL LOCATION

Genetic locus: KPNA6 (human) mapping to 1p35.1; Kpna6 (mouse) mapping to 4 D2.2.

SOURCE

karyopherin α 6 (H-54) is a rabbit polyclonal antibody raised against amino acids 51-104 mapping near the N-terminus of karyopherin α 6 of human origin.

PRODUCT

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

STORAGE

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

APPLICATIONS

karyopherin α 6 (H-54) is recommended for detection of karyopherin α 6 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

karyopherin α 6 (H-54) is also recommended for detection of karyopherin α 6 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for karyopherin α 6 siRNA (h): sc-62525, karyopherin α 6 siRNA (m): sc-62526, karyopherin α 6 shRNA Plasmid (h): sc-62525-SH, karyopherin α 6 shRNA Plasmid (m): sc-62526-SH, karyopherin α 6 shRNA (h) Lentiviral Particles: sc-62525-V and karyopherin α 6 shRNA (m) Lentiviral Particles: sc-62526-V.

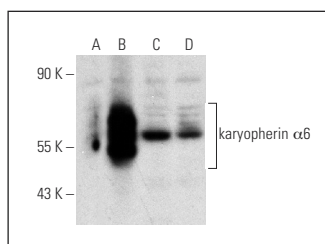
Molecular Weight of karyopherin α 6: 60 kDa.

Positive Controls: karyopherin α 6 (h): 293T Lysate: sc-173792, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

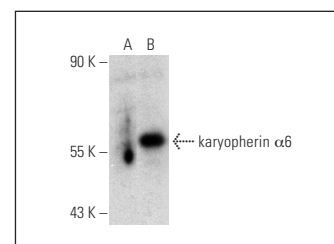
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



karyopherin α 6 (H-54): sc-292794. Western blot analysis of karyopherin α 6 expression in non-transfected 293T: sc-117752 (A), human karyopherin α 6 transfected 293T: sc-173792 (B), HeLa (C) and K-562 (D) whole cell lysates.



karyopherin α 6 (H-54): sc-292794. Western blot analysis of karyopherin α 6 expression in non-transfected: sc-110760 (A) and human karyopherin α 6 transfected: sc-113217 (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 or our catalog for detailed protocols and support products.