



karyopherin α 5 (35-A): sc-101293

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 5, also known as SRP6 or IPOA6, is a 536 amino acid protein that contains ten ARM repeats and one IBB domain and belongs to the importin α family. Expressed specifically in the testis, karyopherin α 5 binds to proteins containing an NLS motif and directs them to the NPC for transport into the nucleus. Specifically, karyopherin α 5 is thought to bind nuclear-targeted proteins through its IBB domain, which acts as an intrasteric autoregulatory sequence that interacts with the target NLS domain. Due to its ability to direct proteins to the NPC for import, karyopherin α 5 may be involved in the nuclear localization of HIV-1 and may, thus, be involved in the pathogenesis of the disease.

REFERENCES

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2. Köhler, M., et al. 1997. Cloning of two novel human importin- α subunits and analysis of the expression pattern of the importin- α protein family. *FEBS Lett.* 417: 104-108.
3. Bukrinsky, M.I. and Haffar, O.K. 1999. HIV-1 nuclear import: in search of a leader. *Front. Biosci.* 4: D772-D781.
4. Haffar, O.K., et al. 2000. Two nuclear localization signals in the HIV-1 matrix protein regulate nuclear import of the HIV-1 pre-integration complex. *J. Mol. Biol.* 299: 359-368.
5. Petit, C., et al. 2000. The karyophilic properties of human immunodeficiency virus type 1 integrase are not required for nuclear import of proviral DNA. *J. Virol.* 74: 7119-7126.
6. Depienne, C., et al. 2001. Characterization of the nuclear import pathway for HIV-1 integrase. *J. Biol. Chem.* 276: 18102-18107.
7. Hariton-Gazal, E., et al. 2002. Inhibition of nuclear import by backbone cyclic peptidomimetics derived from the HIV-1 MA NLS sequence. *Biochim. Biophys. Acta* 1594: 234-242.
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STORAGE

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

RESEARCH USE

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

CHROMOSOMAL LOCATION

Genetic locus: KPNA5 (human) mapping to 6q22.2.

SOURCE

karyopherin α 5 (35-A) is a mouse monoclonal antibody raised against recombinant karyopherin α 5 of human origin.

PRODUCT

Each vial contains 50 μ g IgG₁ in 500 μ l PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

karyopherin α 5 (35-A) is recommended for detection of karyopherin α 5 of human and rat 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for karyopherin α 5 siRNA (h): sc-62523, karyopherin α 5 shRNA Plasmid (h): sc-62523-SH and karyopherin α 5 shRNA (h) Lentiviral Particles: sc-62523-V.

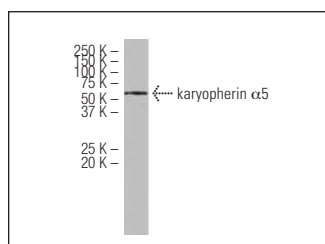
Molecular Weight of karyopherin α 5: 60 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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).

DATA



karyopherin α 5 (35-A): sc-101293. Western blot analysis of karyopherin α 5 expression in HepG2 whole cell lysate.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.