SANTA CRUZ BIOTECHNOLOGY, INC.

karyopherin α6 (E-11): sc-390055

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 α1 and karyopherin α6 are widely expressed nuclear import proteins that act as adaptors for karyopherin β1, specifically binding to and guiding NLS-containing proteins to the NPC. Both karyopherin α1 and karyopherin α6 contain one IBB domain and ten ARM repeats through which they convey their protein binding and localization function. Together, karyopherin α1 and karyopherin α6 are responsible for ensuring the nuclear import of NLS-containing substrates.

REFERENCES

1. Moroianu, J., et al. 1995. Previously identified protein of uncertain function is karyopherin a and together with karyopherinb docks import substrate at nuclear pore complexes. Proc. Natl. Acad. Sci. USA 92: 2008-2011.
2. 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.
3. 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.
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.

CHROMOSOMAL LOCATION

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

SOURCE

karyopherin α6 (E-11) is a mouse monoclonal antibody raised against amino acids 51-104 mapping near the N-terminus of karyopherin α6 of human origin.

PRODUCT

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

karyopherin α6 (E-11) is available conjugated to agarose (sc-390055 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390055 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390055 PE), fluorescein (sc-390055 FITC), Alexa Fluor® 488 (sc-390055 AF488), Alexa Fluor® 546 (sc-390055 AF546), Alexa Fluor® 594 (sc-390055 AF594) or Alexa Fluor® 647 (sc-390055 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390055 AF680) or Alexa Fluor® 790 (sc-390055 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

karyopherin α6 (E-11) is recommended for detection of karyopherin α6 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

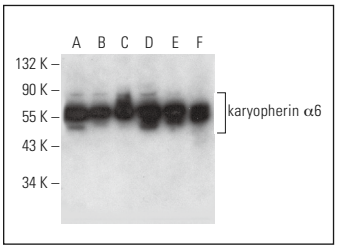
karyopherin α6 (E-11) is also recommended for detection of karyopherin α6 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for karyopherin α6 siRNA (h): sc-62525, karyopherin α6 siRNA (m): sc-62526, karyopherin α6 shRNA Plasmid (h): sc-62525-SH, karyopherin α6 shRNA Plasmid (m): sc-62526-SH, karyopherin α6 shRNA (h) Lentiviral Particles: sc-62525-V and karyopherin α6 shRNA (m) Lentiviral Particles: sc-62526-V.

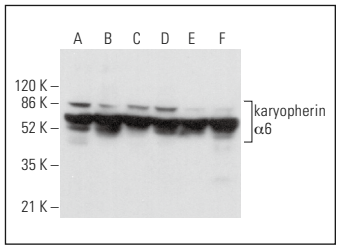
Molecular Weight of karyopherin α6: 60 kDa.

Positive Controls: H4 cell lysate: sc-2408, C6 whole cell lysate: sc-364373 or K-562 whole cell lysate: sc-2203.

DATA



karyopherin α6 (E-11): sc-390055. Western blot analysis of karyopherin α6 expression in RT-4 (**A**), H4 (**B**), SP2/0 (**C**), NIH/3T3 (**D**), NRK (**E**) and C6 (**F**) whole cell lysates.



karyopherin α6 (E-11): sc-390055. Western blot analysis of karyopherin α6 expression in K-562 (**A**), NTERA-2 cl.D1 (**B**), U-251-MG (**C**), F9 (**D**), C2C12 (**E**) and A-10 (**F**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. García-Dorival, I., et al. 2014. Elucidation of the Ebola virus VP24 cellular interactome and disruption of virus biology through targeted inhibition of host-cell protein function. J. Proteome Res. 13: 5120-5135.
2. Tang, Y.S., et al. 2019. The extended C-terminal region of influenza C virus nucleoprotein is important for nuclear import and ribonucleoprotein activity. J. Virol. 93: e02048-18.
3. Yamada, A., et al. 2024. Analysis of the effects of importin α1 on the nuclear translocation of IL-1α in HeLa cells. Sci. Rep. 14: 1322.

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.