SANTA CRUZ BIOTECHNOLOGY, INC.

karyopherin α2 (8G5): sc-136204

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 α1 and karyopherin β1 subunits. Karyopherin α1 functions in the recognition and targeting of substrates destined for nuclear import, while karyopherin β1 serves as an adapter, tethering the karyopherin α1/substrate complex to docking proteins on the nuclear envelope termed nucleoporins. Karyopherin α2 has been shown to complex with Epstein-Barr virus nuclear antigen 1 (EBNA1). Certain RNA-binding proteins are imported to the nucleus by karyopherin β2, and karyopherin β3 appears to be involved in the import of some ribosomal proteins.

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.

CHROMOSOMAL LOCATION

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

SOURCE

karyopherin α2 (8G5) is a mouse monoclonal antibody raised against a recombinant protein of karyopherin α2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

karyopherin α2 (8G5) is available conjugated to agarose (sc-136204 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-136204 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-136204 PE), fluorescein (sc-136204 FITC), Alexa Fluor® 488 (sc-136204 AF488), Alexa Fluor® 546 (sc-136204 AF546), Alexa Fluor® 594 (sc-136204 AF594) or Alexa Fluor® 647 (sc-136204 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-136204 AF680) or Alexa Fluor® 790 (sc-136204 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 α2 (8G5) is recommended for detection of karyopherin α2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (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 α2 siRNA (h): sc-35741, karyopherin α2 siRNA (m): sc-35742, karyopherin α2 shRNA Plasmid (h): sc-35741-SH, karyopherin α2 shRNA Plasmid (m): sc-35742-SH, karyopherin α2 shRNA (h) Lentiviral Particles: sc-35741-V and karyopherin α2 shRNA (m) Lentiviral Particles: sc-35742-V.

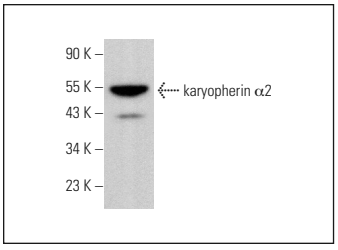
Molecular Weight of karyopherin α2: 52 kDa.

Positive Controls: F9 cell lysate: sc-2245.

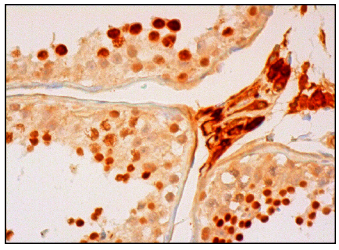
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



karyopherin α2 (8G5): sc-136204. Western blot analysis of karyopherin α2 expression in F9 whole cell lysate.



karyopherin α2 (8G5): sc-136204. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear and cytoplasmic staining of cells in seminiferous ducts and Leydig cells.

SELECT PRODUCT CITATIONS

1. Zhou, W., et al. 2013. Characterization of nuclear localization signal in the N-terminus of integrin-linked kinase-associated phosphatase (ILKAP) and its essential role in the down-regulation of RSK2 protein signaling. J. Biol. Chem. 288: 6259-6271.

RESEARCH USE

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