SANTA CRUZ BIOTECHNOLOGY, INC.

karyopherin β2 (F-6): sc-166127

The Power to Question

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 (EBNA-1). 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.

CHROMOSOMAL LOCATION

Genetic locus: TNPO1 (human) mapping to 5q13.2; Tnpo1 (mouse) mapping to 13 D1.

SOURCE

karyopherin β2 (F-6) is a mouse monoclonal antibody raised against amino acids 1-300 of karyopherin β2 of human origin.

PRODUCT

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

karyopherin β2 (F-6) is available conjugated to agarose (sc-166127 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166127 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166127 PE), fluorescein (sc-166127 FITC), Alexa Fluor® 488 (sc-166127 AF488), Alexa Fluor® 546 (sc-166127 AF546), Alexa Fluor® 594 (sc-166127 AF594) or Alexa Fluor® 647 (sc-166127 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166127 AF680) or Alexa Fluor® 790 (sc-166127 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

karyopherin β2 (F-6) is recommended for detection of karyopherin β2 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), 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).

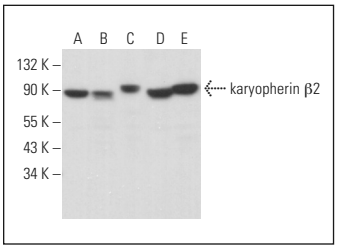
Suitable for use as control antibody for karyopherin β2 siRNA (h): sc-35737, karyopherin β2 siRNA (m): sc-35738, karyopherin β2 shRNA Plasmid (h): sc-35737-SH, karyopherin β2 shRNA Plasmid (m): sc-35738-SH, karyopherin β2 shRNA (h) Lentiviral Particles: sc-35737-V and karyopherin β2 shRNA (m) Lentiviral Particles: sc-35738-V.

Molecular Weight of karyopherin β2: 55-97 kDa.

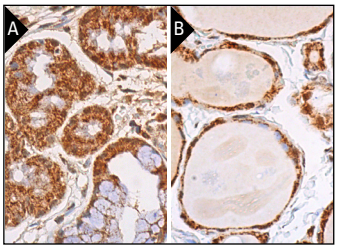
RECOMMENDED SUPPORT REAGENTS

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 β2 (F-6): sc-166127. Western blot analysis of karyopherin β2 expression in A-431 (**A**), Ca Ski (**B**), BYDP (**C**), Hep G2 (**D**) and c4 (**E**) whole cell lysates.



karyopherin β2 (F-6): sc-166127. Immunoperoxidase staining of formalin fixed, paraffin-embedded human salivary gland (**A**) and human thyroid gland (**B**) tissue showing nuclear and cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Don-Salu-Hewage, A.S., et al. 2013. Cysteine (C)-x-C receptor 4 undergoes transportin 1-dependent nuclear localization and remains functional at the nucleus of metastatic prostate cancer cells. PLoS ONE 8: e57194.
2. Buanne, P., et al. 2013. Characterization of carbonic anhydrase IX interactome reveals proteins assisting its nuclear localization in hypoxic cells. J. Proteome Res. 12: 282-292.
3. Nanaura, H., et al. 2021. C9orf72-derived arginine-rich poly-dipeptides impede phase modifiers. Nat. Commun. 12: 5301.

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.

PROTOCOLS

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