SANTA CRUZ BIOTECHNOLOGY, INC.

karyopherin β1 (N-19): sc-1919

SANTA CRUZ BIOTECHNOLOGY

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: KPNB1 (human) mapping to 17q21.32; Kpnb1 (mouse) mapping to 11 D.

SOURCE

karyopherin β1 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of karyopherin β1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-1919 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

karyopherin β1 (N-19) is recommended for detection of karyopherin β1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

karyopherin β1 (N-19) is also recommended for detection of karyopherin β1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for karyopherin β1 siRNA (h): sc-35736, karyopherin β1 siRNA (m): sc-35735, karyopherin β1 shRNA Plasmid (h): sc-35736-SH, karyopherin β1 shRNA Plasmid (m): sc-35735-SH, karyopherin β1 shRNA (h) Lentiviral Particles: sc-35736-V and karyopherin β1 shRNA (m) Lentiviral Particles: sc-35735-V.

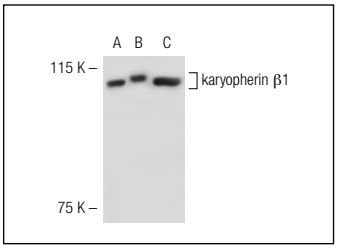
Molecular Weight of karyopherin β1: 97 kDa.

Positive Controls: karyopherin β1 (m): 293T Lysate: sc-125509, BJAB whole cell lysate: sc-2207 or Jurkat whole cell lysate: sc-2204.

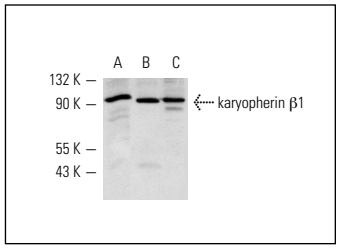
STORAGE

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

DATA



karyopherin β1 (N-19): sc-1919. Western blot analysis of karyopherin β1 expression in non-transfected 293T: sc-117752 (**A**), mouse karyopherin β1 transfected 293T: sc-125509 (**B**) and Jurkat (**C**) whole cell lysates.



karyopherin β1 (N-19): sc-1919. Western blot analysis of karyopherin β1 expression in BJAB (**A**), Jurkat (**B**) and MDCK (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Guillemain, G., et al. 2004. Importin β1 mediates the glucose-stimulated nuclear import of pancreatic and duodenal homeobox-1 in pancreatic islet β-cells. Biochem. J. 378: 219-227.
2. Young, D.B., et al. 2005. Identification of domains of Atm required for nuclear localization and chromatin association. J. Biol. Chem. 280: 27587-27594.
3. Hammaker, D.R., et al. 2007. Regulation of the JNK pathway by TGFβ activated kinase 1 in rheumatoid arthritis synoviocytes. Arthritis Res. Ther. 9: R57.
4. Sankar, N., et al. 2009. c-Myc induced aberrant DNA synthesis and activation of DNA damage response in p300 knockdown human cells. J. Biol. Chem. 284: 15193-15205.
5. Guo, H., et al. 2010. Production and function of the cytoplasmic deproteinized relaxed circular DNA of hepadnaviruses. J. Virol. 84: 387-396.
6. Dzijak, R., et al. 2012. Specific nuclear localizing sequence directs two myosin isoforms to the cell nucleus in calmodulin-sensitive manner. PLoS ONE 7: e30529.

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.