karyopherin β1 (H-7): sc-137016

**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.

**REFERENCE**

2. Moroianu, J., et al. 1995. Protein export from the nucleus requires the karyopherin β1/substrate complex to docking proteincson the nuclear pore 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.

**CHROMOSOMAL LOCATION**

Genetic locus: KPNB1 (human) mapping to 17q21.32; Kpnβ1 (mouse) mapping to 11 D.

**SOURCE**

Karyopherin β1 (H-7) is a mouse monoclonal antibody raised against amino acids 1-300 of karyopherin β1 of human origin.

**PRODUCT**

Each vial contains 200 µg IgG2a kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Karyopherin β1 (H-7) is available conjugated to agarose (sc-137016 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-137016 HRP), 200 µg/ml, for WB, IHC (P) and ELISA; to either phycoerythrin (sc-137016 PE), fluorescein (sc-137016 FITC), Alexa Fluor® 488 (sc-137016 AF488), Alexa Fluor® 546 (sc-137016 AF546), Alexa Fluor® 594 (sc-137016 AF594) or Alexa Fluor® 647 (sc-137016 AF647), 200 µg/ml, for WB (RGB), IF, IHC (P) and FCM; and to either Alexa Fluor® 680 (sc-137016 AF680) or Alexa Fluor® 790 (sc-137016 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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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.

**PROTOCOLS**

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

**APPLICATIONS**

Karyopherin β1 (H-7) is recommended for detection of karyopherin β1 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).

Karyopherin β1 (H-7) 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 shRNA Plasmid (h): sc-35736-H, karyopherin β1 shRNA Plasmid (m): sc-35736-SH, karyopherin β1 shRNA Plasmid (r): sc-156145-SH, karyopherin β1 shRNA (h) Lentiviral Particles: sc-35736-V, karyopherin β1 shRNA (r) Lentiviral Particles: sc-156145-V.

Molecular Weight of karyopherin β1: 97 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, ARPE-19 whole cell lysate: sc-3643572 or 3T3-L1 cell lysate: sc-2243.

**DATA**

Karyopherin β1 (H-7): sc-137016. Western blot analysis of karyopherin β1 expression in ARPE-19 (A), Y79 (B), NIH/3T3 (C), 3T3-L1 (D), C6 (E) and PC-12 (F) whole cell lysates.

Karyopherin β1 (H-7): sc-137016. Immunofluorescence staining of melanin-fixed NIH/3T3 cells showing cytoplasmic and nuclear envelope localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear and cytoplasmic staining of cells in seminiferous ducts and Leydig cells (B).

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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