

karyopherin β 2/2B (N-19): sc-6914

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 α 1 and karyopherin β 1 subunits. Karyopherin α 1 functions in the recognition and targeting of substrates destined for nuclear import, while karyopherin β 1 serves as an adapter, tethering the karyopherin α 1/substrate complex to docking proteins on the nuclear envelope, termed nucleoporins. Karyopherin α 2 has been shown to complex with Epstein-Barr virus nuclear antigen 1 (EBNA-1). Karyopherin β 2 and karyopherin β 2B (also designated transportin 1 and transportin 2) share 84% sequence identity at the amino acid level, however, they have been shown to have different substrate specificities. Karyopherin β 2 mediates hnRNPA1 nuclear import while karyopherin β 2B has been implicated in the export of cellular mRNAs through complexes formed with the mRNA export factor TAP.

CHROMOSOMAL LOCATION

Genetic locus: TNPO1 (human) mapping to 5q13.2, TNPO2 (human) mapping to 19p13.2; Tnpo1 (mouse) mapping to 13 D1, Tnpo2 (mouse) mapping to 8 C3.

SOURCE

karyopherin β 2/2B (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of karyopherin β 2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-6914 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

karyopherin β 2/2B (N-19) is recommended for detection of karyopherin β 2 and karyopherin β 2B of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 β 2/2B (N-19) is also recommended for detection of karyopherin β 2 and karyopherin β 2B in additional species, including bovine, porcine and avian.

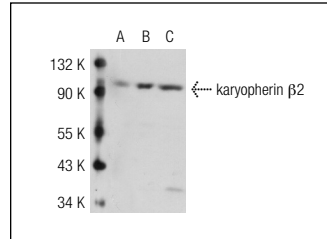
Molecular Weight of karyopherin β 2/2B: 55-97 kDa.

Positive Controls: karyopherin β 2 (h): 293T Lysate: sc-113602, karyopherin β 2 (m): 293T Lysate: sc-124257 or Hep G2 cell lysate: sc-2227.

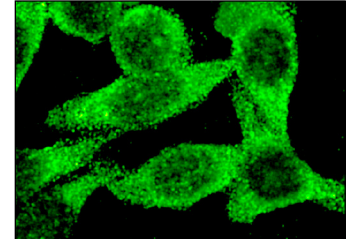
STORAGE

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

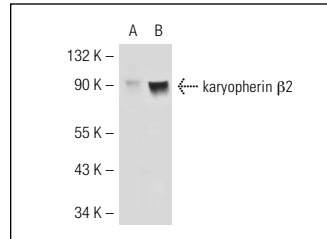
DATA



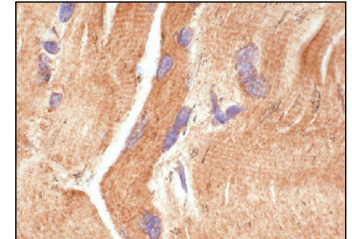
karyopherin β 2/2B (N-19): sc-6914. Western blot analysis of karyopherin β 2 expression in non-transfected 293T: sc-117752 (A), human karyopherin β 2 transfected 293T: sc-113602 (B) and HeLa (C) whole cell lysates.



karyopherin β 2/2B (N-19): sc-6914. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic staining.



karyopherin β 2 (N-19): sc-6914. Western blot analysis of transportin 2 expression in non-transfected: sc-117752 (A) and mouse karyopherin β 2 transfected: sc-124257 (B) 293T whole cell lysates.



karyopherin β 2/2B (N-19): sc-6914. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human muscle tissue showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

- Malnou, C.E., et al. 2007. Heterodimerization with Jun family members regulates c-Fos nucleocytoplasmic traffic. *J. Biol. Chem.* 282: 31046-31059.
- Davidson, Y.S., et al. 2012. Nuclear carrier and RNA binding proteins in frontotemporal lobar degeneration associated with fused in sarcoma (FUS) pathological changes. *Neuropathol. Appl. Neurobiol.* E-published.

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.


 MONOS
Satisfation
Guaranteed

Try **karyopherin β 2/2B (A-11): sc-365179** or **karyopherin β 2 (F-6): sc-166127**, our highly recommended monoclonal alternatives to karyopherin β 2/2B (N-19).