



karyopherin β 2B (m): 293T Lysate: sc-124257

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). Certain RNA-binding proteins are imported to the nucleus by karyopherin β 2, and karyopherin β 3 appears to be involved in the import of some ribosomal proteins.

REFERENCES

1. Siomi, M.C., Eder, P.S., Kataoka, N., Wan, L., Liu, Q. and Dreyfuss, G. 1997. Transportin-mediated nuclear import of heterogeneous nuclear RNP proteins. *J. Cell Biol.* 138: 1181-1192.
2. Gallouzi, I.E. and Steitz, J.A. 2001. Delineation of mRNA export pathways by the use of cell-permeable peptides. *Science* 294: 1895-1901.
3. Shamsher, M.K., Ploski, J. and Radu, A. 2002. Karyopherin β 2B participates in mRNA export from the nucleus. *Proc. Natl. Acad. Sci. USA* 99: 14195-14199.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603002. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Blanc, V., Kennedy, S. and Davidson, N.O. 2003. A novel nuclear localization signal in the auxiliary domain of Apobec-1 complementation factor regulates nucleocytoplasmic import and shuttling. *J. Biol. Chem.* 278: 41198-41204.
6. Rebane, A., Aab, A. and Steitz, J.A. 2004. Transportins 1 and 2 are redundant nuclear import factors for hnRNP A1 and HuR. *RNA* 10: 590-599.
7. Lee, B.J., Cansizoglu, A.E., Süel, K.E., Louis, T.H., Zhang, Z. and Chook, Y.M. 2006. Rules for nuclear localization sequence recognition by karyopherin β 2. *Cell* 126: 543-558.
8. van der Giessen, K. and Gallouzi, I.E. 2007. Involvement of transportin 2-mediated HuR import in muscle cell differentiation. *Mol. Biol. Cell* 18: 2619-2629.

CHROMOSOMAL LOCATION

Genetic locus: Tnp2 (mouse) mapping to 8 C3.

PRODUCT

karyopherin β 2B (m): 293T Lysate represents a lysate of mouse karyopherin β 2B transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

karyopherin β 2B (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive karyopherin β 2B antibodies. Recommended use: 10-20 μ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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