

QIP1 (m2): 293T Lysate: sc-122865

BACKGROUND

QIP1, also known as KPNA4 (karyopherin α 4), IPOA3 (importin α 3) or SRP3, is a member of the importin α family. It is involved in nuclear import and forms a complex with the importin β protein, karyopherin β 1, functioning as its adapter protein. QIP1 binds to substrates containing nuclear localization signal (NLS) motifs, while karyopherin β 1 facilitates the binding of the importin/substrate complex to the nuclear pore complex (NPC). Subsequently, the importin/substrate complex is translocated through the pore via a Ran-dependent mechanism. QIP1 contains one IBB domain at its hydrophilic N-terminus which is required for binding karyopherin β 1 and ten ARM repeats in its hydrophobic central region. QIP1 is expressed at high levels in pancreas, lung, ovary, testis, small intestine, heart and skeletal muscle, exhibiting both cytoplasmic and nuclear localization.

REFERENCES

1. Miyamoto, Y., Imamoto, N., Sekimoto, T., Tachibana, T., Seki, T., Tada, S., Enomoto, T. and Yoneda, Y. 1997. Differential modes of nuclear localization signal (NLS) recognition by three distinct classes of NLS receptors. *J. Biol. Chem.* 272: 26375-26381.
2. Seki, T., Tada, S., Katada, T. and Enomoto, T. 1997. Cloning of a cDNA encoding a novel importin- α homologue, QIP1: discrimination of QIP1 and Rch1 from hSRP1 by their ability to interact with DNA helicase Q1/RecQL. *Biochem. Biophys. Res. Commun.* 234: 48-53.
3. Köhler, M., Ansieau, S., Prehn, S., Leutz, A., Haller, H. and Hartmann, E. 1997. Cloning of two novel human importin- α subunits and analysis of the expression pattern of the importin- α protein family. *FEBS Lett.* 417: 104-108.
4. Köhler, M., Speck, C., Christiansen, M., Bischoff, F.R., Prehn, S., Haller, H., Görlich, D. and Hartmann, E. 1999. Evidence for distinct substrate specificities of importin α family members in nuclear protein import. *Mol. Cell. Biol.* 19: 7782-7791.
5. Ayala-Madriral, M.L., Doerr, S., Ramírez-Dueñas, M.L. and Hansmann, I. 2000. Assignment of KPNA4 and KPNB1 encoding karyopherin α 4 and β 1 to human chromosome bands 11q22 and 17q21 respectively, by *in situ* hybridization. *Cytogenet. Cell Genet.* 89: 258-259.
6. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 602970. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Sakaguchi, N., Miyamoto, Y., Yoneda, Y., Ogino, K. and Tachibana, T. 2003. Generation of a rat monoclonal antibody specific for importin α 3/QIP1. *Hybrid. Hybridomics* 22: 397-400.
8. Aratani, S., Oishi, T., Fujita, H., Nakazawa, M., Fujii, R., Imamoto, N., Yoneda, Y., Fukamizu, A. and Nakajima, T. 2006. The nuclear import of RNA helicase A is mediated by importin- α 3. *Biochem. Biophys. Res. Commun.* 340: 125-133.
9. Umegaki, N., Tamai, K., Nakano, H., Moritsugu, R., Yamazaki, T., Hanada, K., Katayama, I. and Kaneda, Y. 2007. Differential regulation of karyopherin α 2 expression by TGF β 1 and IFN- γ in normal human epidermal keratinocytes: evident contribution of KPNA2 for nuclear translocation of IRF-1. *J. Invest. Dermatol.* 127: 1456-1464.

CHROMOSOMAL LOCATION

Genetic locus: Kpna4 (mouse) mapping to 3 E1.

PRODUCT

QIP1 (m2): 293T Lysate represents a lysate of mouse QIP1 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

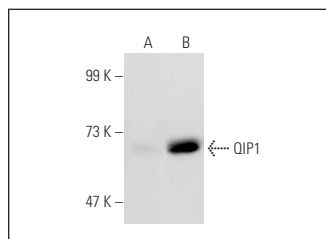
APPLICATIONS

QIP1 (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive QIP1 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.

QIP1 (3D10): sc-101547 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse QIP1 expression in QIP1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

DATA



QIP1 (3D10): sc-101547. Western blot analysis of QIP1 expression in non-transfected: sc-117752 (A) and mouse QIP1 transfected: sc-122865 (B) 293T whole cell lysates.

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.

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.