

QIP1 (G-15): sc-55266

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

- Miyamoto, Y., et al. 1997. Differential modes of nuclear localization signal (NLS) recognition by three distinct classes of NLS receptors. *J. Biol. Chem.* 272: 26375-26381.
- Seki, T., et al. 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.
- Köhler, M., et al. 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.
- Köhler, M., et al. 1999. Evidence for distinct substrate specificities of Importin α family members in nuclear protein import. *Mol. Cell. Biol.* 19: 7782-7791.
- Ayala-Madrigal, M.L., et al. 2000. Assignment of KPNA4 and KPNA1 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.
- 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/>
- Sakaguchi, N., et al. 2003. Generation of a rat monoclonal antibody specific for Importin α 3/QIP1. *Hybrid. Hybridomics* 22: 397-400.
- Aratani, S., et al. 2006. The nuclear import of RNA helicase A is mediated by Importin- α 3. *Biochem. Biophys. Res. Commun.* 340: 125-133.
- Umegaki, N., et al. 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 (human) mapping to 3q25.33, KPNA3 (human) mapping to 14.2; Kpna4 (mouse) mapping to 3 E1, Kpna3 (mouse) mapping to 14 D1.

SOURCE

QIP1 (G-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of QIP1 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-55266 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

QIP1 (G-15) is recommended for detection of QIP1 and karyopherin α 3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

QIP1 (G-15) is also recommended for detection of QIP1 and karyopherin α 3 in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of QIP1: 58 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or Ramos cell lysate: sc-2216.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

RESEARCH USE

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


 MONOS
Satisfaction
Guaranteed

Try **QIP1 (3D10): sc-101547** or **QIP1 (B-6): sc-390535**, our highly recommended monoclonal alternatives to QIP1 (G-15).