SANTA CRUZ BIOTECHNOLOGY, INC.

QIP1 (3D10): sc-101547

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

QIP1, also known as KPNA4 (karyopherin α4), IPOA3 (importin α3) 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 β1, functioning as its adapter protein. QIP1 binds to substrates containing nuclear localization signal (NLS) motifs, while karyopherin β1 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 β1 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., et al. 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., 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.
3. 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.
4. 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.

CHROMOSOMAL LOCATION

Genetic locus: KPNA4 (human) mapping to 3q25.33; Kpna4 (mouse) mapping to 3 E1.

SOURCE

QIP1 (3D10) is a rat monoclonal antibody raised against full-length recombinant QIP1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

QIP1 (3D10) is available conjugated to agarose (sc-101547 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-101547 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-101547 PE), fluorescein (sc-101547 FITC), Alexa Fluor® 488 (sc-101547 AF488), Alexa Fluor® 546 (sc-101547 AF546), Alexa Fluor® 594 (sc-101547 AF594) or Alexa Fluor® 647 (sc-101547 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-101547 AF680) or Alexa Fluor® 790 (sc-101547 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

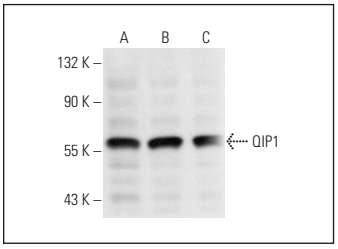
QIP1 (3D10) is recommended for detection of QIP1 of mouse, rat, human, hamster, bovine and monkey origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 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).

Suitable for use as control antibody for QIP1 siRNA (h): sc-62916, QIP1 siRNA (m): sc-62917, QIP1 shRNA Plasmid (h): sc-62916-SH, QIP1 shRNA Plasmid (m): sc-62917-SH, QIP1 shRNA (h) Lentiviral Particles: sc-62916-V and QIP1 shRNA (m) Lentiviral Particles: sc-62917-V.

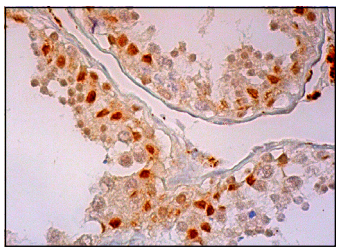
Molecular Weight of QIP1: 58 kDa.

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

DATA



QIP1 (3D10): sc-101547. Western blot analysis of QIP1 expression in HeLa (**A**), K-562 (**B**) and Ramos (**C**) whole cell lysates.



QIP1 (3D10): sc-101547. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic and nuclear staining of cells in seminiferous ducts.

SELECT PRODUCT CITATIONS

1. Ye, W., et al. 2013. Nuclear import of aristaless-related homeobox protein via its NLS1 regulates its transcriptional function. Mol. Cell. Biochem. 381: 221-231.

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.

PROTOCOLS

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