

karyopherin 13 (B-8): sc-271751



The Power to Question

BACKGROUND

Belonging to the importin β family, karyopherin 13 (Kap13), also known as Importin-13 (IPO13) or Ran-binding protein 13, is a 963 amino acid protein that contains 20 HEAT repeats and one importin N-terminal domain. Localizing to the nucleus as well as the cytoplasm, karyopherin 13 is expressed in fetal brain, heart, intestine and kidney. Karyopherin 13 acts as a nuclear transport receptor, participating in nuclear protein import and nuclear localization signals (NLS) in cargo substrates, in a Ras-related nuclear protein-GTPase dependent system. Karyopherin 13 mediates the nuclear import and/or export of UBC9, the RBM8A/MAGOH complex, Pax-6, eIF1AY and Ran. The gene encoding karyopherin 13 maps to human chromosome 1p34.1 and mouse chromosome 4 D2.1.

REFERENCES

- Nagase, T., et al. 1998. Prediction of the coding sequences of unidentified human genes. XI. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 5: 277-286.
- Zhang, C., et al. 2000. A novel karyopherin- β homolog is developmentally and hormonally regulated in fetal lung. Am. J. Respir. Cell Mol. Biol. 22: 451-459.
- Mingot, J.M., et al. 2001. Importin 13: a novel mediator of nuclear import and export. EMBO J. 20: 3685-3694.
- Ploski, J.E., et al. 2004. Paired-type homeodomain transcription factors are imported into the nucleus by karyopherin 13. Mol. Cell. Biol. 24: 4824-4834.
- Bono, F., et al. 2010. Nuclear import mechanism of the EJC component Mago-Y14 revealed by structural studies of importin 13. Mol. Cell 37: 211-222.
- Grünwald, M., et al. 2011. Structure of Importin13-Ubc9 complex: nuclear import and release of a key regulator of sumoylation. EMBO J. 30: 427-438.

CHROMOSOMAL LOCATION

Genetic locus: IPO13 (human) mapping to 1p34.1; lpo13 (mouse) mapping to 4 D2.1.

SOURCE

karyopherin 13 (B-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 129-177 within an internal region of karyopherin 13 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271751 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

karyopherin 13 (B-8) is recommended for detection of karyopherin 13 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 13 (B-8) is also recommended for detection of karyopherin 13 in additional species, including canine and porcine.

Suitable for use as control antibody for karyopherin 13 siRNA (h): sc-62521, karyopherin 13 siRNA (m): sc-62522, karyopherin 13 shRNA Plasmid (h): sc-62521-SH, karyopherin 13 shRNA Plasmid (m): sc-62522-SH, karyopherin 13 shRNA (h) Lentiviral Particles: sc-62521-V and karyopherin 13 shRNA (m) Lentiviral Particles: sc-62522-V.

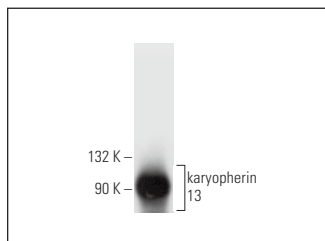
Molecular Weight of karyopherin 13: 109 kDa.

Positive Controls: mouse brain extract: sc-2253, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

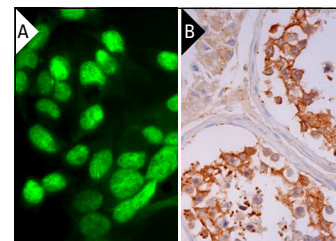
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



karyopherin 13 (B-8): sc-271751. Western blot analysis of karyopherin 13 expression in mouse brain tissue extract.



karyopherin 13 (B-8): sc-271751. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic and membrane staining of cells in seminiferous ducts (B).

RESEARCH USE

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