

Importin-7 (H-12): sc-271701

BACKGROUND

Importin-7 (Ran-binding protein 7, RanBP7) is a 1,038 amino acid protein encoded by the human gene IPO7. Importin-7 belongs to the Importin β family and contains one importin N-terminal domain. Importin-7 functions in nuclear protein import, either by acting as an autonomous nuclear transport receptor or as an adapter-like protein in association with the Importin β subunit KPNB1. Acting autonomously, Importin-7 is thought to serve itself as receptor for nuclear localization signals (NLS) and to promote translocation of import substrates through the nuclear pore complex (NPC) by an energy requiring, Ran-dependent mechanism. At the nucleoplasmic side of the NPC, Ran binds to Importin-7, the Importin-7/substrate complex dissociates and Importin-7 is re-exported from the nucleus to the cytoplasm where GTP hydrolysis releases Ran. Importin-7 is a nuclear protein that is expressed in most tissues.

REFERENCES

- Jäkel, S., et al. 1999. The Importin β /Importin-7 heterodimer is a functional nuclear import receptor for Histone H1. *EMBO J.* 18: 2411-2423.
- Baker, S.E., et al. 2002. Genetic interaction between integrins and moleskin, a gene encoding a *Drosophila* homolog of Importin-7. *Genetics* 162: 285-296.

CHROMOSOMAL LOCATION

Genetic locus: IPO7 (human) mapping to 11p15.4; lpo7 (mouse) mapping to 7 F1.

SOURCE

Importin-7 (H-12) is a mouse monoclonal antibody raised against amino acids 961-1038 mapping at the C-terminus of Importin-7 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Importin-7 (H-12) is recommended for detection of Importin-7 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Importin-7 (H-12) is also recommended for detection of Importin-7 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Importin-7 siRNA (h): sc-62501, Importin-7 siRNA (m): sc-62502, Importin-7 shRNA Plasmid (h): sc-62501-SH, Importin-7 shRNA Plasmid (m): sc-62502-SH, Importin-7 shRNA (h) Lentiviral Particles: sc-62501-V and Importin-7 shRNA (m) Lentiviral Particles: sc-62502-V.

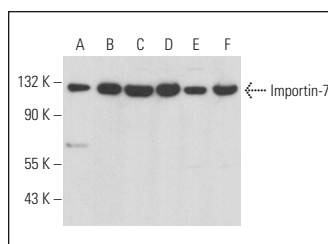
Molecular Weight of Importin-7: 120 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203.

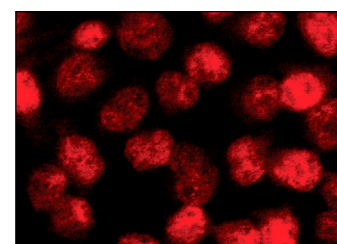
RECOMMENDED SUPPORT REAGENTS

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.

DATA



Importin-7 (H-12): sc-271701. Western blot analysis of Importin-7 expression in SK-N-MC (A), MIA PaCa-2 (B), NTERA-2 cl.D1 (C), HeLa (D), K-562 (E) and IMR-32 (F) whole cell lysates.



Importin-7 (H-12): sc-271701. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

- Hori, K., et al. 2012. Vasopressin V1a receptor is required for nucleocytoplasmic transport of mineralocorticoid receptor. *Am. J. Physiol. Renal Physiol.* 303: F1080-F1088.
- Ranjan, A., et al. 2018. MTBP inhibits the Erk 1/2-Elk-1 signaling in hepatocellular carcinoma. *Oncotarget* 9: 21429-21443.
- Fernandez, J., et al. 2019. Transportin-1 binds to the HIV-1 capsid via a nuclear localization signal and triggers uncoating. *Nat. Microbiol.* 4: 1840-1850.

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.