SANTA CRUZ BIOTECHNOLOGY, INC.

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

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: IPO7 (human) mapping to 11p15.4; Ipo7 (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 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

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 µg per 100-500 µg 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.

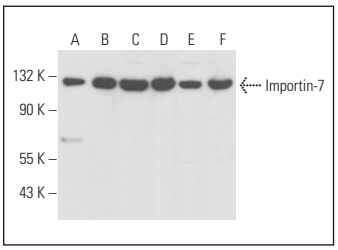
Molecular Weight of Importin-7: 120 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HeLa whole cell lysate: sc-2200 or NTERA-2 cl.D1 whole cell lysate: sc-364181.

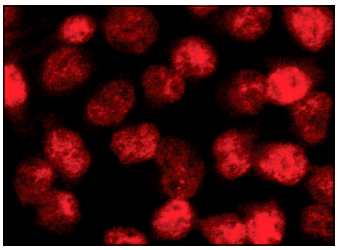
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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

1. Hori, K., et al. 2012. Vasopressin V1a receptor is required for nucleocytoplasmic transport of mineralocorticoid receptor. Am. J. Physiol. Renal Physiol. 303: F1080-F1088.
2. Ranjan, A., et al. 2018. MTBP inhibits the Erk 1/2-Elk-1 signaling in hepatocellular carcinoma. Oncotarget 9: 21429-21443.
3. 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.

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.