SANTA CRUZ BIOTECHNOLOGY, INC.

Importin-7 (C-10): sc-515165

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.

REFERENCES

1. 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.
2. 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.
3. Fassati, A., et al. 2003. Nuclear import of HIV-1 intracellular reverse transcription complexes is mediated by Importin-7. EMBO J. 22: 3675-3685.
4. Freedman, N.D. and Yamamoto, K.R. 2004. Importin-7 and Importin α/Importin β are nuclear import receptors for the glucocorticoid receptor. Mol. Biol. Cell 15: 2276-2286.
5. Zielske, S.P. and Stevenson, M. 2005. Importin-7 may be dispensable for human immunodeficiency virus type 1 and simian immunodeficiency virus infection of primary macrophages. J. Virol. 79: 11541-11546.
6. Vrailas, A.D., et al. 2006. smoothened and thickveins regulate Moleskin/Importin 7-mediated MAP kinase signaling in the developing *Drosophila* eye. Development 133: 1485-1494.
7. Arnold, M., et al. 2006. Multiple importins function as nuclear transport receptors for the Rev protein of human immunodeficiency virus type 1. J. Biol. Chem. 281: 20883-20890.

CHROMOSOMAL LOCATION

Genetic locus: IPO7 (human) mapping to 11p15.4; Ipo7 (mouse) mapping to 7 F1.

SOURCE

Importin-7 (C-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 703-722 within an internal region of Importin-7 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_3 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-515165 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Importin-7 (C-10) 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 (C-10) is also recommended for detection of Importin-7 in additional species, including hamster.

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.

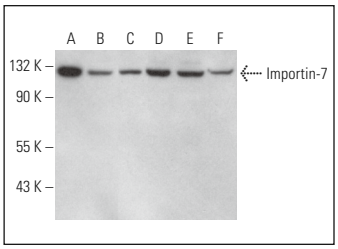
Molecular Weight of Importin-7: 120 kDa.

Positive Controls: SK-N-MC cell lysate: sc-2237, HeLa whole cell lysate: sc-2200 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-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 (C-10): sc-515165. 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 CHO-K1 (**F**) whole cell lysates.

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.