

# Importin-7 (E-2): sc-365231

## 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  $\beta$  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  $\beta$  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 (E-2) 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  $\mu$ g IgG<sub>2b</sub> lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Importin-7 (E-2) is available conjugated to agarose (sc-365231 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365231 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365231 PE), fluorescein (sc-365231 FITC), Alexa Fluor<sup>®</sup> 488 (sc-365231 AF488), Alexa Fluor<sup>®</sup> 546 (sc-365231 AF546), Alexa Fluor<sup>®</sup> 594 (sc-365231 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-365231 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-365231 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-365231 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

Importin-7 (E-2) 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  $\mu$ g per 100-500  $\mu$ 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).

Importin-7 (E-2) is also recommended for detection of Importin-7 in additional species, including hamster.

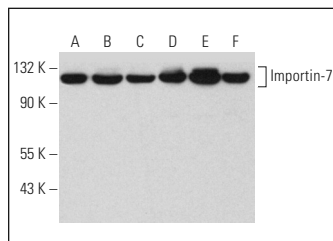
Suitable for use as control antibody for Importin-7 siRNA (h): sc-62501, Importin-7 siRNA (m): sc-62502, Importin-7 shRNA Plasmid (h): sc-62501-SH, Importin-7 shRNA Plasmid (m): sc-62502-SH, Importin-7 shRNA (h) Lentiviral Particles: sc-62501-V and Importin-7 shRNA (m) Lentiviral Particles: sc-62502-V.

Molecular Weight of Importin-7: 120 kDa.

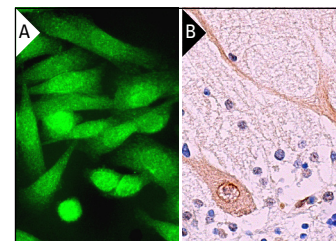
## STORAGE

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

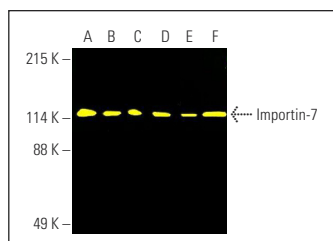
## DATA



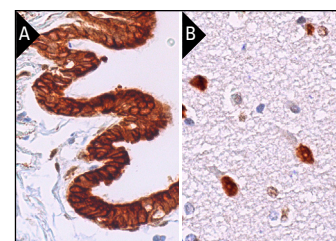
Importin-7 (E-2): sc-365231. Western blot analysis of Importin-7 expression in SK-N-MC (A), MIA PaCa-2 (B), NTERA-2 cl.D1 (C), HeLa (D), K-562 (E) and CHO-K1 (F) whole cell lysates.



Importin-7 (E-2): sc-365231. Immunofluorescence staining of formalin-fixed SW480 cells showing nuclear and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing nuclear envelope, cytoplasmic and membrane staining of Purkinje cells (B).



Importin-7 (E-2): sc-365231. Fluorescent western blot analysis of Importin-7 expression in K-562 (A), HeLa (B), SK-N-MC (C), MIA PaCa-2 (D), Jurkat (E) and NIH/3T3 (F) whole cell lysates. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214. Detection reagent used: m-IgG<sub>λ</sub>. BP-CFL 488: sc-516190.



Importin-7 (E-2): sc-365231. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bronchus tissue showing nuclear, cytoplasmic and membrane staining of respiratory epithelial cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing nuclear staining of neuronal cells and glial cells (B).

## SELECT PRODUCT CITATIONS

- Talati, M., et al. 2012. Altered expression of nuclear and cytoplasmic Histone H1 in pulmonary artery and pulmonary artery smooth muscle cells in patients with IPAH. *Pulm. Circ.* 2: 340-351.
- Chow, K.H., et al. 2014. The SUMO proteases SENP1 and SENP2 play a critical role in nucleoporin homeostasis and nuclear pore complex function. *Mol. Biol. Cell* 25: 160-168.
- Wei, T., et al. 2021. Phosphorylation-regulated HMGA1a-p53 interaction unveils the function of HMGA1a acidic tail phosphorylations via synthetic proteins. *Cell Chem. Biol.* 28: 722-732.e8.
- García-García, M., et al. 2022. Mechanical control of nuclear import by Importin-7 is regulated by its dominant cargo YAP. *Nat. Commun.* 13: 1174.

## RESEARCH USE

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

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