SANTA CRUZ BIOTECHNOLOGY, INC.

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 IP07. 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, Randependent 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 $\mu g~lgG_{2b}$ 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 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365231 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365231 PE), fluorescein (sc-365231 FITC), Alexa Fluor[®] 488 (sc-365231 AF488), Alexa Fluor[®] 546 (sc-365231 AF546), Alexa Fluor[®] 594 (sc-365231 AF594) or Alexa Fluor[®] 647 (sc-365231 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365231 AF680) or Alexa Fluor[®] 790 (sc-365231 AF790), 200 µg/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 µg per 100-500 µg 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.

STORAGE

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

DATA





staining of formalin-fixed SW480 cells showing

nuclear and cytoplasmic localization (A). Immuno-

embedded human cerebellum tissue showing nuclear envelope, cytoplasmic and membrane staining of

peroxidase staining of formalin fixed, paraffin-

Purkinje cells (B)

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.

ABCDE



Important / (E-2), Sc-36231, Fuddresteint Western bot 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[®] Blocking Reagent: 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, paraffinembedded human cerebral cortex tissue showing nuclear staining of neuronal cells and olial 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.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

Molecular Weight of Importin-7: 120 kDa.