

I2PP2A (F-9): sc-133138



The Power to Question

BACKGROUND

Protein phosphatase 2A (PP2A) is a major mammalian protein serine/threonine phosphatase that regulates diverse cellular processes. Inhibitor 1 of PP2A (I1PP2A) and inhibitor 2 of PP2A (I2PP2A), which share large sequence similarity, are heat-stable protein inhibitors of the cellular phosphatase activity of PP2A. I1PP2A and I2PP2A were initially characterized as putative HLA class II associated proteins Phap I and Phap II. These inhibitor proteins act noncompetitively to selectively inhibit PP2A, but do not affect the phosphatase activity of the related proteins PP1, PP2B and PP2C. The I1PP2A protein is localized to both the cytoplasm and the nucleus. In contrast, I2PP2A is located predominantly in the nucleus and is highly expressed in Wilms' tumor cells. Transient expression of I2PP2A in HEK-293 cells leads to an increase in the DNA binding activity of the proto-oncogene c-Jun.

CHROMOSOMAL LOCATION

Genetic locus: SET (human) mapping to 9q34.11; Set (mouse) mapping to 2 B.

SOURCE

I2PP2A (F-9) is a mouse monoclonal antibody raised against amino acids 1-120 of I2PP2A of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

I2PP2A (F-9) is available conjugated to agarose (sc-133138 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-133138 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133138 PE), fluorescein (sc-133138 FITC), Alexa Fluor® 488 (sc-133138 AF488), Alexa Fluor® 546 (sc-133138 AF546), Alexa Fluor® 594 (sc-133138 AF594) or Alexa Fluor® 647 (sc-133138 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133138 AF680) or Alexa Fluor® 790 (sc-133138 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

I2PP2A (F-9) is recommended for detection of I2PP2A 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).

Suitable for use as control antibody for I2PP2A siRNA (h): sc-43856, I2PP2A siRNA (m): sc-44385, I2PP2A siRNA (r): sc-106998, I2PP2A shRNA Plasmid (h): sc-43856-SH, I2PP2A shRNA Plasmid (m): sc-44385-SH, I2PP2A shRNA Plasmid (r): sc-106998-SH, I2PP2A shRNA (h) Lentiviral Particles: sc-43856-V, I2PP2A shRNA (m) Lentiviral Particles: sc-44385-V and I2PP2A shRNA (r) Lentiviral Particles: sc-106998-V.

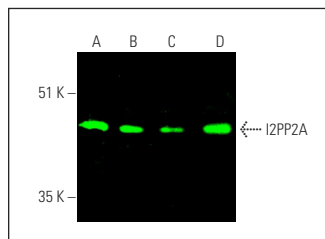
Molecular Weight of I2PP2A: 39 kDa.

Positive Controls: NTERA-2 cl.D1 whole cell lysate: sc-364181, HeLa whole cell lysate: sc-2200 or Ramos cell lysate: sc-2216.

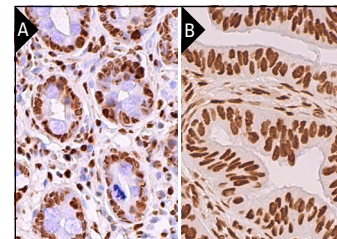
STORAGE

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

DATA



I2PP2A (F-9): sc-133138. Near-infrared western blot analysis of I2PP2A expression in SK-N-MC (A), Ramos (B), NTERA-2 cl.D1 (C) and HeLa (D) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



I2PP2A (F-9): sc-133138. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing nuclear staining of glandular cells and endothelial cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing nuclear staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Shi, H., et al. 2011. Proteomic analysis of advanced colorectal cancer by laser capture microdissection and two-dimensional difference gel electrophoresis. *J. Proteomics* 75: 339-351.
- Piazza, R., et al. 2013. Recurrent SETBP1 mutations in atypical chronic myeloid leukemia. *Nat. Genet.* 45: 18-24.
- Almeida, L.O., et al. 2017. SET oncoprotein accumulation regulates transcription through DNA demethylation and histone hypoacetylation. *Oncotarget* 8: 26802-26818.
- Zhong, J., et al. 2019. MiR-21-5p promotes lung adenocarcinoma progression partially through targeting SET/TAF-1α. *Life Sci.* 231: 116539.
- Kauko, O., et al. 2020. Phosphoproteome and drug response effects mediated by the three protein phosphatase 2A inhibitor proteins CIP2A, SET and PME-1. *J. Biol. Chem.* 295: 4194-4211.
- Serif, I., et al. 2021. Targeting of SET/I2PP2A oncoprotein inhibits Gli1 transcription revealing a new modulator of Hedgehog signaling. *Sci. Rep.* 11: 13940.
- Petrusca, D.N., et al. 2022. GF11-dependent repression of SGPP1 increases multiple myeloma cell survival. *Cancers* 14: 772.
- Han, D., et al. 2022. The E3 Ligase TRIM4 facilitates SET ubiquitin-mediated degradation to enhance ER-α action in breast cancer. *Adv. Sci.* 9: e2201701.

RESEARCH USE

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

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