SANTA CRUZ BIOTECHNOLOGY, INC.

IPP-1 (B-4): sc-515553

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The inhibitor of protein phosphatase 1 (IPP-1, I-1) plays a role in regulating the phosphorylation of other proteins, and is itself phosphorylated by a cyclic AMP-dependent protein kinase. IPP-1 is present in skeletal muscles and in distinct neuronal systems of the brain. The localization and expression of IPP-1 suggests that it may play discrete roles in certain regions and developing stages of the brain, independent of the regulation of protein phosphatase type 1 (PP-1). PP-1 binds to both phosphorylated and dephosphorylated IPP-1. Conversion of PP-1 to an Mn^{2+}-dependent state appears to play a role in its regulation by IPP-1. IPP-1 attenuates the activity of glycogen phosphorylase and is thought to play an important role in the hormonal control of glycogen metabolism.

REFERENCES

1. Mikkelsen, J.D. and Gustafson, E.L. 1993. Distribution of phosphatase inhibitor-1-immunoreactive neurons in the suprachiasmatic nucleus of the Syrian hamster. Brain Res. 623: 147-154.
2. Sakagami, H., et al. 1994. Localization of phosphatase inhibitor-1 mRNA in the developing and adult rat brain in comparison with that of protein phosphatase-1 mRNAs. Brain Res. Mol. Brain Res. 25: 7-18.
3. Endo, S., et al. 1996. Multiple structural elements define the specificity of recombinant human inhibitor-1 as a protein phosphatase-1 inhibitor. Biochemistry 35: 5220-5228.
4. Endo, S., et al. 1997. Conversion of protein phosphatase 1 catalytic subunit to a Mn^{2+}-dependent enzyme impairs its regulation by inhibitor 1. Biochemistry 36: 6986-6992.

CHROMOSOMAL LOCATION

Genetic locus: PPP1R1A (human) mapping to 12q13.2; Ppp1r1a (mouse) mapping to 15 F3.

SOURCE

IPP-1 (B-4) is a mouse monoclonal antibody raised against amino acids 50-171 mapping at the C-terminus of IPP-1 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.

IPP-1 (B-4) is available conjugated to agarose (sc-515553 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515553 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515553 PE), fluorescein (sc-515553 FITC), Alexa Fluor® 488 (sc-515553 AF488), Alexa Fluor® 546 (sc-515553 AF546), Alexa Fluor® 594 (sc-515553 AF594) or Alexa Fluor® 647 (sc-515553 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515553 AF680) or Alexa Fluor® 790 (sc-515553 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

IPP-1 (B-4) is recommended for detection of IPP-1 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 IPP-1 siRNA (h): sc-45873, IPP-1 siRNA (m): sc-45874, IPP-1 shRNA Plasmid (h): sc-45873-SH, IPP-1 shRNA Plasmid (m): sc-45874-SH, IPP-1 shRNA (h) Lentiviral Particles: sc-45873-V and IPP-1 shRNA (m) Lentiviral Particles: sc-45874-V.

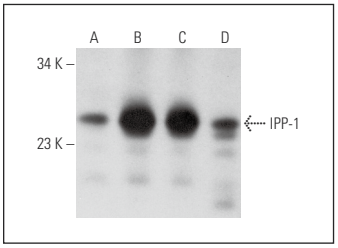
Molecular Weight of IPP-1: 19 kDa.

Positive Controls: human liver extract: sc-363766, human heart extract: sc-363763 or Hep G2 cell lysate: sc-2227.

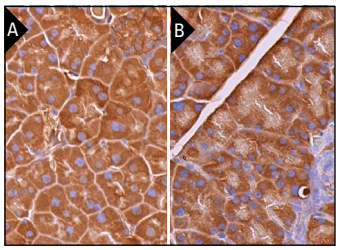
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



IPP-1 (B-4): sc-515553. Western blot analysis of IPP-1 expression in human brain (**A**), human heart (**B**) and human liver (**C**) tissue extracts and Hep G2 whole cell lysate (**D**).



IPP-1 (B-4): sc-515553. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse pancreas tissue showing cytoplasmic staining of exocrine glandular cells and Islets of Langerhans (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat pancreas tissue showing cytoplasmic staining of exocrine glandular cells (**B**).

RESEARCH USE

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