SANTA CRUZ BIOTECHNOLOGY, INC.

IPP-1 (N-20): sc-14260

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The inhibitor of protein phosphatase 1 (IPP-1 or 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 a 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 be important 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., Ebina, K. and Kondo, H. 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., Zhou, X., Connor, J., Wang, B. and Shenolikar, S. 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., Connor, J.H., Forney, B., Zhang, L., Ingebristen, T.S., Lee, E.Y. and Shenolikar, S. 1997. Conversion of protein phosphatase 1 catalytic subunit to a Mn^{2+}-dependent enzyme impairs its regulation by inhibitor 1. Biochemistry 36: 6986-6992.
5. Pierce, M.J., Munday, M.R. and Peachell, P.T. 1998. Characterization of protein serine/threonine phosphatase activities in human lung mast cells and basophils. Br. J. Pharmacol. 125: 1095-1101.

CHROMOSOMAL LOCATION

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

SOURCE

IPP-1 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of IPP-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-14260 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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 (N-20) is recommended for detection of IPP-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

IPP-1 (N-20) is also recommended for detection of IPP-1 in additional species, including canine and bovine.

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.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.