

IPP-1 (T-20): sc-14261

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 Mn²⁺-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

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- 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.
- 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.
- 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 Mn²⁺-dependent enzyme impairs its regulation by inhibitor 1. *Biochemistry* 36: 6986-6992.
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CHROMOSOMAL LOCATION

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

SOURCE

IPP-1 (T-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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-14261 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 (T-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 (T-20) is also recommended for detection of IPP-1 in additional species, including equine, canine, bovine and porcine.

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.



Try **IPP-1 (B-4): sc-515553**, our highly recommended monoclonal alternative to IPP-1 (T-20).