

HD-PTP (Y-18): sc-55213

BACKGROUND

HD-PTP (tyrosine-protein phosphatase non-receptor type 23, PTP-TD14) is a 1,636 amino acid protein encoded by the human gene PTPN23. HD-PTP belongs to the protein-tyrosine phosphatase family, non-receptor class sub-family. It contains one BRO1 domain, two TPR repeats and one tyrosine-protein phosphatase domain. The C-terminal region contains the PTP-like domain, whereas the N-terminal region contains the two TPR regions. These regions are homologous to the yeast protein, BRO1, which is involved in the mitogen-activated protein kinase signaling pathway. Similarly, HD-PTP is believed to act as a negative regulator of Ras-mediated mitogenic activity and is phosphorylated upon DNA damage, probably by ATM or ATR. HD-PTP protein is differentially modulated by two angiogenic growth factors. While vascular endothelial growth factor (VEGF) has no effect on protein levels, fibroblast growth factor-2 (FGF-2) induces HD-PTP degradation via the proteasome system.

REFERENCES

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- Cao, L., et al. 1998. A novel putative protein-tyrosine phosphatase contains a BRO1-like domain and suppresses Ha-Ras-mediated transformation. *J. Biol. Chem.* 273: 21077-21083.
- Toyooka, S., et al. 2000. HD-PTP: A novel protein tyrosine phosphatase gene on human chromosome 3p21.3. *Biochem. Biophys. Res. Commun.* 278: 671-678.
- Mariotti, M., et al. 2006. Expression analysis and modulation by HIV-Tat of the tyrosine phosphatase HD-PTP. *J. Cell. Biochem.* 98: 301-308.
- Mariotti, M., et al. 2006. The tyrosine phosphatase HD-PTP is regulated by FGF-2 through proteasome degradation. *Front. Biosci.* 11: 2138-2143.
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CHROMOSOMAL LOCATION

Genetic locus: Ptpn23 (mouse) mapping to 9 F2.

SOURCE

HD-PTP (Y-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HD-PTP of mouse 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-55213 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

HD-PTP (Y-18) is recommended for detection of HD-PTP of mouse origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for HD-PTP siRNA (m): sc-62450, HD-PTP shRNA Plasmid (m): sc-62450-SH and HD-PTP shRNA (m) Lentiviral Particles: sc-62450-V.

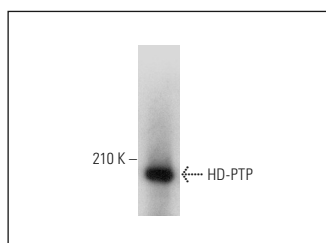
Molecular Weight of HD-PTP: 185 kDa.

Positive Controls: c4 whole cell lysate: sc-364186.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



HD-PTP (Y-18): sc-55213. Western blot analysis of HD-PTP expression in c4 whole cell lysate.

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.

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Try **HD-PTP (F-4): sc-398711**, our highly recommended monoclonal alternative to HD-PTP (Y-18).