

Wip1 (H-300): sc-20712

BACKGROUND

Several major serine/threonine protein phosphatases have been identified in eukaryotic cells. These include protein phosphatase families 1, 2A, 2B, 2C, X and Y (PP-1, PP-2A, PP-2B, PP-2C, PP-X and PP-Y). These enzymes can be distinguished by their action on phosphorylase kinase and their sensitivity to certain activators and inhibitors. Wip1 (wildtype p53-induced phosphatase or PPM1D), a protein identified in the p53 DNA response pathway, is a member of the PP-2C family. Wip1 is a serine/threonine protein phosphatase which selectively inactivates p38 MAPK and dephosphorylates the ATM/ATR targets, Chk1 and p53. Wip1 is ubiquitously expressed but is present at very high levels in testis. Deletion of Wip1 results in a reduction of T and B cell function and compromised cell division, rendering cells resistant to becoming cancerous and slowing tumor development.

CHROMOSOMAL LOCATION

Genetic locus: PPM1D (human) mapping to 17q23.2; Ppm1d (mouse) mapping to 11 C.

SOURCE

Wip1 (H-300) is a rabbit polyclonal antibody raised against amino acids 306-605 mapping at the C-terminus of Wip1 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.

APPLICATIONS

Wip1 (H-300) is recommended for detection of Wip1 of mouse, rat and human 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), 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).

Wip1 (H-300) is also recommended for detection of Wip1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Wip1 siRNA (h): sc-39205, Wip1 siRNA (m): sc-39206, Wip1 shRNA Plasmid (h): sc-39205-SH, Wip1 shRNA Plasmid (m): sc-39206-SH, Wip1 shRNA (h) Lentiviral Particles: sc-39205-V and Wip1 shRNA (m) Lentiviral Particles: sc-39206-V.

Molecular Weight of Wip1: 64 kDa.

Positive Controls: F9 cell lysate: sc-2245.

RESEARCH USE

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

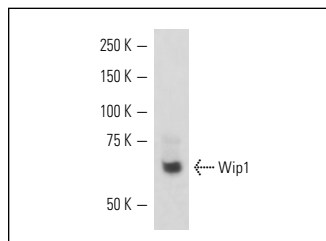
PROTOCOLS

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

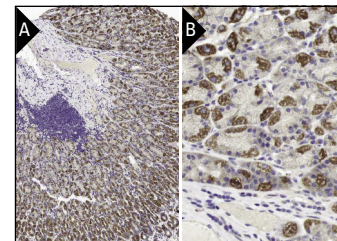
STORAGE

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

DATA



Wip1 (H-300): sc-20712. Western blot analysis of Wip1 expression in F9 whole cell lysate.



Wip1 (H-300): sc-20712. Immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach tissue showing cytoplasmic staining of glandular cells at low (A) and high (B) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

- Shreeram, S., et al. 2006. Wip1 phosphatase modulates ATM-dependent signaling pathways. *Mol. Cell* 23: 757-764.
- Oliva-Trastoy, M., et al. 2007. The Wip1 phosphatase (PPM1D) antagonizes activation of the Chk2 tumour suppressor kinase. *Oncogene* 26: 1449-1458.
- Seoane, M., et al. 2008. Retinoblastoma loss modulates DNA damage response favoring tumor progression. *PLoS ONE* 3: e3632.
- Baxter, E.W., et al. 2010. p53 regulates LIF expression in human medulloblastoma cells. *J. Neurooncol.* 97: 373-382.
- Xia, Y., et al. 2011. Dose-dependent mutual regulation between Wip1 and p53 following UVC irradiation. *Int. J. Biochem. Cell Biol.* 43: 535-544.
- Goloudina, A.R., et al. 2012. Wip1 sensitizes p53-negative tumors to apoptosis by regulating the Bax/Bcl-xL ratio. *Cell Cycle* 11: 1883-1887.
- Pandolfi, S., et al. 2012. WIP1 phosphatase modulates the Hedgehog signaling by enhancing GLI1 function. *Oncogene*. E-published.
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- Kleiblova, P., et al. 2013. Gain-of-function mutations of PPM1D/Wip1 impair the p53-dependent G₁ checkpoint. *J. Cell Biol.* 201: 511-521.



Try **Wip1 (F-10): sc-376257**, our highly recommended monoclonal alternative to Wip1 (H-300). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Wip1 (F-10): sc-376257**.