

p-Wee 1 (Ser 53): sc-130223

BACKGROUND

Phosphorylation of Cdc2 on Threonine 14 and Tyrosine 15 is required to maintain Cdc2 in an inactive state throughout the S and G₂ phases of the cell cycle. The human Wee 1 gene encodes a tyrosine-specific protein kinase, designated Wee 1, that phosphorylates Cdc2 on Tyrosine 15. Myt 1, a member of the Wee 1 family of protein kinases, has been shown to phosphorylate Cdc2 on both Threonine 14 and Tyrosine 15 in a cyclin-dependent manner. Activity of both Wee 1 and Myt 1 is regulated during the cell cycle, suggesting that both proteins play a role in mitotic control. Dephosphorylation of Cdc2 on Threonine 14 and Tyrosine 15 in late G₂ by Cdc25 then activates the Cdc2/cyclin B complex to allow entry into mitosis. Human Wee 1 is subject to phosphorylation during the M and G₁ phases of the cell cycle and may be phosphorylated on a variety of amino acid residues, including Ser 53.

REFERENCES

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- Igarashi, M., et al. 1991. Wee 1⁺-like gene in human cells. *Nature* 353: 80-83.
- McGowan, C.H., et al. 1995. Human Wee 1 kinase inhibits cell division by phosphorylating p34Cdc2 exclusively on Tyr 15. *EMBO J.* 12: 75-85.
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CHROMOSOMAL LOCATION

Genetic locus: WEE1 (human) mapping to 11p15.4; Wee1 (mouse) mapping to 7 F1.

SOURCE

p-Wee 1 (Ser 53) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 53 of Wee 1 of human origin.

STORAGE

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

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p-Wee 1 (Ser 53) is recommended for detection of Ser 53 phosphorylated Wee 1 of human origin and correspondingly Ser 52 phosphorylated Wee 1 of mouse and rat 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).

Suitable for use as control antibody for Wee 1 siRNA (h): sc-36835, Wee 1 shRNA Plasmid (h): sc-36835-SH and Wee 1 shRNA (h) Lentiviral Particles: sc-36835-V.

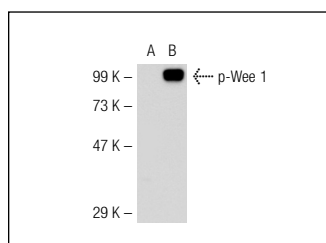
Molecular Weight of p-Wee 1: 98 kDa.

Positive Controls: Wee 1 (m): 293T Lysate: sc-127786 or mouse liver tissue extract.

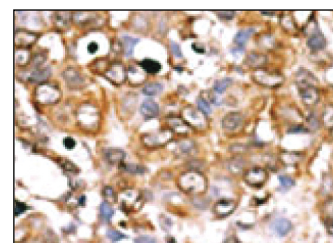
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



p-Wee 1 (Ser 53): sc-130223. Western blot analysis of Wee 1 phosphorylation in non-transfected: sc-117752 (A) and mouse Wee 1 transfected: sc-127786 (B) 293T whole cell lysates.



p-Wee 1 (Ser 53): sc-130223. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cancer tissue showing cytoplasmic staining.

RESEARCH USE

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