

Myt 1 (N-17): sc-6353

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 protein, Wee 1 Hu, encodes a tyrosine-specific protein kinase 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 Hu 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.

REFERENCES

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2. Krek, W., et al. 1991. Differential phosphorylation of vertebrate p34cdc2 kinase at the G1/S and G2/M transitions of the cell cycle: identification of major phosphorylation sites. *EMBO J*. 10: 305-316.
3. Igarashi, M., et al. 1991. Wee1+-like gene in human cells. *Nature*. 353: 80-83.
4. Gautier, J., et al. 1991. Cdc25 is a specific tyrosine phosphatase that directly activates p34cdc2. *Cell*. 67: 197-211
5. Strausfeld, U., et al. 1991. Dephosphorylation and activation of a p34cdc2/cyclin B complex *in vitro* by human CDC25 protein. *Nature*. 351: 242-245.
6. McGowan, C.H., et al. 1995. Human Wee1 kinase inhibits cell division by phosphorylating p34cdc2 exclusively on Tyr15. *EMBO J*. 12: 75-85.
7. Watanabe, N., et al. 1995. Regulation of the human WEE1Hu CDK tyrosine 15-kinase during the cell cycle. *EMBO J*. 14: 1878-1891.
8. Liu, F., et al. 1997. The human Myt1 kinase preferentially phosphorylates Cdc2 on threonine 14 and localizes to the endoplasmic reticulum and Golgi complex. *Mol. Cell. Biol*. 17: 571-583.

CHROMOSOMAL LOCATION

Genetic locus: Myt1 (human) mapping to 20q13; Myt1 (mouse) mapping to 17 A3.3.

SOURCE

Myt 1 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Myt 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-6353 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

Myt 1 (N-17) is recommended for detection of Myt 1 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Myt 1 siRNA (h): sc-35997, Myt 1 shRNA Plasmid (h): sc-35997-SH and Myt 1 shRNA (h) Lentiviral Particles: sc-35997-V.

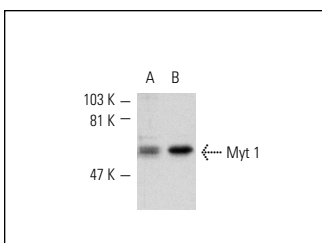
Molecular Weight of Myt 1: 50-60 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

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



Myt 1 (N-17): sc-6353. Western blot analysis of Myt 1 expression in HeLa (A) and K-562 (B) whole cell lysates.

STORAGE

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

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Try **Myt 1 (G-11): sc-74523**, our highly recommended monoclonal alternative to Myt 1 (N-17).