SANTA CRUZ BIOTECHNOLOGY, INC.

Myt 1 (H-300): sc-13081

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Phosphorylation of Cdc2 on threonine 14 and tyrosine 15 is required to maintain Cdc2 in an inactive state throughout the S and G_2 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 G_2 by Cdc25 then activates the Cdc2/cyclin B complex to allow entry into mitosis.

CHROMOSOMAL LOCATION

Genetic locus: PKMYT1 (human) mapping to 16p13.3; Pkmyt1 (mouse) mapping to 17 A3.3.

SOURCE

Myt 1 (H-300) is a rabbit polyclonal antibody raised against amino acids 1-304 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.

STORAGE

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

RESEARCH USE

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

APPLICATIONS

Myt 1 (H-300) is recommended for detection of Myt 1 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).

Myt 1 (H-300) is also recommended for detection of Myt 1 in additional species, including porcine.

Suitable for use as control antibody for Myt 1 siRNA (h): sc-35997, Myt 1 siRNA (m): sc-35998, Myt 1 shRNA Plasmid (h): sc-35997-SH, Myt 1 shRNA Plasmid (m): sc-35998-SH, Myt 1 shRNA (h) Lentiviral Particles: sc-35997-V and Myt 1 shRNA (m) Lentiviral Particles: sc-35998-V.

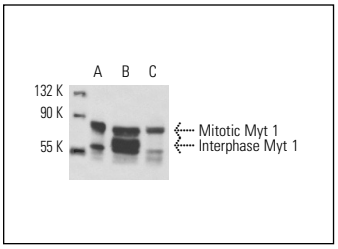
Molecular Weight of Myt 1: 50-60 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, SK-BR-3 cell lysate: sc-2218 or K-562 whole cell lysate: sc-2203.

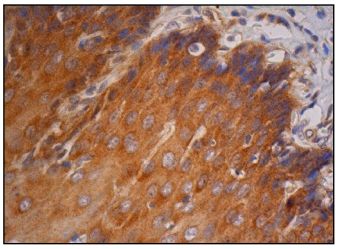
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use 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 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 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



Myt 1 (H-300): sc-13081. Western blot analysis of Myt 1 expression in HeLa (**A**), K-562 (**B**) and SK-BR-3 (**C**) whole cell lysates.



Myt 1 (H-300): sc-13081. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

1. Matsuo, T., et al. 2003. Control mechanism of the circadian clock for timing of cell division *in vivo*. Science 302: 255-259.
2. Bryan, B.A., et al. 2006. Identifying cellular genes crucial for the reactivation of Kaposi's sarcoma-associated herpesvirus latency. J. Gen. Virol. 87: 519-529.
3. Priyadarshini, A., et al. 2009. Activation of both Mos and Cdc25 is required for G_2-M transition in perch oocyte. Mol. Reprod. Dev. 76: 289-300.
4. Chow, J.P., et al. 2011. Inhibitory phosphorylation of cyclin-dependent kinase 1 as a compensatory mechanism for mitosis exit. Mol. Cell. Biol. 31: 1478-1491.

PROTOCOLS

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