SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin B2 (H-105): sc-22776

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

In eukaryotic cells, mitosis is initiated following the activation of a protein kinase known variously as maturation-promoting factor, M-phase specific histone kinase or M-phase kinase. This protein kinase is composed of a catalytic subunit (Cdc2), a regulatory subunit (cyclin B) and a low molecular weight subunit (p13SUC1). The Cdc/cyclin enzyme is subject to multiple levels of control of which the regulation of the catalytic subunit by tyrosine phosphorylation is the best understood. Tyrosine phosphorylation inhibits the Cdc2/cyclin B enzyme and tyrosine dephosphorylation, occurring at the onset of mitosis, directly activates the pre-MPF complex. Evidence has established that B-type cyclins not only act on M-phase regulatory subunits of the Cdc2 protein kinase, but also activate the Cdc25A and Cdc25B endogenous tyrosine phosphatase, of which Cdc2 is the physiological substrate. The two B-type cyclins, cyclin B1 and cyclin B2, have been shown to have distinct tissue distributions.

CHROMOSOMAL LOCATION

Genetic locus: CCNB2 (human) mapping to 15q22.2; Ccnb2 (mouse) mapping to 9 D.

SOURCE

cyclin B2 (H-105) is a rabbit polyclonal antibody raised against amino acids 1-105 mapping at the N-terminus of cyclin B2 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.

APPLICATIONS

cyclin B2 (H-105) is recommended for detection of cyclin B2 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).

cyclin B2 (H-105) is also recommended for detection of cyclin B2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for cyclin B2 siRNA (h): sc-37074, cyclin B2 siRNA (m): sc-37075, cyclin B2 shRNA Plasmid (h): sc-37074-SH, cyclin B2 shRNA Plasmid (m): sc-37075-SH, cyclin B2 shRNA (h) Lentiviral Particles: sc-37074-V and cyclin B2 shRNA (m) Lentiviral Particles: sc-37075-V.

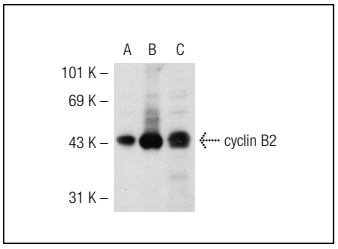
Molecular Weight of cyclin B2: 51 kDa.

Positive Controls: cyclin B2 (m): 293T Lysate: sc-119545, A-431 whole cell lysate: sc-2201 or F9 cell lysate: sc-2245.

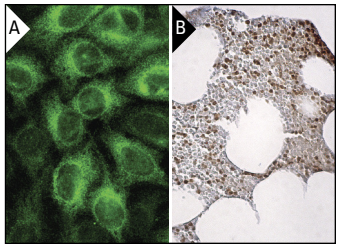
RESEARCH USE

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

DATA



cyclin B2 (H-105): sc-22776. Western blot analysis of cyclin B2 expression in non-transfected 293T: sc-117752 (**A**), mouse cyclin B2 transfected 293T: sc-119545 (**B**) and A-431 (**C**) whole cell lysates.



cyclin B2 (H-105): sc-22776. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane and cytplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing cytoplasmic and nuclear staining of hematopoietic cells (**B**).

SELECT PRODUCT CITATIONS

1. L'Italien, L., et al. 2006. Unmasking the redundancy between Cdk1 and Cdk2 at G_2 phase in human cancer cell lines. Cell Cycle 5: 984-993.
2. Ebelt, H., et al. 2008. Directed expression of dominant-negative p73 enables proliferation of cardiomyocytes in mice. J. Mol. Cell. Cardiol. 45: 411-419.
3. Sun, F., et al. 2010. Mutation of Eif4g3, encoding a eukaryotic translation initiation factor, causes male infertility and meiotic arrest of mouse spermatocytes. Development 137: 1699-1707.
4. Wu, T., et al. 2010. Regulation of cyclin B2 expression and cell cycle G_2/M transition by menin. J. Biol. Chem. 285: 18291-18300.
5. 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.
6. Brahmaraju, M., et al. 2011. AIRE1A might be involved in cyclin B2 degradation in testicular lysates. Biochem. Cell Biol. 89: 411-422.
7. Scott, M.C., et al. 2011. Molecular subtypes of osteosarcoma identified by reducing tumor heterogeneity through an interspecies comparative approach. Bone. 49: 356-367.
8. Villeneuve, J., et al. 2013. MEK1 inactivates Myt1 to regulate Golgi membrane fragmentation and mitotic entry in mammalian cells. EMBO J. 32: 72-85.