SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin B2 (N-20): sc-5235

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 (p13-Suc 1). 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 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide 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.

Blocking peptide available for competition studies, sc-5235 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

cyclin B2 (N-20) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

cyclin B2 (N-20) 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: F9 cell lysate: sc-2245, A-431 whole cell lysate: sc-2201 or K-562 whole cell lysate: sc-2203.

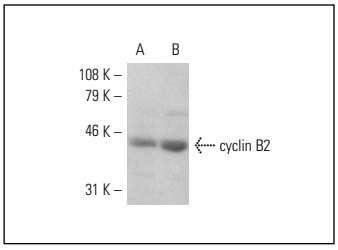
RESEARCH USE

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

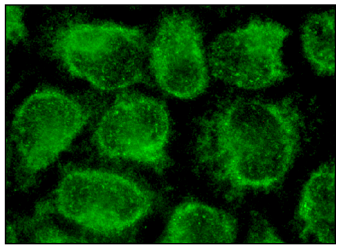
STORAGE

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

DATA



cyclin B2 (N-20): sc-5235. Western blot analysis of cyclin B2 expression in A-431 (**A**) and K-562 (**B**) whole cell lysates.



cyclin B2 (N-20): sc-5235. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Szepeshazi, K., et al. 2001. Antagonists of GHRH decrease production of GH and IGF-I in MXT mouse mammary cancers and inhibit tumor growth. Endocrinology 142: 4371-4378.
2. Gruneberg, U., et al. 2004. Relocation of aurora B from centromeres to the central spindle at the metaphase to anaphase transition requires MKlp2. J. Cell Biol. 166: 167-172.
3. Sugiura, K., et al. 2006. Study of germinal vesicle requirement for the normal kinetics of maturation/M-phase-promoting factor activity during porcine oocyte maturation. Biol. Reprod. 74: 593-600.
4. Astigarraga, S., et al. 2007. Distinct mammalian SWI/SNF chromatin remodeling complexes with opposing roles in cell-cycle control. EMBO J. 26: 752-763.
5. Bellanger, S., et al. 2007. Cyclin B2 suppresses mitotic failure and DNA re-replication in human somatic cells knocked down for both cyclins B1 and B2. Oncogene 26: 7175-7184.
6. Nishimura, T., et al. 2009. Insufficient amount of Cdc2 and continuous activation of Wee1 B are the cause of meiotic failure in porcine growing oocytes. J. Reprod. Dev. 55: 553-557.
7. Nishimura, Y., et al. 2009. Porcine Aurora A accelerates Cyclin B and Mos synthesis and promotes meiotic resumption of porcine oocytes. Anim. Reprod. Sci. 113: 114-124.
8. De Martino, I., et al. 2009. HMGA proteins up-regulate CCNB2 gene in mouse and human pituitary adenomas. Cancer Res. 69: 1844-1850.