cyclin B1 (D-11): sc-7393

**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 specificity of this effect is shown by the inability of either cyclin A or cyclin D1 to display any such stimulation of Cdc25A or Cdc25B.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: CCNB1 (human) mapping to 5q13.2; Ccnb1 (mouse) mapping to 52–53.

**SOURCE**

cyclin B1 (D-11) is a mouse monoclonal antibody raised against amino acids 1-433 of cyclin B1 of human origin.

**PRODUCT**

Each vial contains 200 µg IgG, kappa light chain 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 B1 (D-11) is recommended for detection of cyclin B1 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 flow cytometry (1 µg per 1 x 10⁴ cells).


Molecular Weight of cyclin B1: 60 kDa.

Positive Controls: K-562 nuclear extract: sc-2130, HeLa nuclear extract: sc-2120 or HeLa whole cell lysate: sc-2200.

**DATA**

cyclin B1 (D-11): sc-7393. Western blot analysis of cyclin B1 expression in lysates prepared from untreated (A, B) and genotoxic-treated (C, D). HeLa (A, B) and K-562 (C, D) whole cell lysates.

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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