

cyclin B1 (V152): sc-53236

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-Suc1). 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.

CHROMOSOMAL LOCATION

Genetic locus: CCNB1 (human) mapping to 5q13.2; Ccnb1 (mouse) mapping to 13 D1.

SOURCE

cyclin B1 (V152) is a mouse monoclonal antibody raised against His-tagged recombinant cyclin B1 of hamster origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

cyclin B1 (V152) is available conjugated to either phycoerythrin (sc-53236 PE) or fluorescein (sc-53236 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

cyclin B1 (V152) is recommended for detection of cyclin B1 of mouse, rat, human and hamster 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 10⁶ cells).

Suitable for use as control antibody for cyclin B1 siRNA (h): sc-29284, cyclin B1 siRNA (m): sc-29285, cyclin B1 shRNA Plasmid (h): sc-29284-SH, cyclin B1 shRNA Plasmid (m): sc-29285-SH, cyclin B1 shRNA (h) Lentiviral Particles: sc-29284-V and cyclin B1 shRNA (m) Lentiviral Particles: sc-29285-V.

Molecular Weight of cyclin B1: 60 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, K-562 nuclear extract: sc-2130 or HeLa nuclear extract: sc-2120.

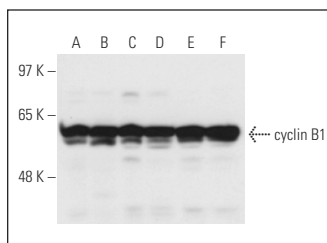
STORAGE

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

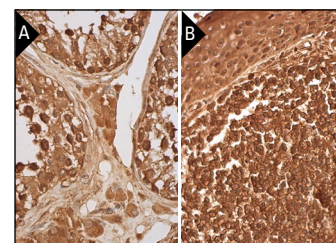
RESEARCH USE

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

DATA



cyclin B1 (V152): sc-53236. Western blot analysis of cyclin B1 expression in HeLa (A), PMA treated HeLa (B), K-562 (C), PMA treated K-562 (D), Jurkat (E) and PMA treated Jurkat (F) nuclear extracts.



cyclin B1 (V152): sc-53236. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic and nuclear staining of cells in seminiferous ducts and Leydig cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing cytoplasmic and nuclear staining of cells in germinal center, cells in non-germinal center and squamous epithelial cells (B).

SELECT PRODUCT CITATIONS

- Wu, W., et al. 2009. Antibody array analysis with label-based detection and resolution of protein size. *Mol. Cell. Proteomics* 8: 245-257.
- Yang, G., et al. 2010. CXCR2 promotes ovarian cancer growth through dysregulated cell cycle, diminished apoptosis, and enhanced angiogenesis. *Clin. Cancer Res.* 16: 3875-3886.
- Hau, P.M., et al. 2011. Loss of ΔNp63α promotes mitotic exit in epithelial cells. *FEBS Lett.* 585: 2720-2726.
- Lim, H.J., et al. 2013. The G₂/M regulator histone demethylase PHF8 is targeted for degradation by the anaphase-promoting complex containing Cdc20. *Mol. Cell. Biol.* 33: 4166-4180.
- Harada, M., et al. 2017. Homeobox transcription factor NKX2-1 promotes cyclin D1 transcription in lung adenocarcinomas. *Mol. Cancer Res.* 15: 1388-1397.
- Aliwaini, S., et al. 2019. Novel imidazo[1,2-a]pyridine inhibits Akt/mTOR pathway and induces cell cycle arrest and apoptosis in melanoma and cervical cancer cells. *Oncol. Lett.* 18: 830-837.
- Chen, C., et al. 2020. Differentially expressed lnc-NOS2P3-miR-939-5p axis in chronic heart failure inhibits myocardial and endothelial cells apoptosis via iNOS/TNFα pathway. *J. Cell. Mol. Med.* 24: 11381-11396.
- Altaher, A.M., et al. 2022. The anticancer effects of novel imidazo[1,2-a]pyridine compounds against HCC1937 breast cancer cells. *Asian Pac. J. Cancer Prev.* 23: 2943-2951.

CONJUGATES

See **cyclin B1 (GNS1): sc-245** for cyclin B1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.