SANTA CRUZ BIOTECHNOLOGY, INC.

BUB1 (H-300): sc-28257

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Human cells contain two related protein kinases, BUB1 and BUBR1, that appear to have evolved from a single ancestral BUB1 gene. Both kinases are concentrated near the surface of the kinetochore where they monitor kinetochore-microtubule interactions. BUB1 and BUBR1 bind to kinetochores and are postulated to be components of the mitotic checkpoint, which monitors kinetochore activities to determine if chromosomes have achieved alignment at the spindle equator. BUBR1 is essential for normal mitotic progression as it prevents cells from prematurely entering anaphase. BUB3 is a conserved component of the mitotic spindle assembly complex and is also involved with the essential spindle checkpoint pathway that operates during early embryogenesis.

REFERENCES

1. Donadelli, R., et al. 1998. Identification of a novel gene-SSK1-in human endothelial cells exposed to shear stress. Biochem. Biophys. Res. Commun. 246: 881-887.
2. Jablonski, S.A., et al. 1998. The hBUB1 and hBUBR1 kinases sequentially assemble onto kinetochores during prophase with hBUBR1 concentrating at the kinetochore plates in mitosis. Chromosoma 107: 386-396.
3. Chan, G.K., et al. 1999. Human BUBR1 is a mitotic checkpoint kinase that monitors CENP-E functions at kinetochores and binds the cyclosome/APC. J. Cell Biol. 146: 941-954.
4. Li, W., et al. 1999. BUBR1 phosphorylation is regulated during mitotic checkpoint activation. Cell Growth Differ. 10: 769-775.
5. Abrieu, A., et al. 2000. CENP-E as an essential component of the mitotic checkpoint *in vitro*. Cell 102: 817-826.
6. Kalitsis, P., et al. 2000. Bub3 gene disruption in mice reveals essential mitotic spindle checkpoint function during early embryogenesis. Genes Dev. 18: 2277-2282.

CHROMOSOMAL LOCATION

Genetic locus: BUB1 (human) mapping to 2q13; Bub1 (mouse) mapping to 2 F1.

SOURCE

BUB1 (H-300) is a rabbit polyclonal antibody raised against amino acids 786-1085 mapping at the C-terminus of BUB1 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

BUB1 (H-300) is recommended for detection of BUB1 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).

BUB1 (H-300) is also recommended for detection of BUB1 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for BUB1 siRNA (h): sc-37538, BUB1 siRNA (m): sc-37539, BUB1 shRNA Plasmid (h): sc-37538-SH, BUB1 shRNA Plasmid (m): sc-37539-SH, BUB1 shRNA (h) Lentiviral Particles: sc-37538-V and BUB1 shRNA (m) Lentiviral Particles: sc-37539-V.

Molecular Weight of BUB1: 150 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HeLa + nocodazole cell lysate: sc-2274 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.

SELECT PRODUCT CITATIONS

1. Song, J., et al. 2007. The kinases aurora B and mTOR regulate the G_1-S cell cycle progression of T lymphocytes. Nat. Immunol. 8: 64-73.
2. Xiao, B., et al. 2010. Bub1 and CENP-F can contribute to Kaposi's sarcoma-associated herpesvirus genome persistence by targeting LANA to kinetochores. J. Virol. 84: 9718-9732.
3. Wolanin, K., et al. 2010. Expression of oncogenic kinase Bcr-Abl impairs mitotic checkpoint and promotes aberrant divisions and resistance to microtubule-targeting agents. Mol. Cancer Ther. 9: 1328-1338.
4. Kagele, D., et al. 2012. Analysis of the interactions of viral and cellular factors with human cytomegalovirus lytic origin of replication, oriLyt. Virology 424: 106-114.