SANTA CRUZ BIOTECHNOLOGY, INC.

BUB1 (B-3): sc-365685

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.

CHROMOSOMAL LOCATION

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

SOURCE

BUB1 (B-3) is a mouse monoclonal antibody raised against amino acids 786-1085 mapping at the C-terminus of BUB1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

BUB1 (B-3) is recommended for detection of BUB1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

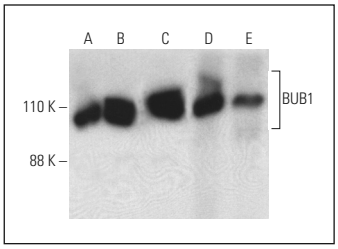
Molecular Weight of BUB1: 150 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, U-2 OS cell lysate: sc-2295 or HEL 92.1.7 cell lysate: sc-2270.

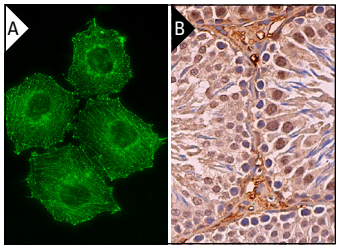
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



BUB1 (B-3): sc-365685. Western blot analysis of BUB1 expression in U-2 OS (**A**), HEL 92.1.7 (**B**) and HeLa (**C**) whole cell lysates and human ovary (**D**) and human testis (**E**) tissue extracts. Detection reagent used: m-IgG_3 BP-HRP: sc-533670.



BUB1 (B-3): sc-365685. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat testis tissue showing nuclear and cytoplasmic staining of cells in seminiferous ducts and cytoplasmic staining of Leydig cells (**B**).

SELECT PRODUCT CITATIONS

1. Goto, Y., et al. 2017. Impact of novel miR-145-3p regulatory networks on survival in patients with castration-resistant prostate cancer. Br. J. Cancer 117: 409-420.
2. Pagotto, S., et al. 2018. Hsa-miR-155-5p drives aneuploidy at early stages of cellular transformation. Oncotarget 9: 13036-13047.
3. Piché, J., et al. 2019. Molecular signature of CAID syndrome: noncanonical roles of SGO1 in regulation of TGF-β signaling and epigenomics. Cell. Mol. Gastroenterol. Hepatol. 7: 411-431.
4. Ma, R., et al. 2021. Nuclear PD-L1 promotes cell cycle progression of BRAF-mutated colorectal cancer by inhibiting THRAP3. Cancer Lett. 527: 127-139.
5. Wei, J., et al. 2022. Geranylgeranylation signaling promotes breast cancer cell mitosis via the YAP-activated transcription of kinetochore/centromere genes. Am. J. Cancer Res. 12: 1143-1155.
6. Jin, T., et al. 2024. BUB1/KIF14 complex promotes anaplastic thyroid carcinoma progression by inducing chromosome instability. J. Cell. Mol. Med. 28: e18182.

RESEARCH USE

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