

# BUB3 (E-7): sc-376506

## BACKGROUND

BUB3 (budding uninhibited by benzimidazoles 3 homolog), also known as BUB3L or hBUB3, is a conserved component of the mitotic spindle assembly complex (MCC). It contains five WD repeat domains and forms cell cycle constitutive complexes with BUB1 and BUBR1. BUB3 is essential for the kinetochore localization of BUB1 and BUBR1. As a component of the MCC, BUB3 is involved in the essential spindle checkpoint pathway that operates during early embryogenesis. The spindle checkpoint pathway functions to postpone the initiation of anaphase until chromosomes are properly attached to the spindle. This acts to ensure accurate chromosome segregation. In addition, BUB3 plays a role in regulating the establishment of correct kinetochore-microtubule attachments. BUB3 is also thought to bind Tctex1L (or DYNLT3), a dynein light chain.

## CHROMOSOMAL LOCATION

Genetic locus: BUB3 (human) mapping to 10q26.13; Bub3 (mouse) mapping to 7 F3.

## SOURCE

BUB3 (E-7) is a mouse monoclonal antibody raised against amino acids 229-328 mapping at the C-terminus of BUB3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

BUB3 (E-7) is available conjugated to agarose (sc-376506 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376506 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376506 PE), fluorescein (sc-376506 FITC), Alexa Fluor® 488 (sc-376506 AF488), Alexa Fluor® 546 (sc-376506 AF546), Alexa Fluor® 594 (sc-376506 AF594) or Alexa Fluor® 647 (sc-376506 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376506 AF680) or Alexa Fluor® 790 (sc-376506 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

BUB3 (E-7) is recommended for detection of BUB3 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

BUB3 (E-7) is also recommended for detection of BUB3 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for BUB3 siRNA (h): sc-37540, BUB3 siRNA (m): sc-37541, BUB3 shRNA Plasmid (h): sc-37540-SH, BUB3 shRNA Plasmid (m): sc-37541-SH, BUB3 shRNA (h) Lentiviral Particles: sc-37540-V and BUB3 shRNA (m) Lentiviral Particles: sc-37541-V.

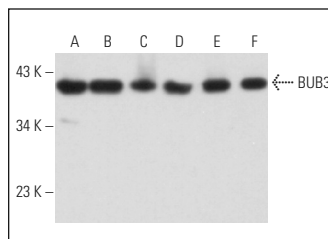
Molecular Weight of BUB3: 40 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, NIH/3T3 whole cell lysate: sc-2210 or HEK293 whole cell lysate: sc-45136.

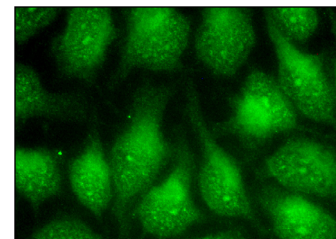
## STORAGE

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

## DATA



BUB3 (E-7): sc-376506. Western blot analysis of BUB3 expression in Jurkat (A), HL-60 (B), NTERA-2 cl.D1 (C), HEK293 (D), NIH/3T3 (E) and M1 (F) whole cell lysates.



BUB3 (E-7): sc-376506. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Zhu, S., et al. 2015. A motif from Lys216 to Lys222 in human BUB3 protein is a nuclear localization signal and critical for BUB3 function in mitotic checkpoint. *J. Biol. Chem.* 290: 11282-11292.
- Kakahana, A., et al. 2019. Heat shock-induced mitotic arrest requires heat shock protein 105 for the activation of spindle assembly checkpoint. *FASEB J.* 33: 3936-3953.
- Movsisyan, N. and Pardo, L.A. 2020. Kv10.1 regulates microtubule dynamics during mitosis. *Cancers* 12: 2409.
- Park, S.H., et al. 2021. Posttranslational regulation of FOXA1 by Polycomb and BUB3/USP7 deubiquitin complex in prostate cancer. *Sci. Adv.* 7: eabe2261.
- Dong, F., et al. 2021. Inhibition of CDK4/6 kinases causes production of aneuploid oocytes by inactivating the spindle assembly checkpoint and accelerating first meiotic progression. *Biochim. Biophys. Acta Mol. Cell Res.* 1868: 119044.
- Xu, X., et al. 2023. DNA replication initiation factor RECQ4 possesses a role in antagonizing DNA replication initiation. *Nat. Commun.* 14: 1233.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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