

BUB1 (h): 293T Lysate: sc-114679

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

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2. Jablonski, S.A., Chan, G.K., Cooke, C.A., Earnshaw, W.C. and Yen, T.J. 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., Jablonski, S.A., Sudakin, V., Hittle, J.C. and Yen, T.J. 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., Lan, Z., Wu, H., Wu, S., Meadows, J., Chen, J., Zhu, V. and Dai, W. 1999. BUBR1 phosphorylation is regulated during mitotic checkpoint activation. *Cell Growth Differ.* 10: 769-775.
5. Abrieu, A., Kahana, J.A., Wood, K.W. and Cleveland, D.W. 2000. CENP-E as an essential component of the mitotic checkpoint *in vitro*. *Cell* 102: 817-826.
6. Kalitsis, P., Earle, E., Fowler, K.J. and Choo, K.H. 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.

PRODUCT

BUB1 (h): 293T Lysate represents a lysate of human BUB1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

APPLICATIONS

BUB1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive BUB1 antibodies. Recommended use: 10-20 µl per lane.

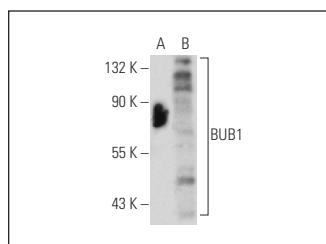
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

BUB1 (14H5): sc-47743 is recommended as a positive control antibody for Western Blot analysis of enhanced human BUB1 expression in BUB1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



BUB1 (14H5): sc-47743. Western blot analysis of BUB1 expression in non-transfected: sc-117752 (A) and human BUB1 transfected: sc-114679 (B) 293T whole cell lysates.

PROTOCOLS

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