SANTA CRUZ BIOTECHNOLOGY, INC.

Hec1 (h): 293T Lysate: sc-115079

BACKGROUND

Highly expressed in cancer (Hec1) is a coiled-coil-enriched protein expressed abundantly in the S and M phases of rapidly dividing cells where it localizes to the kinetochores. Hec1 is involved in spindle checkpoint signaling. Hec1 is not expressed in terminal differentiated cells. Hec1 is expressed in tissues with high mitotic rates including testis, spleen and thymus. Hec1 is also found in the late S to M phases of bladder carcinoma cells. In dividing cells, Hec1 is required for the recruitment of Mps1 kinase and Mad1/Mad2 complexes to the kinetochores. The phosphorylation of Hec1 on Serine 165 by Nek2 is essential for faithful chromosome segregation. The binding of retinoblastoma protein to Hec1 also increases the fidelity of chromosomal segregation. The gene encoding human Hec1 maps to chromosome 18p11.31.

REFERENCES

1. Chen, Y., Riley, D.J., Chen, P.L. and Lee, W.H. 1997. HEC, a novel nuclear protein rich in leucine heptad repeats specifically involved in mitosis. Mol. Cell. Biol. 17: 6049-6056.
2. Martin-Lluesma, S., Stucke, V.M. and Nigg, E.A. 2002. Role of Hec1 in spindle checkpoint signaling and kinetochore recruitment of Mad1/Mad2. Science 297: 2267-2270.
3. Chen, Y., Riley, D.J., Zheng, L., Chen, P.L. and Lee, W.H. 2002. Phosphorylation of the mitotic regulator protein Hec1 by Nek2 kinase is essential for faithful chromosome segregation. J. Biol. Chem. 277: 49408-49416.
4. Zheng, L., Chen, Y., Riley, D.J., Chen, P.L. and Lee, W.H. 2000. Retinoblastoma protein enhances the fidelity of chromosome segregation mediated by hsHec1p. Mol. Cell. Biol. 20: 3529-3537.
5. LocusLink Report (LocusID: 10403) http://www.ncbi.nlm.nih.gov/LocusLink

CHROMOSOMAL LOCATION

Genetic locus: NDC80 (human) mapping to 18p11.32.

PRODUCT

Hec1 (h): 293T Lysate represents a lysate of human Hec1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

Hec1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Hec1 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.

Hec1 (1): sc-135934 is recommended as a positive control antibody for Western Blot analysis of enhanced human Hec1 expression in Hec1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

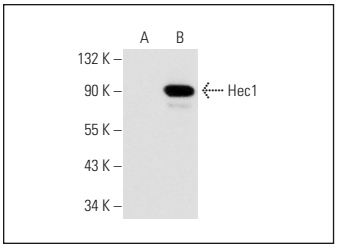
STORAGE

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.

DATA



Hec1 (1): sc-135934. Western blot analysis of Hec1 expression in non-transfected: sc-117750 (**A**) and human Hec1 transfected: sc-115079 (**B**) whole cell lysates.

PROTOCOLS

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