

# Hus1B (E-19): sc-54615

## BACKGROUND

Hus1B (checkpoint protein Hus1B) is a 276 amino acid protein encoded by the human gene HUS1B. Hus1B is a paralog of the human cell cycle checkpoint gene HUS1. Hus1B is expressed variably in many human tissues, and the tissue-specific levels observed parallel those for Hus1. A Hus1-Rad1-Rad9 protein complex is thought to form a proliferating cell nuclear antigen (PCNA)-like structure, important for cell cycle checkpoint function. However, Hus1B directly interacts with Rad1, but not Rad9 or Hus1, whereas Hus1 can bind Rad1, Rad9 and another molecule of Hus1, suggesting that Hus1B cannot simply substitute for Hus1 in the complex. Hus1B is less conserved evolutionarily than Hus1 and overexpression of Hus1B, but not Hus1, in human cells induces clonogenic cell death. It is believed that Hus1B and Hus1 have distinct but related roles in regulating cell cycle checkpoints and genomic integrity.

## REFERENCES

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- Hang, H., Zhang, Y., Wang, C. and Lieberman, H.B. 2002. Identification and characterization of a paralog of human cell cycle checkpoint gene HUS1. *Genomics* 79: 487-492.
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- Hopkins, K.M., Wang, X., Berlin, A., Hang, H., Thaker, H.M. and Lieberman, H.B. 2003. Expression of mammalian paralogues of HRAD9 and Mrad9 checkpoint control genes in normal and cancerous testicular tissue. *Cancer Res.* 63: 5291-5298.
- Levitt, P.S., Liu, H., Manning, C. and Weiss, R.S. 2005. Conditional inactivation of the mouse Hus1 cell cycle checkpoint gene. *Genomics* 86: 212-224.
- Friedrich-Heineken, E., Toueille, M., Tännler, B., Bürki, C., Ferrari, E., Hottiger, M.O. and Hübscher, U. 2005. The two DNA clamps Rad9/Rad1/Hus1 complex and proliferating cell nuclear antigen differentially regulate flap endonuclease 1 activity. *J. Mol. Biol.* 353: 980-989.

## CHROMOSOMAL LOCATION

Genetic locus: Hus1b (mouse) mapping to 13 A3.2.

## SOURCE

Hus1B (E-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Hus1B of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-54615 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

Hus1B (E-19) is recommended for detection of Hus1B of mouse 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).

Suitable for use as control antibody for Hus1B siRNA (m): sc-62483.

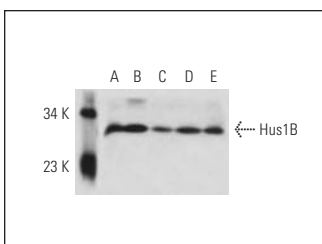
Molecular Weight of Hus1B: 31 kDa.

Positive Controls: C4 whole cell lysate, Sol8 cell lysate: sc-2249 or NIH/3T3 whole cell lysate: sc-2210.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Hus1B (E-19): sc-54615. Western blot analysis of Hus1B expression in NIH/3T3 nuclear extract (A) and NIH/3T3 (B), Sol8 (C), RAW 264.7 (D) and c4 (E) whole cell lysates.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.