

Hus1 (M-281): sc-8323

BACKGROUND

DNA damage or incomplete replication of DNA results in inhibition of cell cycle progression at the G₁-S or G₂-M checkpoints by conserved regulatory mechanisms. Chk1, Rad9 and Hus1 are involved in regulation of cell cycle arrest at the G₂ checkpoint. Chk1 functions as an essential component in the G₂ DNA damage checkpoint by phosphorylating Cdc25C in response to DNA damage, which inhibits mitosis. Hus1 and Rad9 exhibit conserved function in fission yeast and higher eukaryotes. Hus1 has been shown to be phosphorylated in response to DNA damage, a process which requires Rad checkpoint genes. Rad9 is thought to be a candidate tumor suppressor gene because it is localized to human chromosome 11q13.1-13.2, which is a region containing a number of tumor suppressor loci.

REFERENCES

1. Carr, A.M., et al. 1995. The Chk1 pathway is required to prevent mitosis following cell-cycle arrest at "start". *Curr. Biol.* 5: 1179-1190.
2. Lieberman, H.B., et al. 1996. A human homolog of the *Schizosaccharomyces pombe* Rad9⁺ checkpoint control gene. *Proc. Natl. Acad. Sci. USA* 93: 13890-13895.

CHROMOSOMAL LOCATION

Genetic locus: HUS1 (human) mapping to 7p12.3; Hus1 (mouse) mapping to 11 A1.

SOURCE

Hus1 (M-281) is a rabbit polyclonal antibody raised against amino acids 1-281 representing full length Hus1 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.

APPLICATIONS

Hus1 (M-281) is recommended for detection of Hus1 of mouse, rat and human 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), 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).

Hus1 (M-281) is also recommended for detection of Hus1 in additional species, including equine.

Suitable for use as control antibody for Hus1 siRNA (h): sc-37545, Hus1 siRNA (m): sc-37546, Hus1 shRNA Plasmid (h): sc-37545-SH, Hus1 shRNA Plasmid (m): sc-37546-SH, Hus1 shRNA (h) Lentiviral Particles: sc-37545-V and Hus1 shRNA (m) Lentiviral Particles: sc-37546-V.

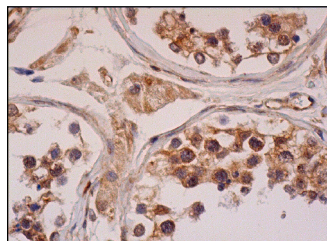
Molecular Weight of Hus1: 34 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

STORAGE

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

DATA



Hus1 (M-281): sc-8323. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic and nuclear staining of cells in seminiferous ducts and Leydig cells.

SELECT PRODUCT CITATIONS

1. Yoshida, K., et al. 2003. Protein kinase C δ is responsible for constitutive and DNA damage-induced phosphorylation of Rad9. *EMBO J.* 22: 1431-1441.
2. Foray, N., et al. 2003. A subset of ATM- and ATR-dependent phosphorylation events requires the BRCA1 protein. *EMBO J.* 22: 2860-2871.
3. Sorensen, C.S., et al. 2004. ATR, Claspin and the Rad9-Rad1-Hus1 complex regulate Chk1 and Cdc25A in the absence of DNA damage. *Cell Cycle* 3: 941-945.
4. Wu, X., et al. 2005. Interaction and colocalization of Rad9/Rad1/Hus1 checkpoint complex with replication protein A in human cells. *Oncogene* 24: 4728-4735.
5. Shi, G., et al. 2006. Physical and functional interactions between MutY glycosylase homologue (MYH) and checkpoint proteins Rad9-Rad1-Hus1. *Biochem. J.* 400: 53-62.
6. Kamimura, K., et al. 2007. Lack of Bcl11b tumor suppressor results in vulnerability to DNA replication stress and damages. *Oncogene* 26: 5840-5850.
7. Mohni, K.N., et al. 2013. Efficient herpes simplex virus 1 replication requires cellular ATR pathway proteins. *J. Virol.* 87: 531-542.

RESEARCH USE

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


 MONOS
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Try **Hus1 (G-3): sc-166440**, our highly recommended monoclonal alternative to Hus1 (M-281).