SANTA CRUZ BIOTECHNOLOGY, INC.

HEL308 (H-239): sc-98400

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

HEL308, a DNA repair helicase, is a member of the helicase superfamily 2 and is conserved in eukaryotes and archaea. The human HEL308 gene encodes for a single stranded, 1,101 amino acid protein that acts as a DNA dependent ATPase. HEL308 is expressed in ovaries, heart, spleen, thymus, prostate, liver, kidney and pancreas. It is highly expressed in the testis. During the early stages of DNA recombination, HEL308 plays a critical role in DNA crosslink repair following replication fork arrest. HEL308 is believed to aid in restarting DNA replication by displacing the lagging strand at the stalled replication forks. Human HEL308 shares homology with the Hel308 locus in *Mus musculus* and the mus308 locus in *Drosophila melanogaster*. In adult mice, Hel308 is only expressed in primary spermatocytes in seminiferous tubules of testis. The mus308 gene in *D. melanogaster* encodes a protein with structural characteristics of both DNA polymerases and helicases. The gene product may also be involved in the repair of lesions other than crosslinks.

REFERENCES

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2. Online Mendelian Inheritance in Man, OMIM™. 2002. John Hopkins University, Baltimore, MD. MIM Number: 606769. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Spivak, G., Lloyd, R.S. and Sweder, K.S. 2003. Workshop on DNA repair and related DNA transactions, a conference report. DNA Repair 2: 235-242.
4. Marini, F., Kim, N., Schuffert, A. and Wood, R.D. 2003. POLN, a nuclear PolA family DNA polymerase homologous to the DNA cross-link sensitivity protein mus308. J. Biol. Chem. 278: 32014-32019.
5. Pang, M., McConnell, M. and Fisher, P.A. 2005. The *Drosophila* mus308 gene product, implicated in tolerance of DNA interstrand cross-links, is a nuclear protein found in both ovaries and embryos. DNA Repair 4: 971-982.
6. Kelman, Z. and White, M.F. 2005. Archaeal DNA replication and repair. Curr. Opin. Microbiol. 8: 669-676.
7. Woodman, I.L., Briggs, G.S. and Bolt, E.L. 2007. Archaeal HEL308 domain V couples DNA binding to ATP hydrolysis and positions DNA for unwinding over the helicase ratchet. J. Mol. Biol. 374: 1139-1144.

CHROMOSOMAL LOCATION

Genetic locus: HELQ (human) mapping to 4q21.23; Helq (mouse) mapping to 5 E4.

SOURCE

HEL308 (H-239) is a rabbit polyclonal antibody raised against amino acids 830-1068 mapping near the C-terminus of HEL308 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-98400 X, 200 µg/0.1 ml.

APPLICATIONS

HEL308 (H-239) is recommended for detection of HEL308 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HEL308 (H-239) is also recommended for detection of HEL308 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for HEL308 siRNA (h): sc-89305, HEL308 siRNA (m): sc-105447, HEL308 shRNA Plasmid (h): sc-89305-SH, HEL308 shRNA Plasmid (m): sc-105447-SH, HEL308 shRNA (h) Lentiviral Particles: sc-89305-V and HEL308 shRNA (m) Lentiviral Particles: sc-105447-V.

HEL308 (H-239) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of HEL308: 125 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 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 goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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