SANTA CRUZ BIOTECHNOLOGY, INC.

POL H (C-17): sc-5938

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Xeroderma pigmentosum (XP) is an autosomal recessive disorder characterized by a genetic predisposition to sunlight-induced skin cancer due to deficiencies in the DNA repair enzymes. The most frequent mutations are found in the XP genes of group A through G and group V, which encode nucleotide excision repair proteins. The XPA gene encodes a zinc metalloprotein that preferentially binds to DNA damaged by UV radiation and chemical carcinogens and is required for the incision step during nucleotide excision repair The XPB and XPD genes encode DNA helicases involved in several DNA metabolic pathways, including DNA repair and transcription, and the XPG gene product is an endonuclease that cuts on the 3' side of a DNA lesion during nucleotide excision repair. Molecular defects in the XP variant (POL H) group maintain normal excision repair, yet they result in a substantial reduction in the ability to synthesize intact daughter DNA strands during DNA replication following DNA damage.

REFERENCES

1. Tateishi, S., et al. 1995. Separation of protein factors that correct the defects in the seven complementation groups of Xeroderma pigmentosum cells. J. Biochem. 118: 819-824.
2. Nakane, H., et al. 1995. High incidence of ultraviolet-B- or chemical-carcinogen-induced skin tumours in mice lacking the xeroderma pigmentosum group A gene. Nature 377: 165-168.
3. Li, L., et al. 1995. Mutations in XPA that prevent association with ERCC1 are defective in nucleotide excision repair. Mol. Cell. Biol. 15: 1993-1998.
4. Kuraoka, I., et al. 1996. Identification of a damaged-DNA binding domain of the XPA protein. Mut. Res. 362: 87-95.
5. Cappelli, E., et al. 1999. The DNA helicases acting in nucleotide excision repair, XPD, CSB and XPB, are not required for PCNA-dependent repair of abasic sites. Eur. J. Biochem. 259: 325-330.
6. Riou, L., et al. 1999. The relative expression of mutated XPB genes results in xeroderma pigmentosum/Cockayne's syndrome or trichothiodystrophy cellular phenotypes. Hum. Mol. Genet. 8: 1125-1133.
7. Constantinou, A., et al. 1999. Conserved residues of human XPG protein important for nuclease activity and function in nucleotide excision repair. J. Biol. Chem. 274: 5637-5648.
8. Masutani, C., et al. 1999. The XPV (xeroderma pigmentosum variant) gene encodes human DNA polymerase eta. Nature 399: 700-704.

CHROMOSOMAL LOCATION

Genetic locus: POLH (human) mapping to 6p21.1.

SOURCE

POL H (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of POL H of human origin.

RESEARCH USE

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

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-5938 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

POL H (C-17) is recommended for detection of POL H of 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).

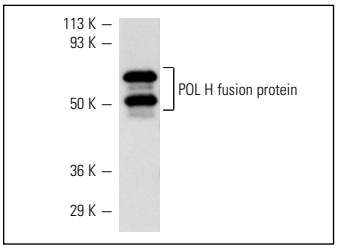
POL H (C-17) is also recommended for detection of POL H in additional species, including bovine.

Suitable for use as control antibody for POL H siRNA (h): sc-36289, POL H shRNA Plasmid (h): sc-36289-SH and POL H shRNA (h) Lentiviral Particles: sc-36289-V.

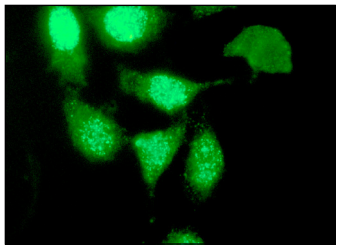
Molecular Weight of POL H: 79 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

DATA



POL H (C-17): sc-5938. Western blot analysis of C-terminal fragments of human recombinant POL H fusion protein.



POL H (C-17): sc-5938. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Schmutz, V., et al. 2010. Role of the ubiquitin-binding domain of Polη in Rad18-independent translesion DNA synthesis in human cell extracts. Nucleic Acids Res. 38: 6456-6465.

STORAGE

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

MONOS Satisfaction Guaranteed

Try **POL H (B-7): sc-17770**, our highly recommended monoclonal alternative to POL H (C-17). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **POL H (B-7): sc-17770**.