

# DNA pol $\lambda$ (E-11): sc-373844

## BACKGROUND

DNA polymerase  $\lambda$  (pol  $\lambda$ ), also designated DNA polymerase  $\kappa$  or Pol  $\beta$ 2, is a low-fidelity polymerase which plays a role in both spontaneous and DNA damage-induced mutagenesis. Encoded by the POLL gene, pol  $\lambda$  is a member of the DNA polymerase type-X family. Pol  $\lambda$  extends primer-terminal mispairs opposite nondamaged DNA templates, suggesting that it may assist in extending mismatched base pairs during normal DNA replication. In addition, pol  $\lambda$  may play a role in the mutagenic bypass of T-T dimers. Proliferating cell nuclear antigen (PCNA), a protein essential to DNA replication, interacts with pol  $\lambda$  and thus influences the ability of pol  $\lambda$  to synthesize DNA.

## REFERENCES

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- Paunesku, T., et al. 2001. Proliferating cell nuclear antigen (PCNA): ring-master of the genome. *Int. J. Radiat. Biol.* 77: 1007-1021.
- Ogi, T., et al. 2001. Expression of human and mouse genes encoding pol  $\kappa$ : testis-specific developmental regulation and AhR-dependent inducible transcription. *Genes Cells* 6: 943-953.
- Washington, M.T., et al. 2002. Human DINB1-encoded DNA polymerase  $\kappa$  is a promiscuous extender of mispaired primer termini. *Proc. Natl. Acad. Sci. USA* 99: 1910-1914.
- Haracska, L., et al. 2002. Stimulation of DNA synthesis activity of human DNA polymerase  $\kappa$  by PCNA. *Mol. Cell. Biol.* 22: 784-791.

## CHROMOSOMAL LOCATION

Genetic locus: POLL (human) mapping to 10q24.32.

## SOURCE

DNA pol  $\lambda$  (E-11) is a mouse monoclonal antibody raised against amino acids 389-560 mapping near the C-terminus of DNA pol  $\lambda$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DNA pol  $\lambda$  (E-11) is available conjugated to agarose (sc-373844 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373844 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373844 PE), fluorescein (sc-373844 FITC), Alexa Fluor<sup>®</sup> 488 (sc-373844 AF488), Alexa Fluor<sup>®</sup> 546 (sc-373844 AF546), Alexa Fluor<sup>®</sup> 594 (sc-373844 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-373844 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-373844 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-373844 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

DNA pol  $\lambda$  (E-11) is recommended for detection of DNA pol  $\lambda$  of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 DNA pol  $\lambda$  siRNA (h): sc-43729, DNA pol  $\lambda$  shRNA Plasmid (h): sc-43729-SH and DNA pol  $\lambda$  shRNA (h) Lentiviral Particles: sc-43729-V.

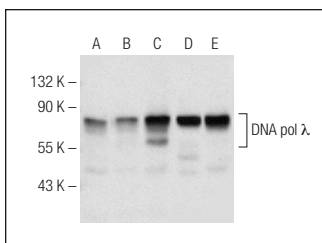
Molecular Weight of DNA pol  $\lambda$ : 68 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, A549 cell lysate: sc-2413 or HeLa whole cell lysate: sc-2200.

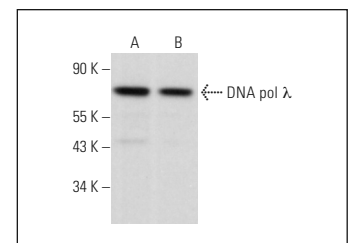
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 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 m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



DNA pol  $\lambda$  (E-11): sc-373844. Western blot analysis of DNA pol  $\lambda$  expression in A549 (A), MCF7 (B) and HeLa (C) whole cell lysates and A549 (D) and MCF7 (E) nuclear extracts.



DNA pol  $\lambda$  (E-11): sc-373844. Western blot analysis of DNA pol  $\lambda$  expression in HEL 92.1.7 (A) and TF-1 (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Mentegari, E., et al. 2021. A role for human DNA polymerase  $\lambda$  in alternative lengthening of telomeres. *Int. J. Mol. Sci.* 22: 2365.

## 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.

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