

# POLA2 (K-16): sc-131327

## BACKGROUND

DNA polymerase  $\alpha$  is an enzyme complex composed of four subunits: DNA primase large subunit, DNA primase small subunit and DNA polymerase subunits A and B. The complex is assembled during the cell cycle and is an essential component of DNA replication. POLA2, also known as DNA polymerase subunit  $\alpha$  B, is a 598 amino acid member of the DNA polymerase  $\alpha$  family of proteins. Incorporation of POLA2 into the 4 subunit enzyme complex is accomplished via the 250 amino acid N-terminal domain of the POLA2 protein. At the early stage of chromosomal DNA replication, POLA2 couples the primase/polymerase complex to the replication machinery. POLA2 is localized to the nucleus and may be phosphorylated at the G<sub>2</sub>/M phase of the cell cycle.

## REFERENCES

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- Lee, J.B., et al. 2006. DNA primase acts as a molecular brake in DNA replication. *Nature* 439: 621-624.
- Masuda, Y. and Kamiya, K. 2006. Role of single-stranded DNA in targeting REV1 to primer termini. *J. Biol. Chem.* 281: 24314-24321.
- De Falco, M., et al. 2007. The human GINS complex binds to and specifically stimulates human DNA polymerase  $\alpha$ -primase. *EMBO Rep.* 8: 99-103.
- Shultz, R.W., et al. 2007. Genome-wide analysis of the core DNA replication machinery in the higher plants *Arabidopsis* and rice. *Plant Physiol.* 144: 1697-1714.
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## CHROMOSOMAL LOCATION

Genetic locus: POLA2 (human) mapping to 11q13.1; Pola2 (mouse) mapping to 19 A.

## SOURCE

POLA2 (K-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of POLA2 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-131327 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

POLA2 (K-16) is recommended for detection of POLA2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

POLA2 (K-16) is also recommended for detection of POLA2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for POLA2 siRNA (h): sc-96906, POLA2 siRNA (m): sc-152369, POLA2 shRNA Plasmid (h): sc-96906-SH, POLA2 shRNA Plasmid (m): sc-152369-SH, POLA2 shRNA (h) Lentiviral Particles: sc-96906-V and POLA2 shRNA (m) Lentiviral Particles: sc-152369-V.

Molecular Weight of POLA2: 66 kDa.

## 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) 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **POLA2 (D-2): sc-398255** or **POLA2 (2759C3a): sc-81568**, our highly recommended monoclonal alternatives to POLA2 (K-16).