

# POLA2 (2759C3a): sc-81568

## 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 four 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

- Huang, D., et al. 2001. E2F mediates induction of the Sp1-controlled promoter of the human DNA polymerase  $\epsilon$  B-subunit gene POLE2. *Nucleic Acids Res.* 29: 2810-2821.
- 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.
- Berquist, B.R., et al. 2007. Essential and non-essential DNA replication genes in the model halophilic Archaeon, *Halobacterium* sp. NRC-1. *BMC Genet.* 8: 31.

## CHROMOSOMAL LOCATION

Genetic locus: POLA2 (human) mapping to 11q13.1.

## SOURCE

POLA2 (2759C3a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to a region near the N-terminus of POLA2 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2b</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

## STORAGE

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

## PROTOCOLS

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

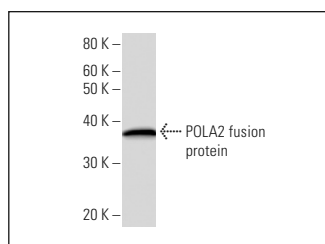
## APPLICATIONS

POLA2 (2759C3a) is recommended for detection of POLA2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)].

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

Molecular Weight of POLA2: 66 kDa.

## DATA



POLA2 (2759C3a): sc-81568. Western Blot analysis of human recombinant POLA2 fusion protein.

## RESEARCH USE

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