

Product Information

Anti-DNA polymerase δ p125 antibody, Rat monoclonal
clone PDG 5G1, purified from hybridoma cell culture

Catalog Number **SAB4200053**

Product Description

Anti-DNA polymerase δ p125 (rat IgG2a isotype) is derived from the hybridoma PDG 5G1 produced by the fusion of mouse myeloma cells (P3X63Ag8.653) and splenocytes from rat immunized with human p125 (GeneID: 5424). The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Anti-DNA polymerase δ p125 recognizes human, mouse and rat DNA polymerase δ p125. The product may be used in several immunochemical techniques including immunoblotting (~ 125 kDa), immunoprecipitation and immunocytochemistry.¹⁻²

In eukaryotic cells, DNA polymerases are required for maintaining the integrity of the genome during processes such as DNA replication, DNA repair, DNA synthesis, DNA recombination, and also in regulatory events, such as cell cycle control and DNA damage checkpoint function. The DNA polymerase δ complex is involved in DNA replication and repair. It consists of the proliferating cell nuclear antigen (PCNA), the multi-subunit replication factor C, and the 4 subunit DNA polymerase complex: POLD1, POLD2, POLD3 and POLD4.

The catalytic subunit p125 (POLD1), which is encoded by the *Pold1* gene, is highly conserved among eukaryotes. Pold1 comprises of two primary functional domains: an exonuclease domain near the N-terminus that catalyzes 3'-5' exonucleolytic proofreading, and the subsequent polymerase domain that catalyzes DNA synthesis.^{4, 5} Mutations in this subunit have been implicated in mammalian embryogenesis and tumorigenesis.^{5,6}

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as preservative.

Antibody concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store at -20 °C. For continuous use, the product may be stored at 2-8 °C for up to one month. For extended storage, freeze in working aliquots at -20 °C. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working antibody concentration of 0.5-1.0 μ g/mL is recommended using Jurkat cells extract.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

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3. Liu, H., et al., *BMC Cancer*, **253**, 1-13 (2008).
4. Hübscher U., et al., *Trends Biochem. Sci.*, **25**, 143-147 (2000).
5. Uchimura, A., et al., *PLoS ONE*, **4**, e4184 (2009).
6. Venkatesan, R.N., et al., *Mol. Cell. Biol.*, **27**, 7669-7682 (2007).

RC,GG,TD,KAA,PHC 04/21-1