

Monoclonal Antibody to DNA Ligase I - Purified

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| Catalog No.: | AM05299PU-N |
| Quantity: | 0.1 mg |
| Concentration: | Lot specific |
| Background: | Eukaryotic DNA ligases are ATP-dependent enzymes that catalyse the joining of single and double-strand DNA breaks, which is an essential final step in DNA replication, recombination and repair. Four biochemically distinct DNA ligases, termed ligases I-IV, have been identified in mammalian cells. DNA ligase I is functionally homologous to the DNA ligase encoded by the <i>Saccharomyces cerevisiae</i> CDC9 gene. The joining of Okazaki fragments during lagging strand DNA replication in mammalian cells is due to DNA ligase I. A combination of DNA polymerase epsilon, PCNA, replication factor C, replication protein A, and DNA ligase I is well-suited to the task of creating nucleotide excision repair patches. |
| Host / Isotype: | Mouse / IgG1 |
| Recommended Isotype Controls: | SM10P (for use in human samples), AM03095PU-N |
| Clone: | 1A9 |
| Immunogen: | Hybridoma produced by the fusion of splenocytes from BALB/c mice immunized with bovine DNA ligase I protein and myeloma Sp2/0 cells. |
| Format: | State: Liquid purified IgG fraction. Buffer System: PBS containing 0.08% Sodium Azide as preservative. |
| Applications: | ELISA. Western Blot (1-5 µg/ml). Positive Control HeLa or DiFi cells. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user. |
| Specificity: | Recognizes a protein of ~125kDa, identified as the DNA Ligase I. Species: Human and Bovine. Other species not tested. |
| Storage: | Store the antibody at -20°C. Avoid repeated freezing and thawing. Shelf life: One year from despatch. |
| General Readings: | 1. Prigent C, Satoh MS, Daly G, Barnes DE, Lindahl T. Aberrant DNA repair and DNA replication due to an inherited enzymatic defect in human DNA ligase I. <i>Mol Cell Biol.</i> 1994 Jan;14(1):310-7. PubMed PMID: 8264597. 2. Mackenney VJ, Barnes DE, Lindahl T. Specific function of DNA ligase I in simian virus 40 DNA replication by human cell-free extracts is mediated by the amino-terminal non-catalytic domain. <i>J Biol Chem.</i> 1997 Apr 25;272(17):11550-6. PubMed PMID: 9111070. |

3. Bentley D, Selfridge J, Millar JK, Samuel K, Hole N, Ansell JD, et al. DNA ligase I is required for fetal liver erythropoiesis but is not essential for mammalian cell viability. Nat Genet. 1996 Aug;13(4):489-91. PubMed PMID: 8696349.

Pictures:

Figure 1. Western blot with cell lysate of human HeLa cell line.

