

TREVIGEN® Product Data

For Research Use Only. Not For Use In Diagnostic Procedures

***Sulfolobus solfataricus* DNA polymerase IV (Dpo4)**

(50 µg Dpo4, buffer and divalent cations)

Catalog #: 4150-050-EB

		Size:
Contents: 4150-050-01	Dpo4	50 µg
3900-500-15	10X REC™ Buffer 15	1 ml
4150-010-02	100 mM MgCl ₂	1 ml
4150-010-03	50 mM MnCl ₂	1 ml

Description: Dpo4 is a thermophilic Y-family DNA polymerase capable of performing translesion synthesis and allows for coupling to PCR for amplification of damaged DNA(1). Dpo4 has a molecular weight of 42 kDa and is 95% pure by SDS PAGE. Translesion synthesis is enhanced by the presence of Mn²⁺ in the reaction.

Source: Purified from *E. coli* containing a recombinant plasmid harboring the *S. solfataricus* Dpo4 gene.

Unit Definition: One unit of enzyme incorporates 1 nmole of dNTP onto the 3' end of annealed primer in 30 minutes at 60°C.

Read-through Specificity: Dpo4 catalyzes translesion synthesis across the following forms of DNA damage: AP sites, *cis-syn* thymine-thymine dimer, 6-4 photoproducts, cisplatinum- and acetyl aminofluorene guanine adducts.

Assay Conditions & Analysis: 1X REC Buffer 15 [10 mM HEPES-NaOH (pH 7.4), 1 mM DTT, 50 mM NaCl, 100 µg/ml BSA, 0.1% Triton X-100], 5 mM MgCl₂, 4 pmoles of labeled annealed primer, and serial dilutions of enzyme in a 20 µl reaction volume are incubated for 30 minutes at 60°C. Reaction products are resolved by 20% denaturing polyacrylamide gel electrophoresis, and percent primer extended.

Storage Buffer: 20 mM Tris-HCl (pH 7.8), 100 mM NaCl, 0.1 mM EDTA, 1 mM DTT, and 50% (v/v) glycerol.

Storage Conditions: Store at -20°C in a manual defrost freezer. For long-term storage, freeze at -80°C in working aliquots. Avoid repeated freeze-thawing. Enzyme may be diluted in 1X REC Buffer 15 for immediate use.

Reference:

1. Boudsocq, F, Iwai, S, Hanaoka, F, and Woodgate, R. 2001. *Sulfolobus solfataricus* P2 DNA polymerase IV (Dpo4): an archaeal DinB-like DNA polymerase with lesion-bypass properties akin to eukaryotic polη. *Nucleic Acids Res.* **29**, 4607–4616.

Lot Specific Data: See reverse side.

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TREVIGEN®

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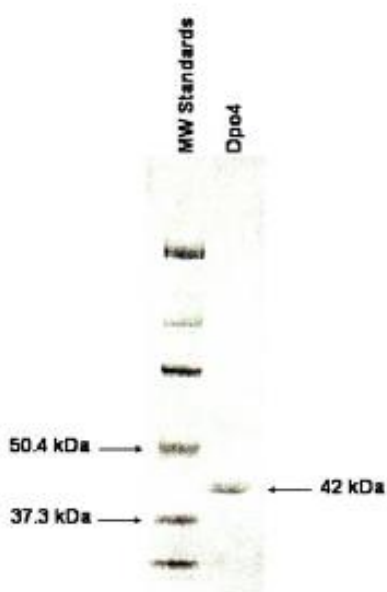


Fig. 1. SDS polyacrylamide gel electrophoresis of Dpo4

***Sulfolobus*
solfatarcus** DNA
Polymerase IV (Dpo4)
Catalog#: 4150-050-EB
Storage: -20 °C
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