

SUPPLEMENT INFORMATION

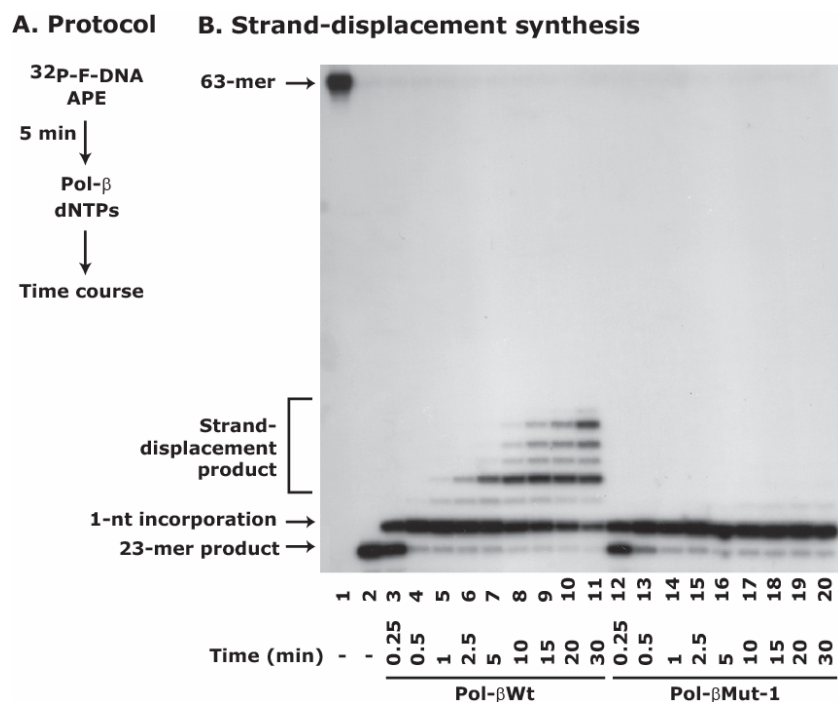


Figure S1. Time dependence of strand-displacement synthesis inhibition by Pol- β Mut-1.

Panel A: Schematic representation of the protocol. **Panel B:** Effect of Pol- β Wt and Pol- β Mut-1 proteins on the strand-displacement synthesis. The ^{32}P -F-DNA (2.5 nM) was pre-cut with APE (1 nM) and mixed with 5.0 nM of either Pol- β Wt or Pol- β Mut-1 protein, respectively, and dNTPs. The reaction was terminated at the time intervals indicated and processed for electrophoresis and autoradiography. Lane 1 shows ^{32}P -labeled 63-mer F-DNA and Lane 2 shows the 23-mer product after APE incision. The data presented are representative of three different experiments.

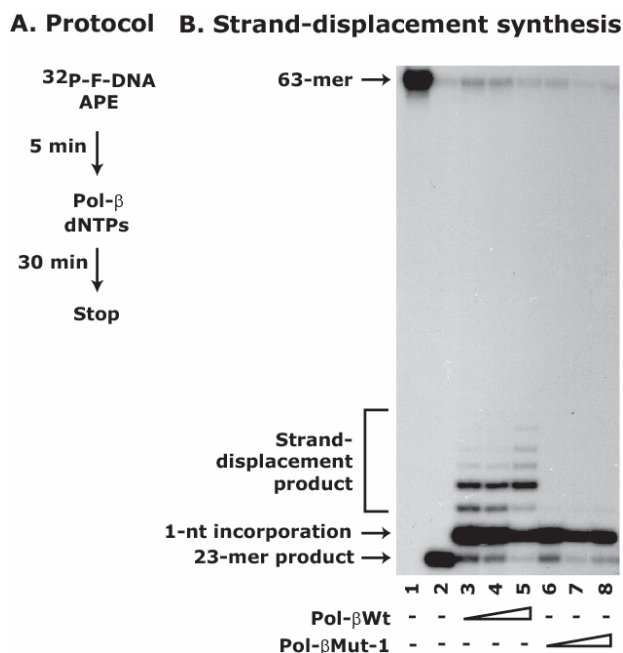


Figure S2. Concentration dependence of strand displacement synthesis inhibition by Pol-βMut-1. Panel A: Schematic representation of the protocol. **Panel B:** Effect of Pol-βWt and Pol-βMut-1 proteins on strand-displacement synthesis. The ^{32}P -F-DNA (2.5 nM) was pre-cut with APE (1 nM) and mixed with 1.0, 2.5 and 5.0 nM of either Pol-βWt (lanes 3-5) or Pol-βMut-1 protein (lanes 6-8), respectively, and dNTPs. The reactions were terminated after 30 min. The samples were processed for electrophoresis and autoradiography. Lane 1 shows ^{32}P -labeled 63-mer F-DNA and Lane 2 shows the 23-mer product after APE incision. The data presented are representative of three different experiments.

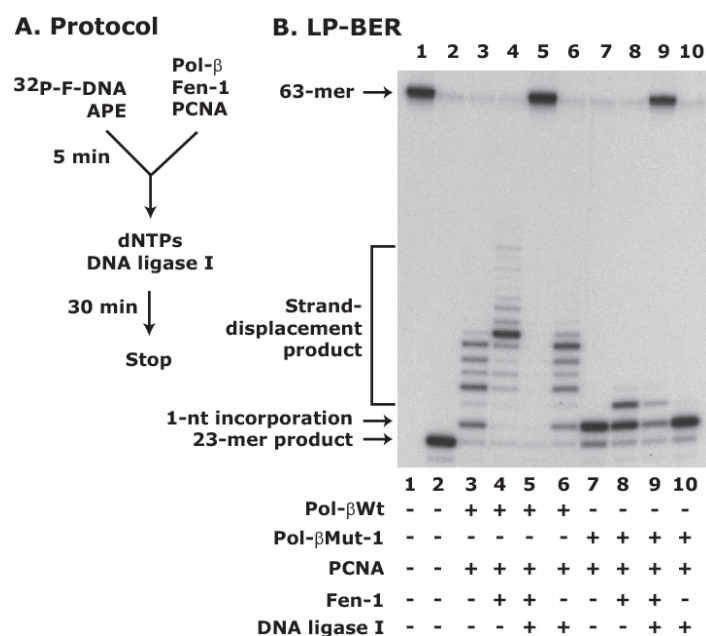


Figure S3. Analysis of requirement for Fen-1 in Pol-βMut-1-directed BER activity with F-DNA. Panel A: Schematic representation of the protocol. **Panel B:** Effect of Fen-1 on the Pol-βMut-1-directed BER activity. The reaction mixture containing ³²P-F-DNA (2.5 nM, precut with 1 nM APE), PCNA (2.5 nM) and Pol-β (5.0 nM) and Fen-1 (0.2 nM) was incubated for 5 min at 22 °C prior to mixing with dNTPs and DNA ligase I (0.4 nM) and incubation was continued for an additional 30 min at 37 °C. Lane 1 shows ³²P-labeled 63-mer F-DNA and Lane 2 shows the 23-mer product after APE incision. The data presented are representative of three different experiments.