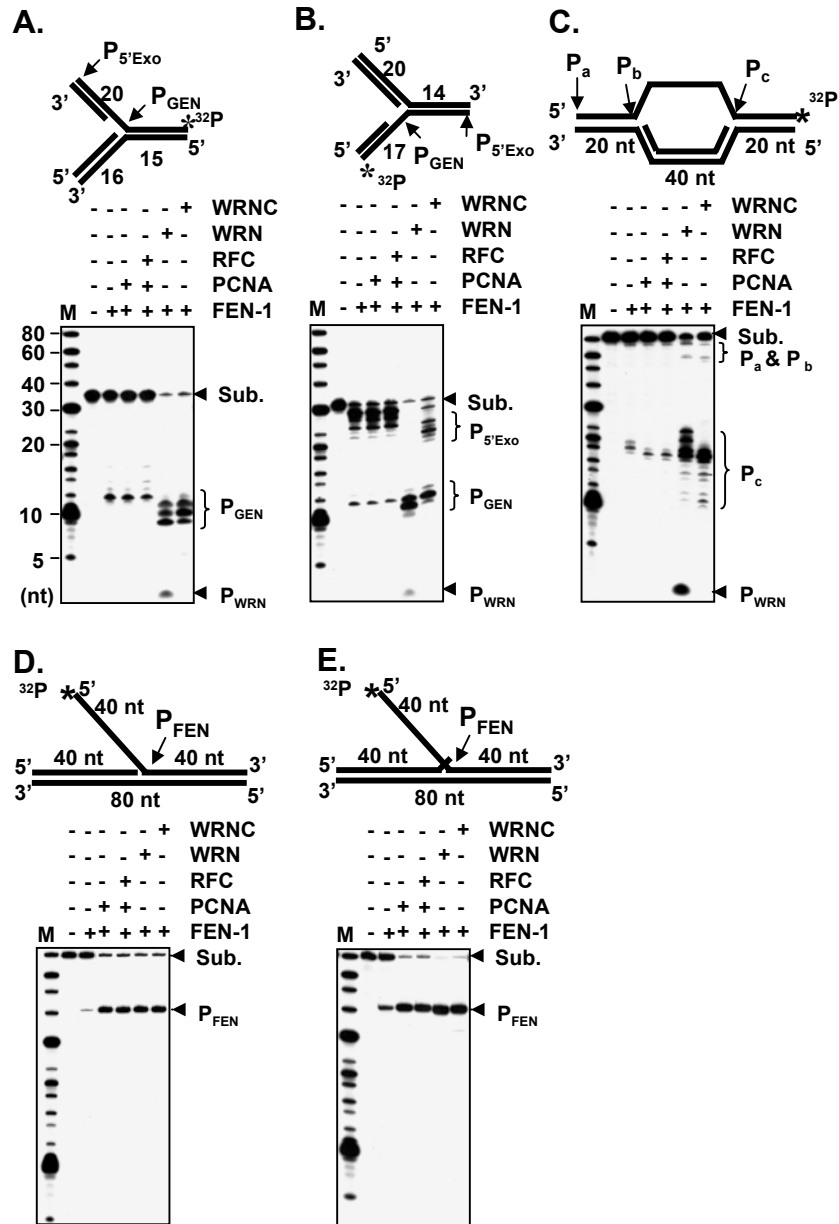


**Supplementary Materials:**

**Table S1. Oligonucleotides used to construct DNA substrates**

<b>Oligo #</b>	<b>Oligo nucleotide sequence</b>
1	5'-GATGTCAAGCAGTCCTAACTTTGAGGCAGAGTCC-3'
2	5'TTAGGACTGCTTGACATC-3'
3	5'-AGTTAGGACTGCTTGACATC-3'
4	5'-GGACTCTGCCTCAAGACGGTAGTCAACGTG-3'
5	5'-CACGTTGACTACCG-3'
6	5'-CACGTTGACTACCGTC-3'
7	5'GTTAAGATAGGTCTGCTTGGGATGTCAAGCAGTCCTAACTG GAAATC TAGCTCTGTGGAGTTGAGGCAGAGTCCTTAAGC-3'
8	5'-CTCCACAGAGCTAGATTTCCAGTTAGGACTGCTTGACATC-3'
9	5'GCTTAAGGACTCTGCCTCAACTCCACAGAGCTAGATTTCC-3'
10	5'-GCTTAAGGACTCTGCCTCAACTCCACAGAGCTAGATTTCCC-3'
11	5'-GCTTAAGGACTCTGCCTCAA-3'
12	5'-CCAAGCAGACCTATCTTAAC-3'
13	5'-GCTTAAGGACTCTGCCTCAAATCGTCAGGGTTTCTAAAGAAG CCGACGGTAGTCAACGTGCCAAGCAGACCTATCTTAAC-3'
14	5'-CACGTTGACTACCGTCGGCTTCTTTAGAAACCCTGACGAT-3'
15	5'-CAGTTGTTGAATGCAAAGAAGAAGTGCCATTAATACCGGTA GTTAGGACTGCTTGACATCCCAAGCAGACCTATCTTAAC -3'
16	5'-CAGTTGTTGAATGCAAAGAAGAAGTGCCATTAATACCGGT-3'



**Figure S1.** (A-C). WRN and PCNA effects on FEN-1's GEN activity. 1 pmol of FEN-1 were incubated with 1 pmol of 5' double-stranded flap substrates (A, Lagging), 3' double-stranded flap substrates (B, Leading), or bubble substrates (C) in the absence or presence of 5 pmol PCNA, WRN, WRNC, or 50 unit RFC. (D and E). WRN and PCNA effects on FEN-1's FEN activity. 0.1 pmol of FEN-1 were incubated with 1 pmol of normal flap (D) or double-flap (E) substrates in the absence or presence of 5 pmol PCNA, WRN, WRNC, or 50 unit RFC. Reactions were carried out for 30 minutes at 37 °C. DNA substrates and products were analyzed with sequencing PAGE.