

**Table S1. Pol $\beta$  and Pol $\beta\Delta$  nucleotide sequences**

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**Pol beta (Pol $\beta$  wild type) nucleotide sequence:**

ATGAGCAAACGGAAGGCGCCGCAGGAGACTCTCAACGGGGGAATCACCGACAAGCTCACAGAACTCGCAAA  
CTTTGAGAAGAACGTGAGCCAAGCTATCCACAAGTACAATGCTTACAGAAAAGCAGCATCTGTTATAGCAAA  
ATACCCACACAAAATAAAGAGTGGAGCTGAAGCTAAGAAATTGCCTGGAGTAGGAACAAAATTGCTGAAA  
AGATTGATGAGTTTTTAGCAACTGGAAAATTACGTAAACTGGAAAAGATTTCGGCAGGATGATACGAGTTCAT  
CCATCAATTTCTGACTCGAGTTAGTGGCATTGGTCCATCTGCTGCAAGGAAGTTTGTAGATGAAGGAATTAA  
AACACTAGAAGATCTCAGAAAAAATGAAGATAAATTGAACCATCATCAGCGAATTGGGCTGAAATATTTTGG  
GGACTTTGAAAAAGAATTCTCTCGTGAAGAGATGTTACAAATGCAAGATATTGTACTAAATGAAGTTAAAAA  
AGTGGATTCTGAATACATTGCTACAGTCTGTGGCAGTTTCAGAAGAGGTGCAGAGTCCAGTGGTGACATGGA  
TGTTCTCTGACCCATCCAGCTTCACTTCAGAATCAACCAACAGCCAAAAGTGTACATCAGGTTGTGGAG  
CAGTTACAAAAGGTTCAATTTATCACAGATACCCTGTCAAAGGGTGAGACAAAGTTCATGGGTGTTTGCCAGC  
TTCCAGTAAAAATGATGAAAAAGAATATCCACACAGAAGAATTGATATCAGGTTGATACCCAAAGATCAGT  
ATTACTGTGGTGTCTCTATTTCACTGGGAGTGATATTTTCAATAAGAATATGAGGGCTCATGCCCTAGAAAA  
GGGTTTACAATCAATGAGTACACCATCCGTCCCTGGGAGTCACTGGAGTTGCAGGAGAACCCCTGCCAGT  
GGATAGTGAAAAAGACATCTTTGATTACATCCAGTGGAAATACCGGGAACCCAAGGACCGGAGCGAATGA

**Pol beta (Pol $\beta\Delta$ , deleted exon 11-13) nucleotide sequence:**

ATGAGCAAACGGAAGGCGCCGCAGGAGACTCTCAACGGGGGAATCACCGACAAGCTCACAGAACTCGCAAA  
CTTTGAGAAGAACGTGAGCCAAGCTATCCACAAGTACAATGCTTACAGAAAAGCAGCATCTGTTATAGCAAA  
ATACCCACACAAAATAAAGAGTGGAGCTGAAGCTAAGAAATTGCCTGGAGTAGGAACAAAATTGCTGAAA  
AGATTGATGAGTTTTTAGCAACTGGAAAATTACGTAAACTGGAAAAGATTTCGGCAGGATGATACGAGTTCAT  
CCATCAATTTCTGACTCGAGTTAGTGGCATTGGTCCATCTGCTGCAAGGAAGTTTGTAGATGAAGGAATTAA  
AGTTGATACCCAAAGATCAGTATTACTGTGGTGTCTCTATTTCACTGGGAGTGATATTTTCAATAAGAATAT  
GAGGGCTCATGCCCTAGAAAAGGTTTACAATCAATGAGTACACCATCCGTCCCTGGGAGTCACTGGAGT  
TGCAGGAGAACCCCTGCCAGTGGATAGTGAAAAAGACATCTTTGATTACATCCAGTGGAAATACCGGGAACC  
CAAGGACCGGAGCGAATGA

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