

**Supplemental Table 1. Oligonucleotides used to construct DNA substrates<sup>a</sup>**

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*21-lead*

GCTATCGTACATGATATCCTCP

*K21RP3*

TAGGGTTAACATCAAGTCACGP

*32-lag*

ATTCAGAGTGTGAGGATATCATGTACGATAGCP

*70-lag*

GCTATCGTACATGATATCCTCACACTCTGAATAGCCGAATTCCTTAGGGTTAGGGTTAACATCAAGTCACGP

*K70<sup>b</sup>*

CGTGACTTGATGTTAACCCCTAACCCCTAAGAATTCGGCTTAAGTGAGTGTGAGGATATCATGTACGATAGCP

*K70left fork*

CAGCAACATACATTGTAAGAGCATAACAGACACGCACGAATTCCTTAGGGTTAGGGTTAACATCAAGTCACGP

*K70right fork*

GCTATCGTACATGATATCCTCACACTCACTTAAGCACTCAGGCACTCTAGCTCTGCTCACGACCAGACATP

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<sup>a</sup>All sequences are depicted in 5' to 3' orientation; "P" indicates presence of 3'-PO<sub>4</sub> groups added to block the inherent 3' to 5' exonuclease activities of purified FLAG-WRN proteins.

<sup>b</sup>In DNA binding assays, 5'-biotin-tagged K70 oligomer without 3'PO<sub>4</sub> was employed.