**Supplementary file 1A. TLS frequencies opposite a Tg lesion carried on the leading strand DNA template of a duplex plasmid in WT HFs or WRN-/- HFs expressing WRN and/or WRNIP1 mutant proteins**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| HFs | siRNA | Vector expressing | # *Kan+* colonies | # blue colonies among *Kan+* | TLS (%) |
| WT | NC | - | 374 | 84 | 22.5 |
| WRNIP1 | Vector control | 338 | 37 | 10.9 |
| WRNIP1 | WT-WRNIP1 | 331 | 70 | 21.1 |
| WRNIP1 | K274A-WRNIP1 | 340 | 74 | 21.8 |
| WRN -/- | NC | Vector control | 311 | 36 | 11.6 |
| NC | WT-WRN | 403 | 95 | 23.6 |
| NC | E84A-WRN | 344 | 74 | 21.5 |
| NC | K577A-WRN | 294 | 62 | 21.1 |
| NC | E84A,K577A-WRN | 307 | 68 | 22.1 |
| WRNIP1 | K577A-WRN +  K274A-WRNIP1 | 327 | 70 | 21.4 |
| WRNIP1 | E84A,K577A-WRN +  K274A-WRNIP1 | 335 | 72 | 21.5 |

**Supplementary file 1B. TLS frequencies opposite an εdA lesion carried on the leading strand DNA template of a duplex plasmid in WT HFs or WRN-/- HFs expressing WRN and/or WRNIP1 mutant proteins**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| HFs | siRNA | Vector expressing | # *Kan+* colonies | # blue colonies among *Kan+* | TLS (%) |
| WT | NC | - | 408 | 92 | 22.5 |
| WRNIP1 | Vector control | 294 | 24 | 8.2 |
| WRNIP1 | WT-WRNIP1 | 254 | 58 | 22.8 |
| WRNIP1 | K274A-WRNIP1 | 311 | 72 | 23.2 |
| WRN-/- | NC | Vector control | 348 | 32 | 9.2 |
| NC | WT-WRN | 208 | 38 | 18.3 |
| NC | K577A-WRN | 218 | 42 | 19.3 |
| NC | E84A,K577A-WRN | 236 | 45 | 19.1 |
| WRNIP1 | E84A-WRN+  K274A-WRNIP1 | 304 | 65 | 21.4 |
| WRNIP1 | E84A,K577A-WRN +  K274A-WRNIP1 | 288 | 60 | 20.8 |
| WRNIP1 | K577A-WRN +  K274A-WRNIP1 | 302 | 64 | 21.2 |
| WRNIP1+Polι | E84A,K577A -WRN +  K274A-WRNIP1 | 252 | 26 | 10.3 |