**Supplementary File 1**

**UV- and H2O2-DNA damage1 induce more mutations2 in MIBC (T24 & HT1197) than NMIBC (RT4) cells and normal human urothelial (UROtsa) cells.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Cell type | Treatment | Exp. | Mutant colonies / Total colonies | Mutation Frequency (X104) | Fold Change | P-value |
| UROtsa | Control | 1 | 7/24889 | 2.8 | 1.0 |  |
| UV | 1 | 61/11423 | 53.4 | 19.1 |  |
| H2O2 | 1 | 73/12997 | 56.1 | 20 |  |
| RT4 | Control | 1 | 3/12242 | 2.5 | 1.0 |  |
| UV | 1 | 17/4273 | 39.8 | 16.2 |  |
| H2O2 | 1 | 11/2193 | 50.2 | 20.5 |  |
| T24 | Control | 1 |  5/14915 | 3.4 | 1.0 |  |
|  | 2 | 6/14016 | 4.3 | 1.0 |  |
| UV | 1 | 119/2698 | 441.1 | 131.7 | 0.00389 |
|  | 2 | 161/3186 | 505.3 | 118.1 |  |
| H2O2 | 1 | 198/5266 | 376 | 112.2 | 0.00024 |
|  | 2 | 180/3720 | 483.9 | 113.1 |  |
| HT1197 | Control | 1 | 9/35554 | 2.5 | 1.0 |  |
|  | 2 | 8/22646 | 3.5 | 1.0 |  |
| UV | 1 | 108/12104 | 89.2 | 35.3 | 0.00201 |
|  | 2 | 119/9096 | 130.8 | 37.1 |  |
| H2O2 | 1 | 136/3343 | 406.8 | 160.8 | 0.00615 |
|  | 2 | 142/3092 | 495.3 | 140.3 |  |

1 Plasmid pSB189 DNAs which contain the *supF* gene were irradiated with UVC (1500 J/m2) or modified with H2O2 (100 mM, 1 h at 37 oC).

2 Mutations in the *supF* gene were detected as in **Fig. 1**.