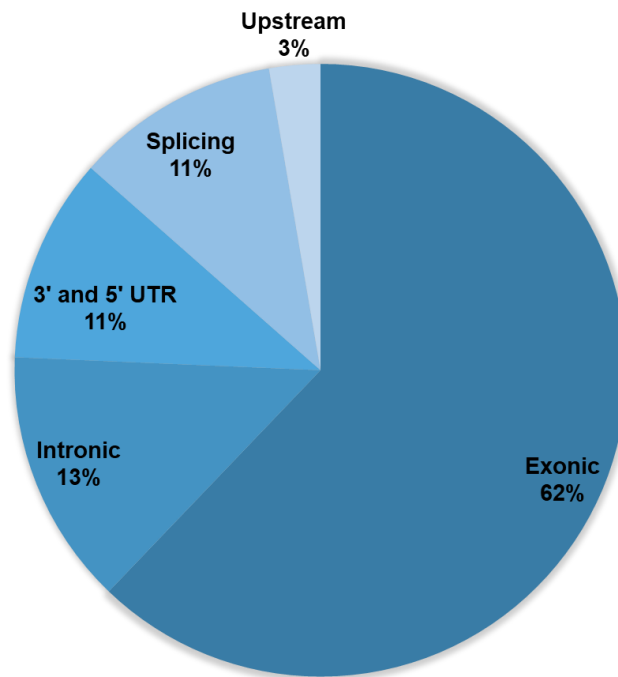


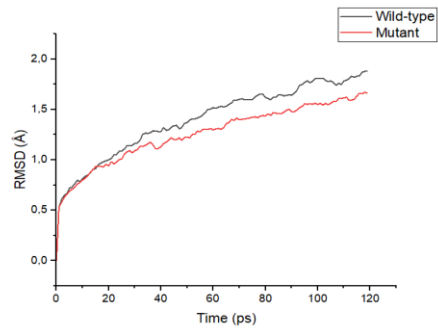
## *Supplementary Material*

### 1 Supplementary Figures

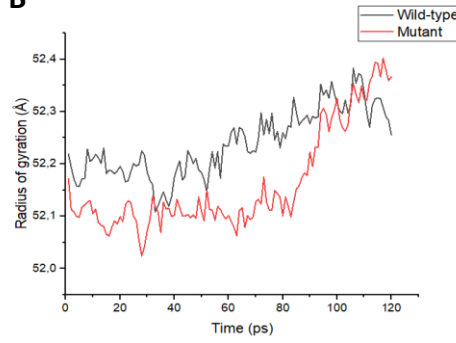


*Supplementary Figure 1. Distribution of unclassified DNA repair genes variants identified in this study*

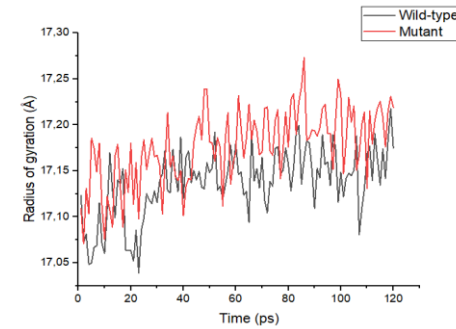
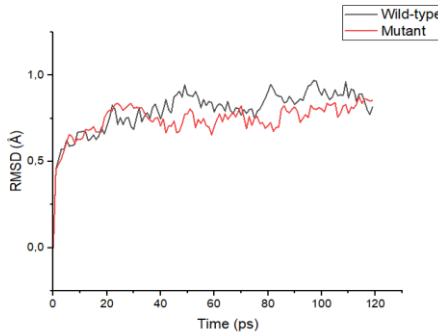
ATM



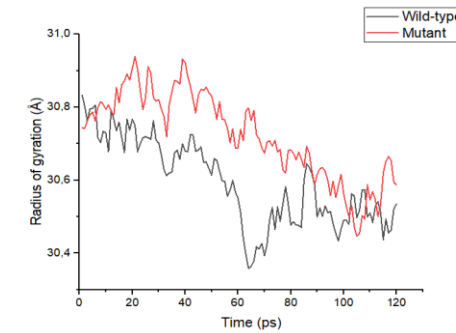
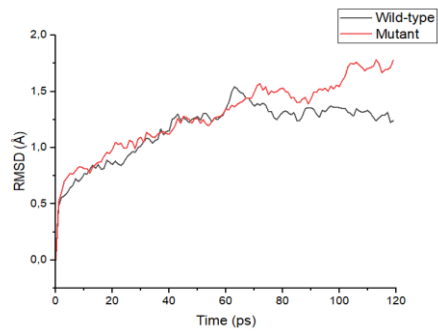
A | B



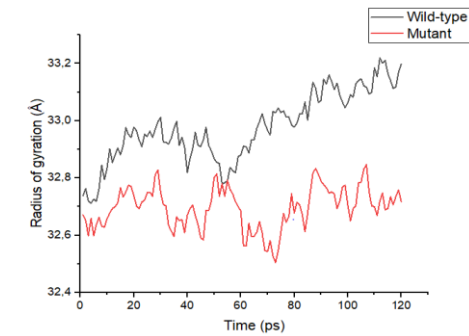
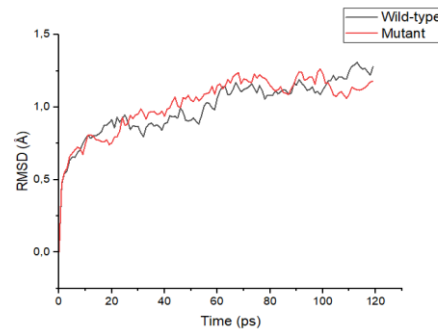
ERCC3



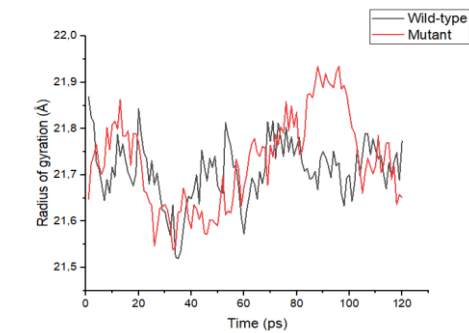
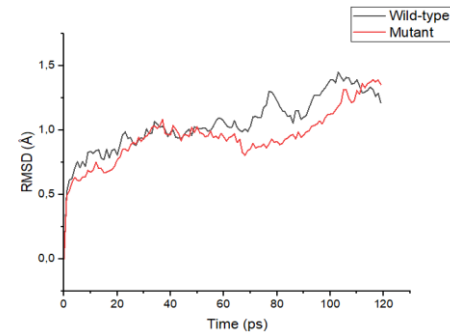
FANCC



FANCG



PMS2



**Supplementary Figure 2.** Molecular Dynamics simulations Analyses of ATM, FANCC, FANCG, ERCC3 and PMS2 proteins (A) Root mean square deviation (RMSD) and (B) Radius of gyration (RG) profiles of the native and mutant protein.