

Supplementary Material

POLD1 Deficiency Reveals an Important Role of POLD1 in DNA Repair and B Cell Maturation

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Legends to Supplementary Figures

Figure S1 - Q1059E occurs at the POLD complex interface.

(A) Structural model showing the Polymerase δ complex with each component highlighted. (B) The variant Q1059E is represented as a red sphere and is present at the surface interacting with POLD2 and in close proximity to the Iron-Sulfur cluster. (C) Closer look at the position of Q1059 with the side chain protruding towards the surface.

Figure S2: Q1059E introduces electrostatic mismatch at complex interface.

(A) The POLD1 and POLD2 proteins are shown as in Figure S1, with the electrostatic potential of interface residues shown, and splitting the interface to show the two sides, (B) The POLD1 electrostatic surface is highlighted. The model shows that the Q1059 residue interacts with the electronegative surface (C) of POLD2, shown in a white circle. (D) The protein surface is electrically neutral around Q1059, while the POLD2 surface across from Q1059 is electronegative. (E) The variant p.Q1059E shifts the neutral surface towards an electronegative surface.

Figure S3: Plot of Combined Annotation Depletion Dependent (CADD) scores versus Minor Allele Frequency (MAF) of *POLD1* variants. The red circle pointed by the arrow indicates the variant identified in the patient. The dotted horizontal line corresponds to the *POLD1* Mutation Significance Cutoff (MSC) score. NR; Not Reported.

Figure S1

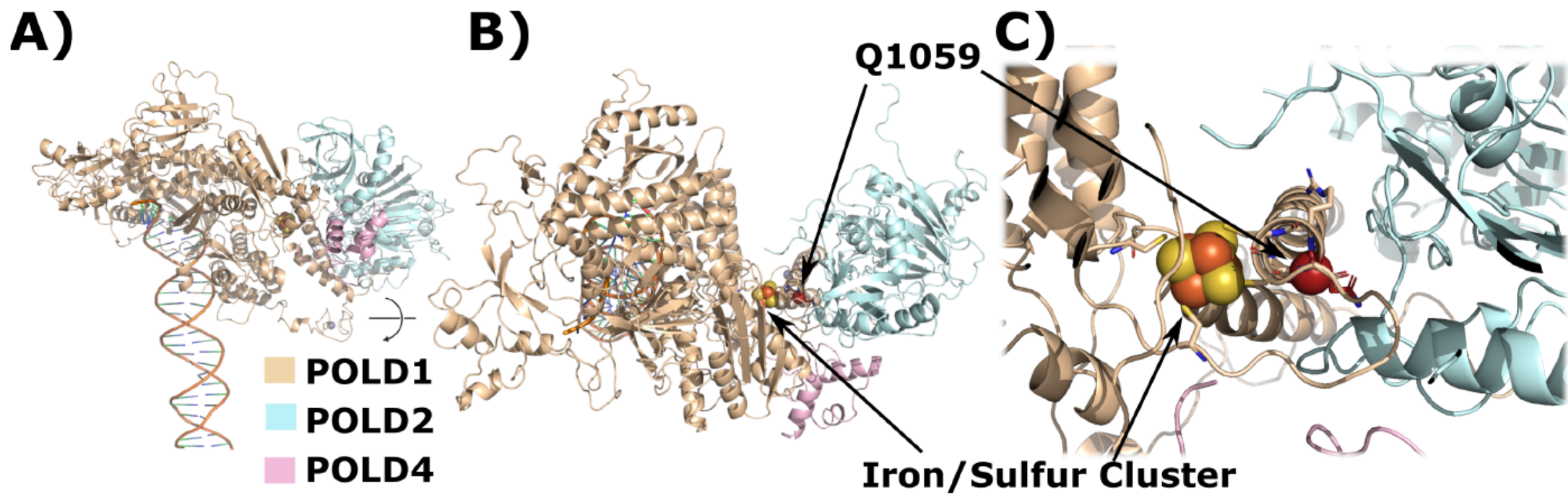


Figure S2

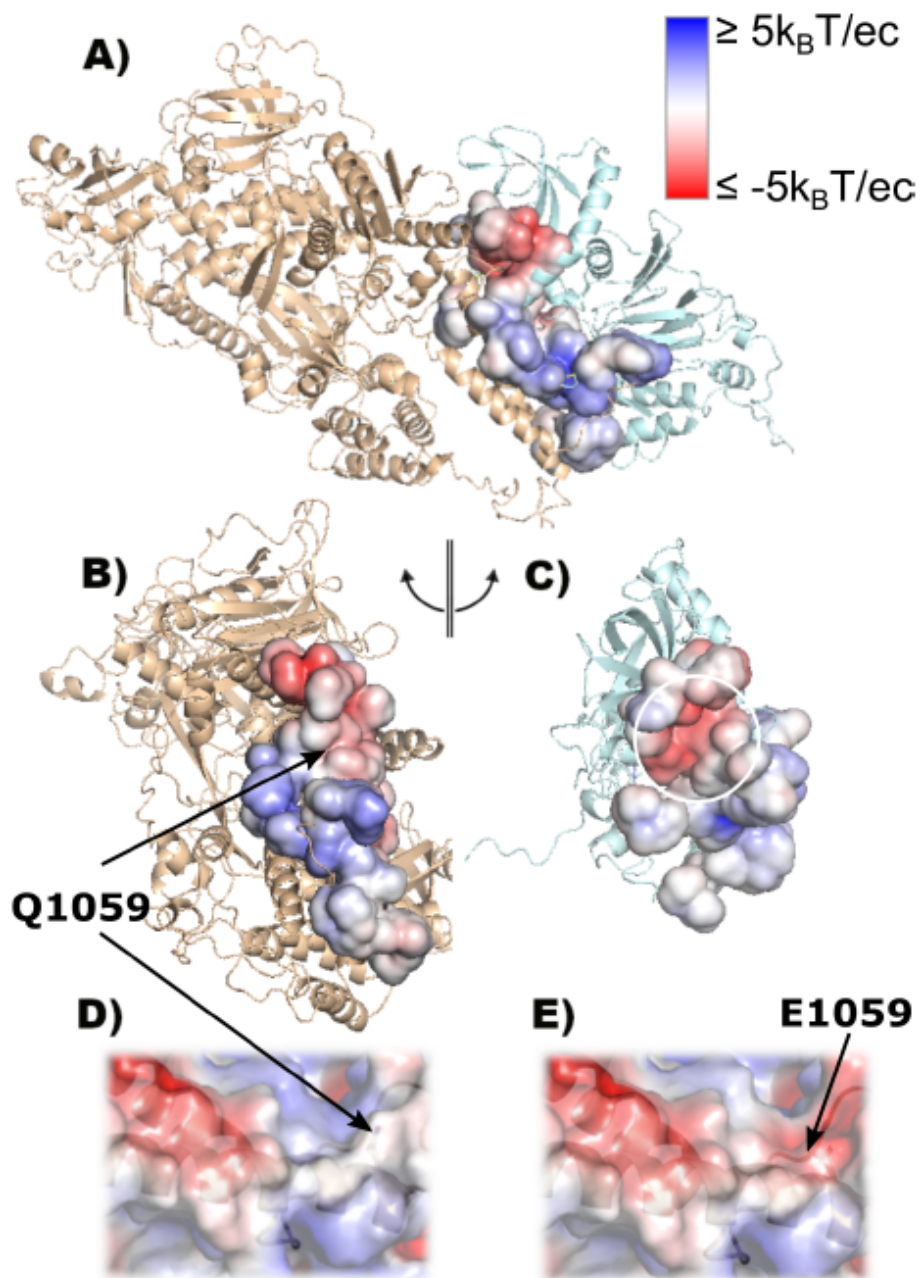


Figure S3

