

Title: Structure of the POT1-TPP1 telomere end-binding complex.
Supporting Material

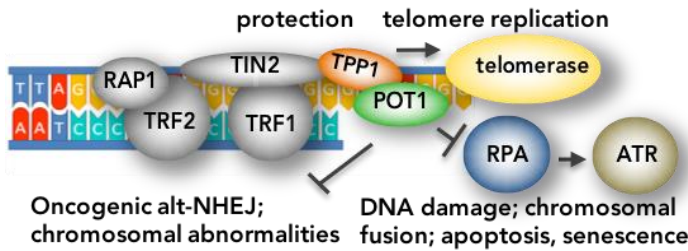


Fig 1. The multiple and diverse roles of the POT1-TPP1 complex in telomere maintenance. The complex binds exclusively to telomere DNA to prevent induction of DNA damage signaling. It also resolves DNA structure and regulates telomerase activity.



Fig 2. Purified POT1-TPP1 complex. SDS-PAGE gel of an assembled POT1-TPP1-ssDNA complex after affinity pull-down and size-exclusion chromatography. The upper band on the left represents the 70 kDa POT1 protein and the lower band represents the 30 kDa TPP1 protein. The right lane is a molecular weight standard marker.

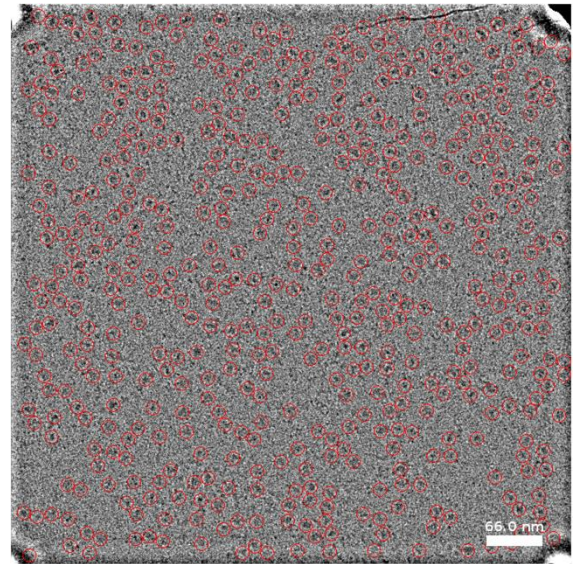


Fig 3. Cryo-EM micrograph of purified POT1-TPP1-DNA complex on graphene-oxide coated UltraAu foil grid. Magnification is 62,000 X. Particles are identified with red circle that has a 160 Å diameter.

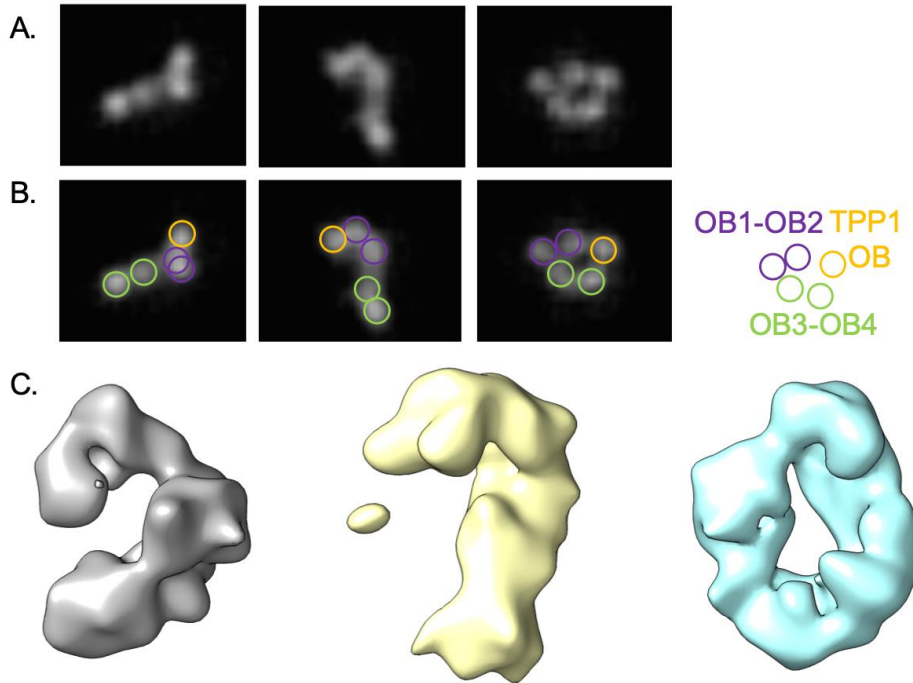


Fig 4. The POT1-TPP1-ssDNA complex is dynamic and adopts multiple conformations. **A.** Representative 2D averages for picked particles reveals multiple different shapes. The five individual OB-fold domains of POT1 and TPP1 can be seen individually as “beads-on-a-string”. **B.** Circles overlaid on the 2D averages shown in panel **A** depict individual OB-fold domains for predicted regions of the complex. The key on the right is color-coded for the individual domains. **C.** Three-dimensional reconstructions of POT1-TPP1-DNA complexes reveals the intrinsic dynamics of the assembled nucleoprotein complex. The three reconstructions were sorted from the same dataset and are resolved at ~13 Å resolution.

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