## **Supplemental Figures and Legends**

Figure S1. Single sister chromatids observed in tankyrase 1 siRNA cells does not depend on colcemide treatment. (A and B) Chromosome spread analysis of Helal.2.11 cells collected after 48h hours of treatment with control (GFP) or tankyrase 1 siRNA. Cells were not incubated with colcemide prior to collection. Cells were swollen in hypotonic buffer and fixed in paraformaldehyde. Chromosome arms were visualized by staining with antibodies to the condensin subunit Smc2. (C) Histogram showing % chromosome spreads with single sisters; approximately 100 spreads were scored for each sample.

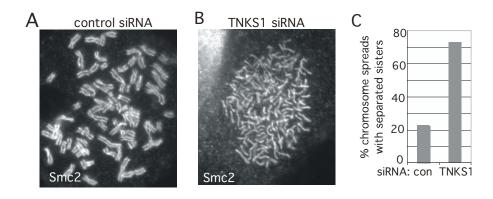
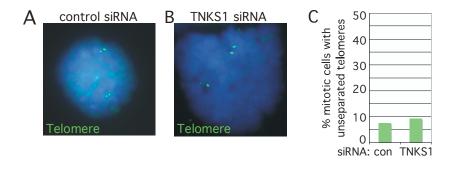


Figure S2. Persistent sister telomere associations in tankyrase 1 siRNA cells do not survive incubation in hypotonic buffer. (A and B) Chromosome specific FISH analysis of HeLal.2.11 cells collected by mitotic shake-off 48 hours after treatment with control (GFP) or tankyrase 1 siRNA. Cells were treated with hypotonic buffer prior to fixation in methanol-acetic acid and hybridized to a telomere probe 16pter (green). DNA was stained with DAPI (blue). (C) Histogram showing the % mitotic cells w ith unseparated telomeres; approximately 100 mitotic cells were scored for each sample.



**Figure S3. Depletion of SA1 or TIN2 alone does not influence the stage of mitosis.** Histogram showing the percentage of mitotic cells at the indicated stage in mitosis. Cells were treated for 48 hours with control siRNA (GFP) and the indicated 2<sup>nd</sup> siRNA, fixed in methanol and stained with anticentromere antibody and DAPI. In each case 100 mitotic cells were classified into the indicated stages of mitosis based on chromosome configuration and centromere distribution.

