

related to the phosphorylation of PARP1 by ATR as presented in Figure 7. Z. Li wrote the manuscript draft. H. Wang-Heaton, Z. Li and P.R. Musich also participated in experimental design and manuscript preparation. B.M. Cartwright, Y. Makinwa, B.A. Hilton, N. Shkriabai, M. Kvaratskhelia, and S. Guan were involved in generating some of the experimental data and supporting manuscript preparation. Q. Chen and X. Yu generated and provided genetically modified cells critical to this study. Y. Zou is the senior author who oversaw and directed this study. P.R. Musich also provided help in directing this study.

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## SUPPORTING INFORMATION

Additional Supporting Information may be found online in the Supporting Information section.

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