

## **Description of Additional Supplementary Files**

File Name: Supplementary Data 1

Description: Fold-change gene expression changes in Kelly and IMR-32 cells treated with THZ531 (400nM, 6h) versus control.

File Name: Supplementary Data 2

Description: TT-seq gene expression changes in IMR-32 cells treated with THZ531 (400nM, 2h) versus control.

File Name: Supplementary Data 3

Description: A list of DDR genes from publicly available databases.

File Name: Supplementary Data 4

Description: Comparison of PCPA genes identified in Oh et al. (Nat Struct Mol Biol, 2017) after U1 inhibition with a U1 antisense morpholino oligonucleotide (AMO) with PCPA genes identified in this study, in TT-seq analysis of cells treated with THZ531 (400 nM, 2 h).

File Name: Supplementary Data 5

Description: Log2 ratios of identified phosphopeptides by SILAC analysis in Kelly and IMR-32 cells treated with THZ531 (400 nM, 2h) versus control.

File Name: Supplementary Data 6

Description: Mass fingerprinting analysis of selected recombinant protein substrates.