

## **Description of Additional Supplementary Files**

File Name: Supplementary Data 1

Description: Comparative analysis results from the BRCA1-TULIP2 assay. Includes Wild Type TULIP2 and  $\Delta$ GG and I26A negative controls

File Name: Supplementary Data 2

Description: Comparative analysis results from the BARD1-TULIP2 assay in Parental and BRCA1-KO cells including the  $\Delta$ GG negative control

File Name: Supplementary Data 3

Description: Comparative analysis results from the BARD1-TULIP2 assay in Parental and PCNA-K164R cells.

File Name: Supplementary Data 4

Description: Comparative analysis of IPOND-MS samples from Parental, BRCA1-KO, and BRCA1-WT- and BRCA1-I26A-rescued cells.

File Name: Supplementary Data 5

Description: Comparative analysis results from the RAD18-TULIP2 assay in Parental and BRCA1-KO cells with or without treatment with UV.