

### Description of Additional Supplementary Files

File Name: Supplementary Data 1

Description: **Conservation of the B56 binding motif in BRCA2.**

Clustal Omega multiple sequence alignment of 190 vertebrate BRCA2 protein sequences. The region around the B56 binding motif is shown. Related to Figure 1.

File Name: Supplementary Data 2

Description: **Mass spectrometry data.**

Related to Supplementary Fig. 1a: Mass spectrometry data of proteins copurifying with Venus or Venus-BRCA21001-1255. HeLa cells were transiently transfected with constructs of Venus or Venus-BRCA21001-1255, synchronized to S phase with a thymidine block, released for 2 hours, and then treated for 2 hours with 100 nM CPT prior to cell harvest, GFP-trap immunoprecipitation, and mass spectrometry analysis. Statistical analysis was carried out by two-tailed Student's t-test of three technical replicates.