## **Description of Additional Supplementary Files**

Supplementary Data 1. Supplementary Tables 1-5.

**Supplementary Data 2.** Full in vitro substrate screening data.

**Supplementary Data 3.** One-Way ANOVA followed by Tukeys's Multiple Comparison Test of OS Peptide 1 minute Screening Data.

**Supplementary Data 4.** One-Way ANOVA followed by Tukeys's Multiple Comparison Test of AS Peptide 1 minute Screening Data.

**Supplementary Data 5.** Fold changes observed in DFOR assays in Figure 4.