Supplemental Figure 1: Apoptosis antibody array result of Uacc903-V1 and -G2. The five rows on the array are row A to row E from top to bottom. The numbering of the dots on each row starts from left to right. Supplemental Figure 1B: Human apoptosis antibody array coordinates (from the manual of the manufacturer).

Supplemental Figure 2: IL8 and VEGF levels in conditioned media were decreased by treatment with inhibitors of GRM1/AKT/mTOR/HIF1 signaling. Cell treatment and conditioned medium collection were performed as outlined in the Materials and Methods section. Panels A through D and panels E through H showed changes showed the altered levels in IL8 and VEGF respectively in the conditioned media of UACC903-V1, -G2 and -G4 cells collected between 9 hours and 20 hours after the start of treatment. Conditioned media were diluted 1: 20 for IL8 and 1:10 for VEGF as measured by ELISA. IL8 and VEGF levels in the conditioned media were normalized to cell viability measured at 20 hours post-treatment. The experiments were repeated at least three times. Treatment with 50uM AF (HIF1α inhibitor), 50uM Bay36-7620 (GRM1 inhibitor), 50nM rapamycin (mTOR inhibitor), or 2uM MK-2206 (AKT inhibitor) led to significant decreases in IL-8 and VEGF concentrations in the conditioned media from UACC903-G2 or -G4 cells. I) UACC903-V1, -G2 and -G4 cells were cultured and treated by the indicated inhibitors for 8 hours, lysates prepared for immunoblots to p-mTOR, p70S6K, HIF1α, and pAKT308 as described in Materials and Methods. Total AKT and GAPDH were used as loading controls.

Supplemental Figure 3: Stable GRM1 knock-down cells lines were obtained by shRNA. 50% GRM1 protein level decrease in UACC9093-G4 cells dramatically decreased VEGF secretion, but 50% GRM1 protein level decrease in UACC903-G2 was not sufficient to decrease IL8 secretion to lower than that of untreated UACC903-G4.