

## SUPPLEMENTARY MATERIAL

**Supplementary Table 1:** Clinical characteristics of endometrial cancer patients' cohort.

**Supplementary Figure 1.** Characterization of endometrial cancer cell lines. **(A)** Restriction map of the pmCherry-N1 vector. **(B)** ANXA2 and Vimentin levels in H-Ctrl and H-ANXA2 cells analyzed by qPCR (Mean $\pm$ SEM; Mann-Whitney test; \* $p=0.029$ ). **(C)** Representation of western blot analysis shown in Figure 1. Protein levels of IK-Cherry-Ctrl and IK-Cherry-ANXA2 cell lines by original western blot. Actin (42KDa); Vimentin (57KDa); ANXA2 (38KDa) and Cherry-ANXA2 (67KDa).

**Supplementary Figure 2.** *High Throughput Screening (HTS)* assay. **(A)** Dose-response curves comparing the cytotoxic activity of Novobiocin in IK-pLKO (IC<sub>50</sub>=1,310 $\times 10^{-7}$ M) and IK-shANXA2 (IC<sub>50</sub>=2,004 $\times 10^{-6}$ M) cells and **(B)** in IK-Ctrl (IC<sub>50</sub>=1,589 $\times 10^{-6}$ M) and IK-ANXA2 (IC<sub>50</sub>=2,888 $\times 10^{-6}$ M) cells for 5 days in a 96 well plate colony formation assay.

**Supplementary Figure 3.** Absence of cytotoxic effect of Daunorubicin on EAhy926-GFP endothelial cells. **(A)** Quantification of the total area of fluorescence signal from EAhy926-GFP endothelial cells treated or not with Daunorubicin (1 $\times 10^{-6}$ M) for 7 days in 3D transendothelial migration culture using Operetta® High Content Imaging System (Mean $\pm$ SEM; Mann-Whitney test;  $p=ns$ ). **(B)** Alamar blue-based cell viability assay showing dose-response curve of Daunorubicin in EAhy926-GFP endothelial cells (IC<sub>50</sub>=1.69 $\times 10^{-6}$ M). These results evidence the absence of cytotoxic effect of Daunorubicin on endothelial cells at concentrations showing a deleterious impact on ANXA2-expressing endometrial tumor cells.