Figure S1. Inhibition of MMP2 by ARP 100 interferes with MDA-MB-231 invasiveness. MDA-MB-231 cells were cultured in the presence of the vehicle (DMSO) or the indicated concentrations of the MMP2 inhibitor ARP 100 in serum-supplemented complete DMEM for 36 h followed by washing and culture for 12 h in serum-free complete DMEM. Cells were then loaded into the upper chamber of a Transwell migration apparatus. Cells that migrated through a 0.05% w/v gelatin-coated 8  $\mu$ m porous membrane were stained and membranes were photographed at x20 magnification. Representative images are shown. MMP2, matrix metalloproteinase 2.



Figure S2. PL and PL-NPs suppress MDA-MB-231 TNBC cell expression of ZEB1. MDA-MB-231 cells were cultured for 48 h in the presence of medium alone, the vehicle (DMSO), empty NPs, or 2.5  $\mu$ M free PL or PL-NPs. Total protein was isolated from lysed cells and subjected to western blot analysis of ZEB1 expression. Equal protein loading was confirmed by probing for  $\beta$ -actin. PL, piperlongumine; NPs, nanoparticles; TNBC, triple-negative breast cancer.

