Histological analyses. Hematoxylin staining and human CTSB staining, Ki67 and TUNEL staining were performed as previously described[32]. Staining for Slug and ZEB1 was performed on paraffin sections with specific primary antibodies, namely rabbit anti-Slug (cell signaling, Cambridge, UK), rabbit anti-ZEB1 (St. Louis, MO, USA), employing a secondary peroxidase-labeled anti-rabbit antibody (Jackson ImmunoResearch, West Grove, PA, USA) for detection. Immunofluorescence staining for vasculature or macrophages was perfomed, employing rat anti-CD31 (BD; 1:100 dilution) or rat anti-F4/80 (Abcam, Cambridge, MA, USA; 1:100 dilution) and secondary goat anti-rat Alexa Fluor 488 (Invitrogen, Carlsbad, CA, USA; 1:200 dilution) on tumor cryosections.

Measurement of proliferation, migration and invasion through collagen I. The XCelligence® system (Roche, Basel, Switzerland) was used for 72 h real time monitoring in 15 min intervals. For proliferation, 40 000 PyMT cells were seeded on an E-Plate®, for migration, a two-chamber setup (CIM-Plate®) was employed, where 80 000 cells were seeded in serum-free DMEM in the upper chamber. For invasion experiments, the membrane of the upper chamber of the CIM-Plate® was coated with 30 ml of collagen I (0,1 mg/ml) (Becton Dickinson, Franklin Lakes, NJ,USA).

qRT-PCR of EMT genes. qRT PCR was performed employing the primers: **Zeb1 fw** TAG.CCT.TAA.GGA.AGC.AGC.CA, **Zeb1 rev** TTA.AGG.CCA.AAG.GGA.CAC.AG, **Snail1 fw** CCT.TCC.TCT.GAC.ACT.TCA.TCC, **Snail1 rev** CCT.AGA.CTG.GGC.ATC.ACA.GTG, **Twist1 fw** GGT.CCA.TGT.CCG.CGT.CCC.ACT.A, **Twist1 rev** GAA.TTT.GGT.CTC.TGC. TCT.TCT.AA, **Cdh1 (E-cadherin) fw** GTC.TAC.CAA.AGT.GAC.GCT.GAA.G, **Cdh1 (E-cadherin) rev** CGG.TGA.TGC.TGT.AGA.AAA.CCT.T, **Cdh2 (N-cadherin) fw** TAT.ATG. CCC.AAG.ACA.AAG.AAA.CC, **Cdh2 (N-cadherin) rev** TTG.GCA.AGT.TGT.CTA.GGG.AAT. AC, Vimentin fw TCC.CTT.GTT.GCA.GTT.TTT.CC, **Vimentin rev** GAT.GAG.GAA.TAG. AGG.CTG.CG.

MTT proliferation assay. Cell proliferation was measured by a 3-(4,5-dimethyl thiazol- 2-yl)-2,5-diphenyl tetrazolium bromide (MTT) assay. Immortalized PyMT pTRIPZCTSB cells were seeded into 96- well plates at a density of 2000 cells per well. After induction with doxycycline for 48 hours, MTT solution was added to the cells to the final concentration of 0.5mg/ml, and the cells were incubated at 37°C for 3 hours. After discarding the culture medium, 100 µl of dimethyl sulfoxide (DMSO) was added and incubated for 20 minutes at room temperature on a shaker. The optical density of each well was read at 590 nm (reference 650 nm).

LOX activity assay. Lysyl oxidase activity was measured in 72 h conditioned media of iPyMT cells or immortalized macrophages employing a LOX activity assay kit (Abcam, Cambridge, MA, USA). Hydrogen peroxide released upon substrate conversion was detected using a red fluorescence substrate in an HRP-coupled reaction at Ex/Em=540/590 nm.

CD44 FACS analysis. 500,000 iPymT or immortalized macrophages were stained with an anti-CD44 FITC-coupled antibody for 30 min on ice (Abcam, Cambridge, MA, USA) after Fc blocking with anti-CD16/CD32 antibody (Becton Dickinson, Franklin Lakes, NJ,USA) for 15 min. 50,000 cells were analysed by FACSCalibur (Becton Dickinson, Franklin Lakes, NJ,USA).