



**Supplementary Figure S4.** (a) Tumor volumes from vehicle- (left) and HC4-treated (right) MMTV-HER2 females. Each line represents a tumor (N=16 per group). (b) Percentage decrease in tumor size in HC4-treated females that showed tumor shrinkage. Each line represents a tumor and animal (N=4). (c) IHC for P-histone H3 in mammary gland tumor sections in vehicle (N=5) and HC4-treated (N=6) MMTV-HER2 mice. Representative images (left) and quantification (right graph). P by Mann-Whitney test. Size bar 50  $\mu\text{m}$  (d) HER2- overexpressing ZR-75-1 cells were seeded on Matrigel and after acinus establishment (day 4) wells were treated with vehicle (control) or HC4 (2  $\mu\text{M}$ ) for 10 days. Percentage of cleaved caspase-3 positive cells per acini (N=25 per condition)  $\pm$  s.d. P by Student's t test. (e) MCF10A-HER2 cells were seeded on Matrigel and after acinus establishment (day 4) wells were treated with vehicle (control) or HC4 (2  $\mu\text{M}$ ) for 10 days. Percentage of P-histone H3-positive cells per acini (N=20)  $\pm$  s.d. P by Student's t test.