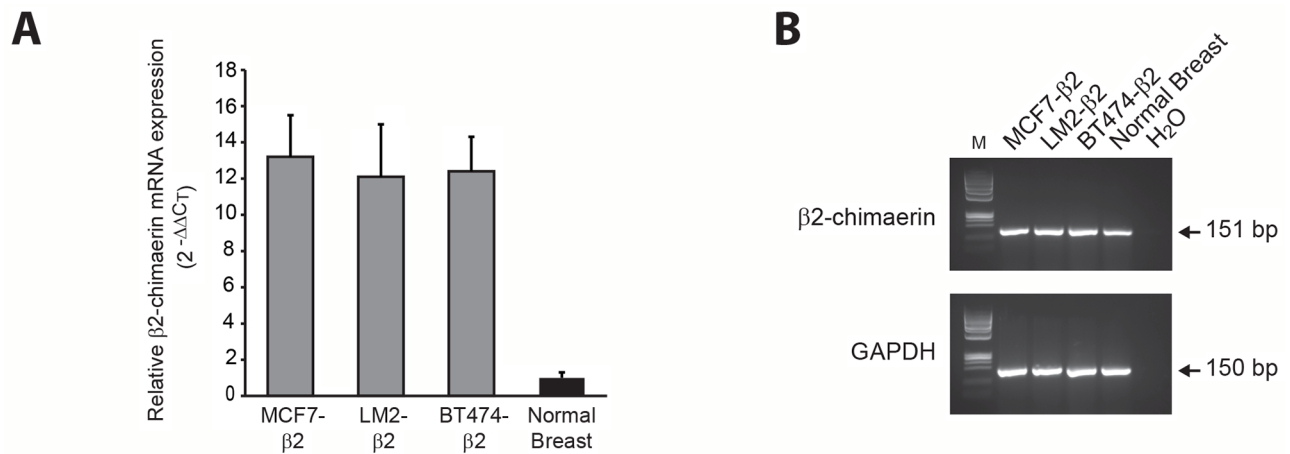
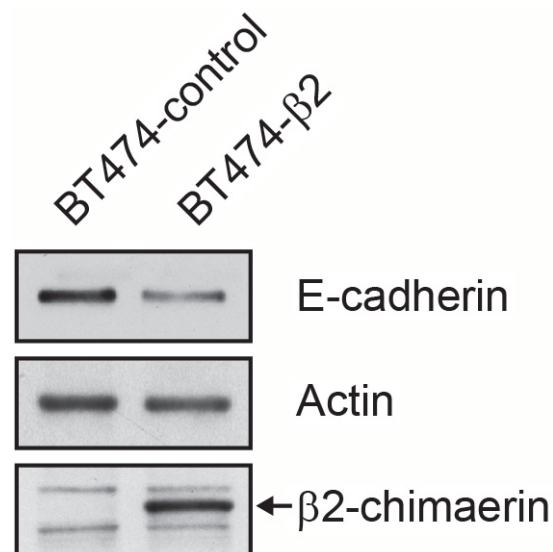


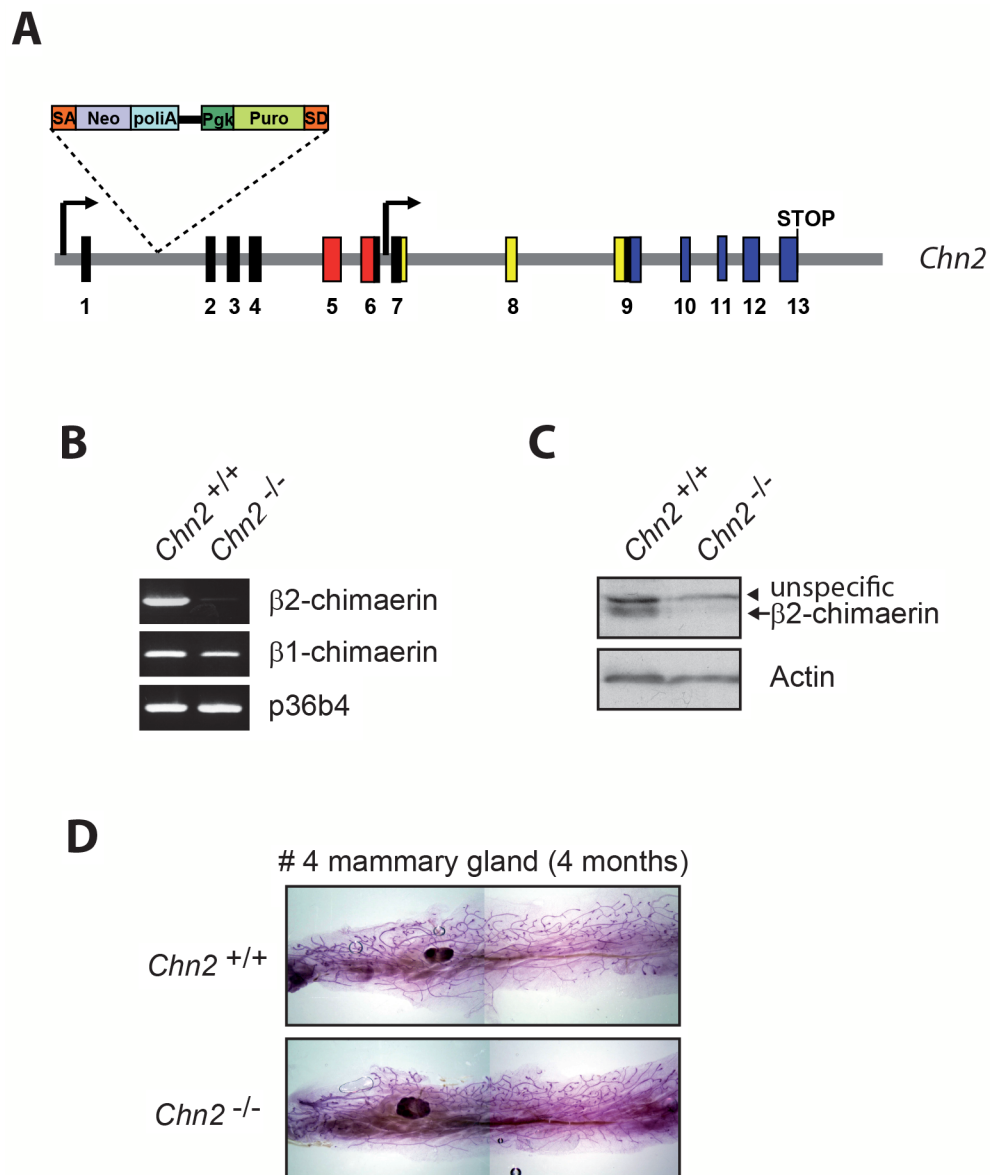
SUPPLEMENTARY FIGURES



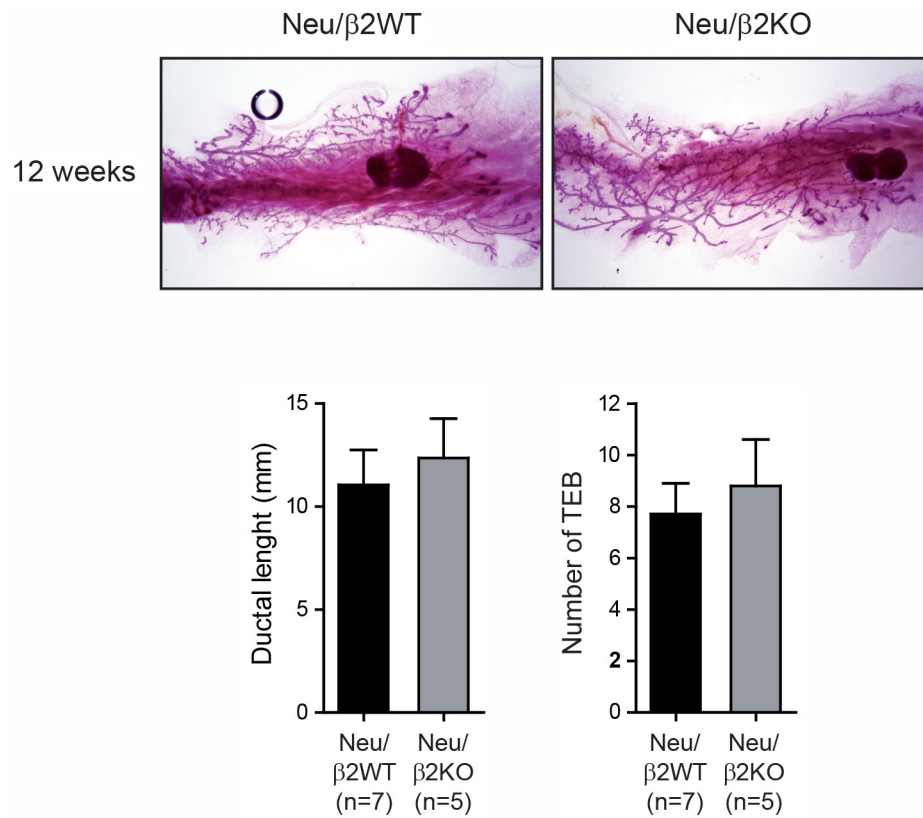
Supplementary Figure S1: Analysis of $\beta 2$ -chimaerin expression in MCF7- $\beta 2$, LM2- $\beta 2$ and BT474- $\beta 2$ cell lines. **A.** Quantitative-RT-PCR analysis of $\beta 2$ -chimaerin expression in the indicated human breast cancer stable cell lines and in normal human breast tissue. The expression of GAPDH was used for normalization. Relative $\beta 2$ -chimaerin expression levels in the cell lines compared to normal tissue were calculated using the $2^{-\Delta\Delta CT}$ method. The quantitative-RT-PCR was performed in triplicate. **B.** Electrophoretic analysis of the RT-PCR products. M: Φ X174 DNA/HaeIII marker.



Supplementary Figure S2: $\beta 2$ -chimaerin decreases E-cadherin protein levels in breast cancer epithelial cells that overexpress the ErbB2 receptor. Cell lysates from BT474-control and BT474- $\beta 2$ cells were analysed for expression of E-cadherin. Expression of actin was used as a loading control. Expression of $\beta 2$ -chimaerin-EGFP is shown in the lower panels.



Supplementary Figure S3: Characterization of β 2-chimaerin Gene Trap Mice. **A.** Schematic representation of the insertion of the gene trap for targeting β 2-chimaerin. The *Chn2* gene contains two promoters (arrows) that drive the transcription of the β 1- and β 2-chimaerin isoforms. The gene trap was inserted upstream of the β 1-chimaerin promoter. Exons coding for the SH2 domain are represented in red, for the C1 domain in yellow and for the GAP domain in blue. **B.** RT-PCR for β 1- and β 2-chimaerin isoforms from wild type (*Chn2*^{+/+}) and knockout (*Chn2*^{-/-}) mice showing the specific elimination of the β 2-chimaerin mRNA in the *Chn2*^{-/-} mice. **C.** Western blots analysis of β 2-chimaerin expression in mammary gland lysates from adult *Chn2*^{+/+} and *Chn2*^{-/-} females. **D.** Whole mounts of inguinal mammary glands stained with alum carmine from 4 month-old virgin females of the indicated genotypes (8 x magnification).



Supplementary Figure S4: β 2-chimaerin deficiency in MMTV-Neu mice does not affect mammary gland architecture.

Images show representative whole mounts of inguinal mammary glands from 12 week-old Neu/ β 2WT and Neu/ β 2KO females stained with alum carmine (8 x). Quantification of the ductal length and the number of tubular end buds (TEB) are shown in the histograms ($P = 0.43$ and $P = 0.68$ respectively by Mann Whitney U -test). Bars are means \pm s.e.m. of 5-7 mice per genotype.