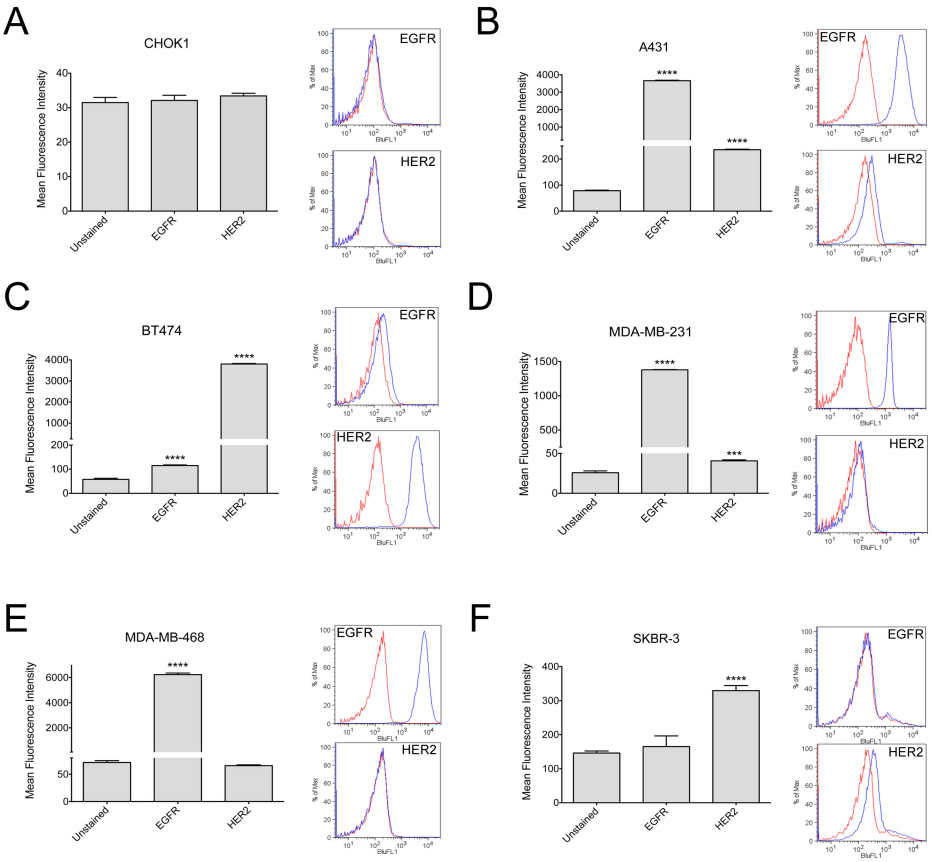
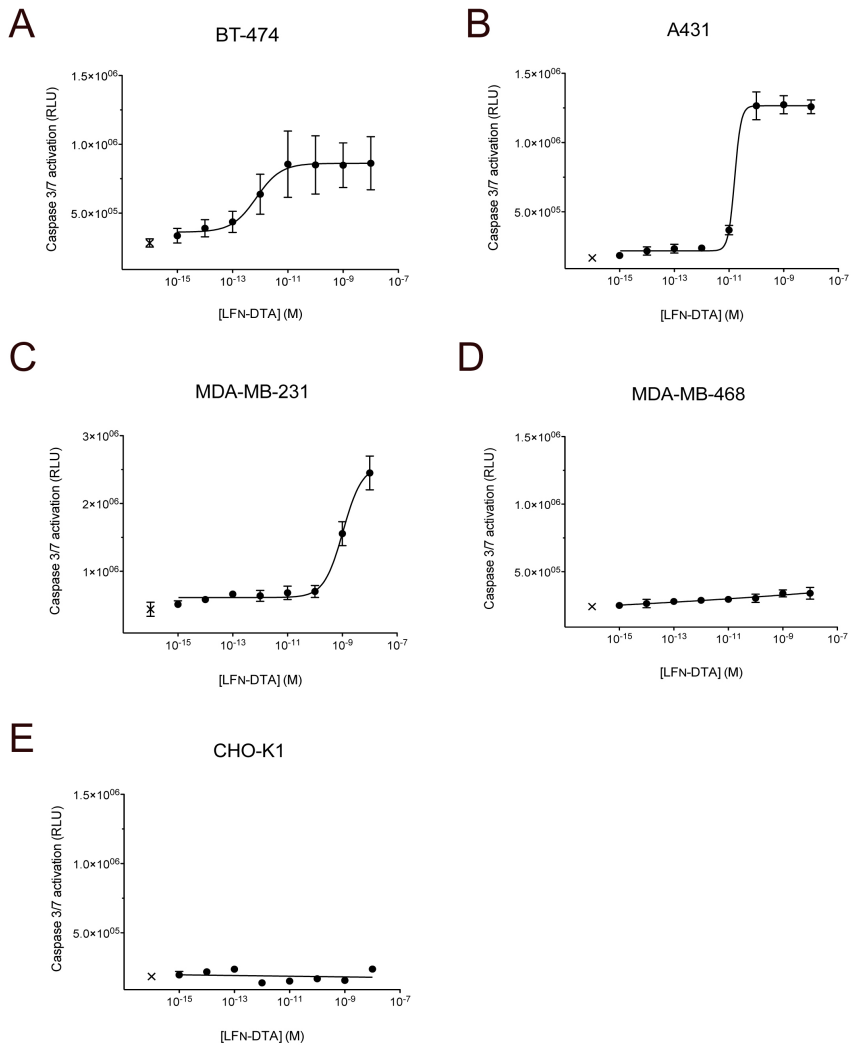
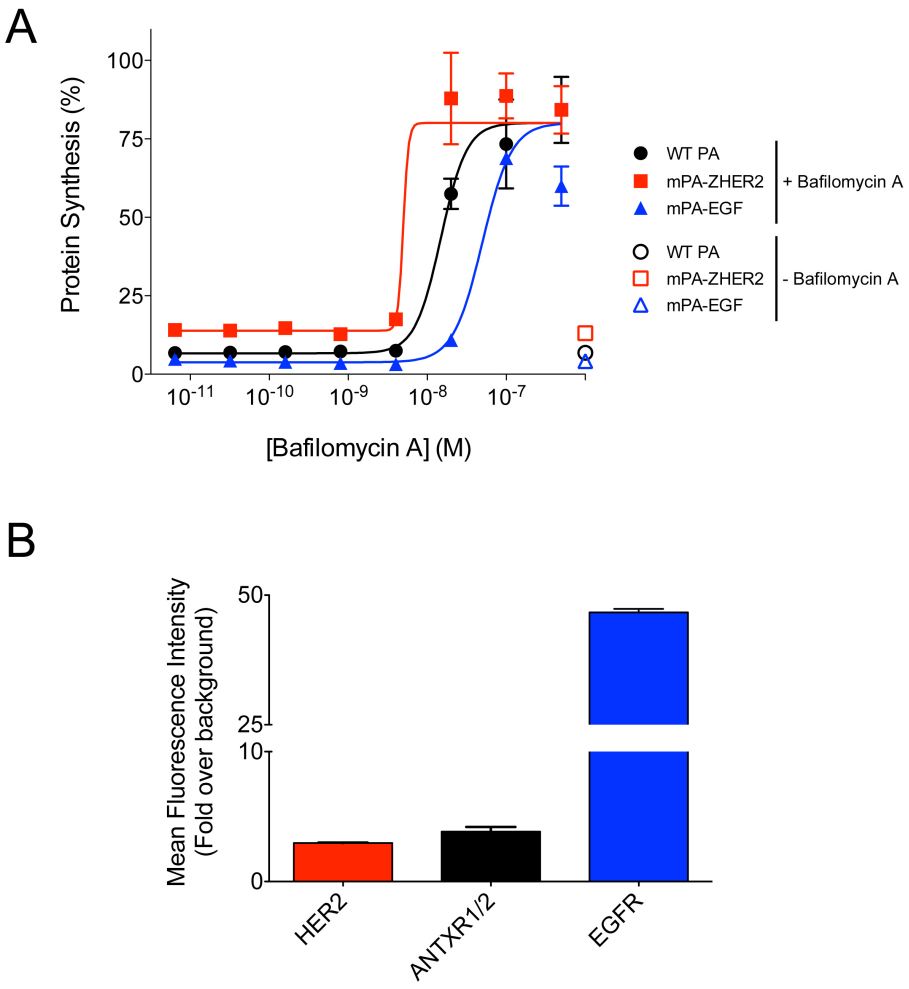
Supplementary material



SUPPLEMENTAL FIGURE 1. **Quantification of HER2 and EGFR levels on cell lines.** Cells (10^5) were incubated with either a FITC-conjugated HER2- or EGFR- specific Affibody and analyzed by FACS. *(Left panels)* The mean fluorescence intensity for 50,000 events was calculated in FlowJo and plotted in the GraphPad Prism® software package. *(Right panels)* Histograms of the raw data display the shift in fluorescence (blue) compared to unstained cells (red) for EGF and HER2 receptors, top and bottom respectively.



SUPPLEMENTAL FIGURE 2. **Delivery of LF_N-DTA causes cell death by apoptosis.** Apoptosis was measured by caspase 3/7 activation, after exposing various cell lines to mPA-ZHER2 and LF_N-DTA, at the indicated concentrations for 24 h. Relative light units (RLU) generated by caspase 3/7 activation and cleavage of a pre-luminescent substrate are plotted against LF_N-DTA concentration. Each data point represents the average of 4 experiments. Control cells exposed to mPA-ZHER2 alone are indicated on each graph by X.



SUPPLEMENTAL FIGURE 3. **Entry of effectors mediated by wild-type and redirected mPA variants is dependent on endosomal pH.** A) A431 cells ($3x10^5$) were exposed to LF_N-DTA (1 nM) and either mPA-ZHER2, mPA-EGF, or WT PA (20 nM) in the absence (open symbols) or presence of bafilomycin A (solid symbols) at the indicated concentrations. After 4-hours, cells were washed with PBS and incubated with medium containing [^{3}H]-leucine. After 1-hour, the level of protein synthesis was measured by scintillation counting. Percent protein synthesis was normalized against cells treated with the mPA variant alone and plotted using the Graphpad Prism software package. Each point on the curves represents the average of four experiments. B) The level of cell surface HER2, EGFR, and ANTRX1/2 were quantified on A431 cells using either anti-HER2 or EGFR affibodies or FITC-labeled PA.