Figure S1

(a) Primary Treatment Survivors (1 week)

Hs578t

Dying Cells (%) Surviving Cells (%)

T47-D

Dying Cells (%) Surviving Cells (%)

HCT116

Dying Cells (%) Surviving Cells (%)

(b) HeLa

Dying Cells (%) Surviving Cells (%)

Surviving Cells (t=16h)

Surviving Cells (t=16h)

Surviving Cells (t=16h)
Figure S2

(a) and (b) Show the percentage of dying and surviving cells over time for MCF10A cells treated with TRAIL, TRAIL + Gefitinib, and Gefitinib alone. The IQR for dying cells is 6.4h and 1.2h for Gefitinib, and 1.4h for Sorafenib. The mean death time is 7.1h and 2.2h for Gefitinib, and 2.5h for Sorafenib.

(c) and (d) Display the death time of cells treated with TRAIL, TRAIL + Gefitinib, and TRAIL + Sorafenib. The IQR for TRAIL is 6.4h, 1.2h for Gefitinib, and 1.4h for Sorafenib. The mean death time is 7.1h for TRAIL, 2.2h for Gefitinib, and 2.5h for Sorafenib.
Supplementary Figure Legends

Figure S1. Cells surviving treatment with TRAIL or staurosporine exhibit regeneration of the starting population sensitivity profile in multiple cell types. (a) Death-time distributions for clonal populations of Hs578T, T47-D, and HCT116 control and survivor cells (following one week of outgrowth in the absence of TRAIL) treated with 50ng/ml TRAIL and imaged by live-cell microscopy for 16h. (b) Death-time distributions for a clonal population of HeLa control or staurosporine-survivor cells, (after treatment with 2μM staurosporine followed by two weeks of outgrowth in the absence of staurosporine), treated with 2μM staurosporine and imaged by live-cell microscopy for 16h. Percentage of surviving cells at the end of the movies is plotted to the right of the dotted line.

Figure S2. Co-drugging reduces mean death time and variability in death times in multiple cell types. (a) Time of death distributions and percentage of surviving MCF10A cells treated with TRAIL (50ng/ml), gefitinib (10μM), or a combination of the two and imaged by live cell microscopy for 16 hours as described above. (b) Time of death distributions and percentage of surviving MCF10A cells treated with TRAIL (50ng/ml), sorafenib (10μM), or a combination of the two and imaged by live cell microscopy for 16 hours. (c-d) Quantitation of death times for dying cells only in (a-b). Median, IQR, and range of death times for each treatment appear in the box and whisker plots; mean death time and IQR are indicated above each plot. 50-100 cells were analyzed per condition.