

## Cell-to-cell variability and the control of ligand-induced cell death

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In multicellular organisms, the appropriate control of programmed cell death, or apoptosis, is essential to homeostasis and health. While many of the molecular players involved in the response to death-inducing ligands have been identified, how these molecular signals are integrated in time and space remains unclear. Strikingly, there is variability in behavior during death-inducing ligand treatment: even within a clonal population of cancer cells, cells die at different times and some cells live. We are combining computational models and single-cell measurements to identify the sources of this cell-to-cell variability while also taking advantage of it to better understand the molecular mechanisms that control ligand-induced apoptosis.