

The concept of synthetic lethality in the context of anticancer therapy.

[Kaelin WG Jr.](#)
[Nat Rev Cancer.](#) 2005 Sep;5(9):689-98.

Source

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Abstract

Two genes are synthetic lethal if mutation of either alone is compatible with viability but mutation of both leads to death. So, targeting a gene that is synthetic lethal to a cancer-relevant mutation should kill only cancer cells and spare normal cells. Synthetic lethality therefore provides a conceptual framework for the development of cancer-specific cytotoxic agents. This paradigm has not been exploited in the past because there were no robust methods for systematically identifying synthetic lethal genes. This is changing as a result of the increased availability of chemical and genetic tools for perturbing gene function in somatic cells.

PMID:16110319