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[Future Med Chem.](#) 2014 Sep;6(13):1499-513. doi: 10.4155/fmc.14.100.

Targeting mitochondrial function for the treatment of breast cancer.

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Abstract

There are many approaches used to control breast cancer, although the most efficient strategy is the reactivation of apoptosis. Since mitochondria play an important role in cellular metabolism and homeostasis, as well as in the regulation of cell death pathways, we focus here on metabolic remodeling and mitochondrial alterations present in breast tumor cells. We review strategies including classes of compounds and delivery systems that target metabolic and specific mitochondrial alterations to kill tumor cells without affecting their normal counterparts. We present here the arguments for the improvement of already existent molecules and the design of novel promising anticancer drug candidates that target breast cancer mitochondria.

PMID: 25365234 DOI: [10.4155/fmc.14.100](#)

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