Graviola. Extrato da fruta inibe seletivamente a proliferação do câncer de mama in vitro e in vivo envolvendo a diminuição da expressão do EGFR.

Selecteive growth inhibition of human breast cancer cells by graviola fruit extract in vitro and in vivo involving downregulation of EGFR expression.


Source

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Abstract
The epidermal growth factor receptor (EGFR) is an oncogene frequently overexpressed in breast cancer (BC), and its overexpression has been associated with poor prognosis and drug resistance. EGFR is therefore a rational target for BC therapy development. This study demonstrated that a graviola fruit extract (GFE) significantly downregulated EGFR gene expression and inhibited the growth of BC cells and xenografts. GFE selectively inhibited the growth of EGFR-overexpressing human BC (MDA-MB-468) cells (IC(50) = 4.8 μg/ml) but had no effect on nontumorigenic human breast epithelial cells (MCF-10A). GFE significantly downregulated EGFR mRNA expression, arrested cell cycle in the G0/G1 phase, and induced apoptosis in MDA-MB-468 cells. In the mouse xenograft model, a 5-wk dietary treatment of GFE (200 mg/kg diet) significantly reduced the protein expression of EGFR, p-EGFR, and p-ERK in MDA-MB-468 tumors by 56%, 54%, and 32.5%, respectively. Overall, dietary GFE inhibited tumor growth, as measured by wet weight, by 32% (P < 0.01). These data showed that dietary GFE induced significant growth inhibition of MDA-MB-468 cells in vitro and in vivo through a mechanism involving the EGFR/ERK signaling pathway, suggesting that GFE may have a protective effect for women against EGFR-overexpressing BC.

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