The effect of coptis chinensis on the signaling network in the squamous carcinoma cells.

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Source

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Abstract

The effects of Coptis chinensis on the behavior of squamous cell carcinoma have not yet been established. We examined the anticancer activity of Coptis chinensis on human squamous carcinoma cells, both in vitro and in xenografted nude mice, and applied Pathway Array Technology to understand possible involvement of signaling pathways in Coptis Chinensis induced tumor cells inhibition as well. Following Coptis chinensis treatment, a time-dependent reduction in proliferation was observed in both cell lines and NCR/NU mice. Coptis chinensis has a wide effect on cell signaling, including cell cycle regulation (Cdk6, Cdk4, cyclin B1, cyclin E, cyclin D1, p27), cell adhesion (E-cadherin, osteopontin), differentiation, apoptosis(p-Stat3, p53, BRCA1), cytoskeleton (p-PKC α/β II, Vimentin, p-PKCa), MAPK signaling (raf-1, ERK1/2, p-p38, p-ERK), and the phosphatidylinositol 3-kinase signaling pathway (p-Akt, Akt, p-PTEN). In our conclusions, Coptis chinensis may be a novel therapeutic drug for squamous cell carcinoma.

PMID:21196313