# Alterations of metastasis-related genes identified using an oligonucleotide microarray of genistein-treated HCC1395 breast cancer cells

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摘要

## Abstract

Genistein, one of the major isoflavones, potently inhibits the growth and metastasis of breast cancer. However, the precise molecular mechanism in metastasis inhibition is not clear. We investigated the effect of genistein in HCC1395 cells, a cell line derived from an early-stage primary breast cancer. Genistein dose dependently both decreased cell viability and inhibited the invasion potential. We used human oligonucleotide microarrays to determine the gene expression profile altered by genistein treatment. TFPI-2, ATF3, DNMT1, and MTCBP-1, which inhibit invasion and metastasis, were upregulated, and MMP-2, MMP-7, and CXCL12, which promote invasion and metastasis, were downregulated. We used quantitative real-time polymerase chain reaction to verify the microarray data at the mRNA level. We conclude that genistein-induced alternations of gene expression involving metastasis may be exploited for devising chemopreventive and therapeutic strategies, particularly for early-stage breast cancer.