

Curcumin Exhibits Chemopreventive and Chemotherapeutic Effects in Human Colorectal Cancer Cells

In a study involving human colorectal cancer cells (HCT116), exposure to neurotensin (a gut tridecapeptide that may have procarcinogenic effects on gastrointestinal cancers) was found to induce IL-8 expression in a time- and dose-dependent manner, and administration of curcumin was found to block the neurotensin-stimulated IL-8 gene induction, protein secretion and colon cancer cell migration, and inhibit neurotensin-mediated activator protein-1 and nuclear factor-kappaB activation and Ca(2+) mobilization. Chemokines have been implicated in the metastasis and invasion of multiple cancers. In this study, neurotensin, which stimulates mitotic cell division, was found to induce expression of the chemokine, IL-8. Cells treated with curcumin were found to protect cells against these effects. The results of this study suggest that curcumin holds promise in the prevention and treatment of colorectal cancers.

Reference:

Curcumin inhibits neurotensin-mediated interleukin-8 production and migration of HCT116 human colon cancer cells, Wang X, Wang Q, et al, Clin Cancer Res, 2006; 12(18): 5346-55.