

Genistein for Breast Cancer Prevention

Genistein, one of several known isoflavones, may help prevent breast cancer, a new study suggests. Isoflavones compounds, such as genistein and daidzein, are found in a number of plants, but soybeans and soy products like tofu and textured vegetable protein are the primary food source.

Researchers at Dongguk University in Korea investigated the chemopreventive and cytotoxic effect of genistein against human breast cancer cell lines.

The study found that genistein inhibited cell proliferation in estrogen receptor-positive (MCF-7) and estrogen receptor-negative (MDA-MB-231) human breast carcinoma cell lines. Cytochrome P450 (CYP) 1A1-mediated ethoxyresorufin O-deethylase (EROD) activity was inhibited by genistein in a concentration-dependent manner.

Genistein significantly inhibited 12-Otetradecanoylphorbol-13-acetate (TPA)-induced cyclooxygenase-2 activity and protein expression at the concentrations of 10, 25 and 50mM. In addition, ornithine decarboxylase (ODC) activity was reduced to 53.8 percent of the control after six hours of treatment with 50mM genistein in MCF-7 breast cancer cells.

The study concluded that genistein could be of therapeutic value in preventing human breast cancer.