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Influence of marketed herbal menopause preparations on MCF-7 cell proliferation

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Influence of marketed herbal menopause preparations on MCF-7 cell proliferation.

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Abstract

OBJECTIVE: Given the increasing use of alternative **menopause** treatments, we evaluated the effect of several **herbal preparations** used for **menopause** relief on the **proliferation** of estrogen-sensitive breast cancer cells (**MCF-7**) as a means of assessing appropriateness for use in women at risk for estrogen-sensitive breast cancer.

DESIGN: An **MCF-7 cell** culture model, as described previously, was used to evaluate the estrogen-agonist and -antagonist activity of commercially available **herbal menopause preparations** containing red clover, soy, black cohosh, or a combination of herbs. Each test substance was evaluated for cytotoxic effects before conducting the **proliferation** assays.

RESULTS: Commercially available products containing soy, red clover, and **herbal** combinations induced an increase in the **MCF-7 proliferation** rates, indicating an estrogen-agonistic activity in the absence of estradiol. In contrast, an isopropanolic black cohosh extract (Remifemin **Menopause**) did not stimulate **MCF-7** growth and exerted inhibitory effects on cellular **proliferation**. None of the tested products enhanced estradiol-induced **cell proliferation**. The black cohosh preparation and one of the **herbal** combinations exhibited strong estrogen-antagonistic effects.

CONCLUSIONS: The lack of proliferative effects of isopropanolic black cohosh extract on estrogen-sensitive breast cancer cells in vitro suggests a favorable safety profile for use in women with a history of breast cancer. Alternatively, **preparations** containing red clover, soy, and combinations of various **herbal** ingredients may induce **cell proliferation**, suggesting that such **herbal preparations** should be used with caution in the treatment of **menopause** symptoms in women at risk for, or with a history of, estrogen-sensitive breast cancer.

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