Enhanced luminal breast tumor response to antiestrogen therapy

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Breast cancer can be divided into 4 major subtypes using molecular and genetic information from the tumors. Each subtype is associated with different prognosis and should be taken into consideration when making treatment decisions.

In this issue of the *Journal of Clinical Investigation*, Rebecca Cook and colleagues at Vanderbilt University, found that expression of an oncogene, *ERBB3*, was enhanced in luminal breast cancers compared to other breast cancer subtypes. Addition of the ERBB3 protein to cultured luminal breast cancer cells increased the growth of the cells; however, depletion of this protein with an antibody promoted cancer cell death, and decreased tumor growth in vitro.

The authors also demonstrated that ERBB3 was upregulated in luminal tumor samples and in cancer cell cultures that were treated with the cancer drug fulvestrant. Furthermore, the authors found that fulvestrant treatment in combination with anti-ERBB3 decreased both tumor cell survival and growth.

These data suggests that ERBB3 could be a target for treatment of fulvestrant resistant breast cancers.

More information: ErbB3 downregulation enhances luminal breast tumor response to antiestrogens, *J Clin Invest*. DOI: 10.1172/JCI66764

Provided by Journal of Clinical Investigation

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