

# Researchers isolate importance of gene in breast cancer prognosis

July 23 2010

---

Oregon Health & Science University Knight Cancer Institute researchers found that the GRB7 gene drives an aggressive form of breast cancer and acts independently of the HER-2 gene, known to be a stimulator of breast cancer growth. Isolating the role of this gene could ultimately help fine-tune a patient's treatment and enable physicians to provide a more accurate prognosis.

The study, published online this month by *Breast Cancer Research and Treatment*, established that levels of GRB7, or growth factor receptor bound protein seven, are important on their own as a marker for aggressive breast cancer. Previously it was understood that patients whose breast cancer tumors tested positive for high levels of HER-2, the protein human epidermal growth factor receptor-2, tended to have a more aggressive form of the disease than patients whose tumors did not have elevated levels of this protein. However, OHSU Knight Cancer Institute researchers found that the protein driving this aggressive form of the disease is GRB7 rather than HER-2 on its own.

"Our work shows GRB7 protein levels are an important and independent factor in determining a prognosis for breast cancer," said OHSU Knight Cancer Institute member Shiuh-Wen Luoh, M.D., Ph.D., assistant professor of medicine in the Division of Hematology and Medical Oncology, medical oncology director for the Comprehensive [Breast Cancer](#) Clinic and senior author of the paper.

The findings could have implications for the types of therapies used.

Luoh said a next step will be to determine if high levels of the [GRB7 protein](#) influence patient responses to anti-HER-2 therapies such as Herceptin or Tykerb.

The research into GRB7's role is advancing the OHSU Knight Cancer Institute's mission to provide cancer patients with personalized treatments that target the specific characteristics of their disease.

"Our work was only made possible with the availability of a breast tumor repository that OHSU and the Knight Cancer Institute began collecting about 20 years ago," said Ed Keenan, Ph.D., who served as co-investigator on the study. Keenan, former associate dean of medical education for OHSU's School of Medicine, is a professor in the Department of Physiology and Pharmacology and the Department of Surgery. He also serves as president of The Foundation for Medical Excellence.

**More information:** "GRB7 protein over-expression and clinical outcome in breast cancer," *Breast Cancer Research and Treatment*.

Provided by Oregon Health & Science University

Citation: Researchers isolate importance of gene in breast cancer prognosis (2010, July 23) retrieved 10 April 2024 from

<https://medicalxpress.com/news/2010-07-isolate-importance-gene-breast-cancer.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.
---