

# Researchers create new anti-cancer drug

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A team of University of Hawaii Cancer Center scientists led by James Turkson, Ph.D. have created a new type of anti-cancer drug named BP-1-102. The drug, which can be orally administered, targets a key protein that triggers the development of many types of cancer including lung, breast and skin cancers.

The development of BP-1-102 was guided by the research teams computer based molecular analysis of the cancer causing Stat 3 protein that causes cancer by promoting abnormal cell growth in otherwise healthy cells.

"The molecular structure of the hyperactive Stat3 protein basically resembles two cars that are joined together side-by-side," said Professor Turkson. "We then utilized a computer program that creates molecular models of potential drugs engaging in binding to the Stat3 protein to craft the BP-1-102 drug which literally pulls apart the Stat3 protein rendering it ineffective in causing cancer."

A unique feature of BP-1-102 is that it remains highly effective against cancer even when administered in oral form. Presently, most anti-cancer drugs require intravenous (IV) administration in a clinic or hospital setting which increases the financial, physical and emotional burdens on [cancer patients](#). In its experimental form, BP-1-102 has shown promise in treating breast and lung cancers.

Currently, breast and lung cancers are two of the most commonly diagnosed cancers accounting for nearly half a million cases per year in

the United States with over 200,000 deaths attributed to these diseases. In Hawaii, there is an average of 1500 cases diagnosed and over 600 deaths attributed to breast and lung cancers every year.

Professor Turkson is a recent and welcomed addition to the UH Cancer Center faculty. His innovative and ground breaking research focuses on developing novel anticancer drugs based on targeting [signal transduction](#) and apoptosis pathways. The research article is published in the May 22nd edition of the [Proceedings of the National Academy of Sciences](#) journal.

Provided by University of Hawaii at Manoa

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