Anti-cancer flower power

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Could a substance from the jasmine flower hold the key to an effective new therapy to treat cancer? Prof. Eliezer Flescher of The Sackler Faculty of Medicine, Tel Aviv University thinks so. He and his colleagues have developed an anti-cancer drug based on a decade of research into the commercial applications of the compound Jasmonate, a synthetic compound derived from the flower itself. Prof. Flescher began to research the compound about a decade ago, and with his recent development of the drug, his studies have now begun to bear meaningful fruit.

"Acetylsalicylic acid (aspirin) is based on a plant stress hormone," says Prof. Flescher. "I asked myself, 'Could there be other plant stress hormones that have clinical efficacy?' While various studies have suggested that aspirin can prevent cancer, especially colon cancer, I realized that there could be a chance to find a potent plant hormone that could fight cancer even better. I pinpointed jasmonate."

Both blood cancers and solid tumors seem to be responsive to the jasmonate compound, known also as methyl jasmonate. Prof. Flescher refers to it as the "jasmonate scaffold," a basis for developing a series of chemical derivatives. In terms of bioavailability and safety, early first-in-man studies have proven successful, and Prof. Flescher is hopeful that an anti-cancer drug based on jasmonate could be on the shelf in America within four years through the activity of Sepal-Pharma which licensed his research from Ramot, the technology transfer arm of Tel Aviv University.

Normally drug development takes much longer. "The jasmonate compound is used widely in agriculture and in cosmetics," says Prof. Flescher. "Proven to be non-toxic, it has the same regulatory status as table salt. That and the fact we are working on a natural chemical gives us a good starting point for launching a new drug."

Other research groups are taking notice. Since Prof. Flescher started publishing papers on jasmonate (most recently in the academic journal *Oncogene*), six new research groups around the world have initiated research on the subject.

Peer commentary in Oncogene is positive about Prof. Flescher's promising research. "Methyl jasmonate," says the commentary, "has already been shown to have selective anticancer activity in preclinical studies, and this finding may stimulate the development of a novel class of small anticancer compounds."

Source: American Friends of Tel Aviv University