University of Hawaii Cancer Center Announces Recipient of Weinman Innovator Award

Recognition provides $50,000 to fund promising cancer research

HONOLULU – The University of Hawaii Cancer Center announced that the recipient of this year's Weinman Innovator Award is Dr. Andrea Fleig, a faculty member of the center's cancer biology program, and director of research and development at The Queen's Medical Center.

The Weinman Award, an annual grant of $50,000, is directed to support innovative translational research with the potential to develop new diagnostic or therapeutic approaches to cancer. This year, ten proposals were submitted and the quality of the applications was extremely high making the selection difficult for reviewers.

Dr. Fleig's proposal was based on her laboratory's discovery of the critical role of a unique magnesium-transporting protein in the regulation of cell growth and proliferation. The proposal was submitted with collaborators Drs. Reinhold Penner and Toshihiko Kawamori of the UH Cancer Center, and Dr. David Horgen of Hawaii Pacific University.
Dr. Fleig and colleagues first discovered the molecular nature and the physiological function of the ion channel named "TRPM7" and demonstrated its central role for cell growth and proliferation. Ion channels act like tiny gates and pores in the cell's membrane, allowing entry or exit of vital molecules, in this case the divalent ion magnesium. Magnesium is essential for cells to divide and proliferate, and this is particularly so for cancer cells. While screening marine-derived natural products to interfere with the normal function of the TRPM7 channel, Dr. Fleig and colleagues identified a natural compound isolated from a Hawaiian soft coral, which acts to stop multiplication of cancer cells by interfering with the magnesium status of these cells.

"If we can confirm our hypothesis that the natural compound reduces or even prevents tumor development in our animal models of colon cancer, then we can expand this approach further and pave the way for clinical use in cancer patients," said Dr. Fleig.

The award is funded through the $1.7 million Weinman Foundation Fund for Innovation endowment to the UH Cancer Center, provided by Virginia and Barry Weinman of Honolulu to support the development of cutting-edge cancer research.