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UH CANCER CENTER RESEARCHERS DISCOVER GENES THAT CONTRIBUTE TO GROWTH OF A RARE AND AGGRESSIVE CANCER

HONOLULU – An international research team led by Dr. Michele Carbone at the University of Hawai‘i Cancer Center discovered novel genes that contribute to the growth of malignant mesothelioma, a rare and aggressive cancer caused by asbestos that forms in the linings of the lungs, abdomen, or heart.

"As we discover key mechanisms responsible for the growth of this cancer, we are finding more targeted ways to prevent mesothelioma. This helps reduce the number of future patients, and increase the development of more effective therapies," said Dr. Michele Carbone, UH Cancer Center's director of Thoracic Oncology.

The findings published in "Proceedings of the National Academy of Sciences" highlight the discovery that gene mutations and deletions are frequent in mesothelioma and occur through a variety of DNA alterations. Dr. Carbone and collaborators also found that studies using modern DNA sequencing technologies such as Next Generation Sequencing (NGS) under-estimated the frequency of genetic alterations in mesothelioma.

"An integrated research approach combining NGS with other genetic techniques can reveal additional genetic alterations in cancer biopsies, thereby allowing us to design more precise and effective personalized therapies," said Dr. Haining Yang, co-senior author of the study.

This research is the result of a 2-year collaboration with UH Cancer Center researchers, Drs. Yoshie Yoshikawa and Mitsuru Emi at Hyogo College of Medicine in Japan, and Dr. Harvey I. Pass at New York University.

"These discoveries are an indication of the high quality science at the Center, and Dr. Carbone and Dr. Yang as international leaders in mesothelioma research," said Dr. Randall Holcombe, UH Cancer Center director. "This research collaboration with Japanese and New York institutions demonstrates the importance of the UH Cancer Center as a key player in connecting researchers on the mainland and in Asia in the global fight against cancer."

Publication
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The University of Hawai‘i Cancer Center through its various activities, cancer trial patients and their guests, and other visitors adds more than $54 million to the O‘ahu economy. This is equivalent to supporting 776 jobs. It is one of only 69 research
institutions designated by the National Cancer Institute. Affiliated with the University of Hawai‘i at Manoa, the center is dedicated to eliminating cancer through research, education, and improved patient care. Learn more at www.uhcancercenter.org. Like us on Facebook at www.facebook.com/UHCancerCenter. Follow us on Twitter @UHCancerCenter.