Award ID:
R1204

Project Title:
Recruitment of Established Investigators

Award Mechanism:
Recruitment of Established Investigators

Principal Investigator:
Chin, Lynda

Entity:
The University of Texas System

Lay Summary:

Dr. Lynda Chin received her M.D. from the Albert Einstein College of Medicine in 1993, and is a board-certified dermatologist. She conducted her clinical and scientific training at Columbia Presbyterian Medical Center and the Albert Einstein College of Medicine where she served as Chief Resident of Dermatology. For the past 14 years, she has been a member of the Dana-Farber Cancer Institute and Harvard Medical School communities where she was Professor of Dermatology at the Harvard Medical School, member of the Department of Medical Oncology at Dana-Farber Cancer Institute, and a Senior Associate Member of the Broad Institute of MIT and Harvard. Dr. Chin also served as the Scientific Director of the Belfer Institute for Applied Cancer Science at the Dana-Farber Cancer Institute, and co-led the Dana-Farber / Harvard Cancer Center's Melanoma Program and the Harvard Skin SPORE.

In 2011, Dr. Chin joined The University of Texas MD Anderson Cancer Center where she is the Chair of the first-ever Department of Genomic Medicine, and is Scientific Director of the Institute for Applied Cancer Science. At the Broad Institute, Dr. Chin is principle investigator of the TCGA Genome Data Analysis Center.

Dr. Chin has made multiple scientific discoveries spanning the fields of transcription, telomere biology, mouse models of human cancer, oncogenomics, and personalized cancer medicine. She demonstrated the anti-neoplastic activity of the MAD family of repressors and co-discovered Sin3 co-repressor complex which provided the first link between sequence-specific transcription factors and modulators of chromatin architecture including class I histone deacetylase and N-CoR. Using the telomerase-knockout mouse, she conducted the first cancer studies which demonstrated that, in the p53 deficient setting, deactivated DNA damage signaling unleashes telomere-based crisis as a potent mutational mechanism in the development of cancer, a process that generates non-reciprocal translocations and copy number alterations of cancer-relevant loci.

Building on her successful effort to establish oligo-based array comparative genomic hybridization, Dr. Chin has championed comparative oncogenomics of mouse and human cancers and its integration with functional genomics to identify novel cancer genes. As a leader in translational genome medicine, she has enlisted these new cancer gene discoveries into productive drug discovery efforts in the Institute for Applied Cancer Science. Dr. Chin has developed function-based prognosis determinants, solving the longstanding clinical problem of identifying the subset of early stage melanoma patients

who are hardwired for lethal progression, and opening the opportunity for adjuvant therapy for the first time.

In addition to her service on The Cancer Genome Atlas (TCGA) Executive Subcommittee, Dr. Chin is actively involved enabling the community to translate genome data via her establishment of 'disease working groups' that bring together genome scientists, biologists and clinicians in the broader community. She chairs two such groups – GBM and Melanoma Disease Working Groups. She is also a member of the Scientific Steering Committee of the International Cancer Genome Consortium. Dr. Chin co-founded AVEO Pharmaceuticals in 2002, a cancer biotechnology company that emphasizes cancer biology and genetics to identify new cancer targets with tumor maintenance roles. Most recently, Dr. Chin also founded Metamark Genetic, a cancer diagnostic company that will develop function-based prognostic determinants that can guide customized management of early-staged cancer patients including melanoma and prostate cancer.