Distinguished Visitor Programme

Prof. Peter K. Vogt
Professor, Department of Molecular & Experimental Medicine, The Scripps Research Institute

Biography

Professor Peter Vogt, M.D., Ph.D., is the Head of Division of Oncology and Professor, Department of Molecular and Experimental Medicine at the Scripps Institute in La Jolla, California. His fundamental studies on oncogenic avian retroviruses led to the identification of oncogenes in human cells, the pieces of genetic material responsible for human cancers and with whose discovery he is credited. Prof Vogt's seminal work is the foundation for much of today's most advanced research into the causes and cures of many forms of cancer, and forms the basis of our current understanding of cancer as a disease caused by deregulated cellular genes. His work has contributed immensely to cancer research in the past three decades.

Lecture Abstract

1 October 2003, 6.15 pm, Clinical Research Centre (CRC) Auditorium, Faculty of Medicine, MD 11, National University of Singapore, 10 Medical Drive, Singapore 117597

"Genes and Cancer"

"Over the past 30 years cancer research has undergone a thorough revolution. We have recognized that cancer is a genetic disease and that cancer cells have acquired multiple genetic changes that determine their malignant properties. These changes affect principally two kinds of genes: oncogenes which stimulate cell growth and become overactive in cancer and tumor suppressor genes which downregulate cell growth and are inactivated or lost in cancer. Oncogenes and their products, the oncoproteins, are components of cellular signaling systems and regulatory circuits. Tumor suppressor genes and proteins are more closely tied to the cell cycle, a periodic sequence of events that includes the doubling of the cellular DNA and the division of the cell into two daughter cells.

Today we understand the consequences of almost all genetic changes seen in cancer. Our understanding of the cellular circuitry that regulates growth and replication is vastly expanded and, in its basic aspects, complete. This information has revealed cancer-specific proteins and functions that can serve as targets for novel therapies and for refined diagnosis and prognosis. Biotechnology and chemistry have given us powerful tools to attack these targets. Recently there have been phenomenal successes of new cancer treatments. We have now entered a new phase in our fight against cancer, marked by rapid advances and striking breakthroughs."