

Selective inhibitors to target cancer growth: 2013 Meyenburg Award for Nathanael Gray

Pulitzer Prize winner Siddhartha Mukherjee reads from his book “The Emperor of All Maladies: A Biography of Cancer”

US biochemist Nathanael Gray is being honored with the 2013 Meyenburg Award for excellence in cancer research, which carries a €50,000 monetary prize. The award recognizes Gray’s discovery of numerous inhibitors that block growth regulators in cells. His findings have become important starting points for targeted cancer therapies. The award will be presented on Monday, December 2, 2013, at a symposium held at the German Cancer Research Center (Deutsches Krebsforschungszentrum, DKFZ) in Heidelberg. The program will feature an honorary guest: US cancer physician Siddhartha Mukherjee, who will present his Pulitzer Prize-winning book “The Emperor of All Maladies: A Biography of Cancer.”

Many scientists think that “targeted therapies” will play a central role in the future of cancer medicine. Such approaches use inhibitors or other substances to take aim at specific molecules involved in a disease process – like the runaway cell division that occurs in tumors. Normally this process is kept in check by “growth regulators” such as protein kinases, but in tumors the controls are lost. A single kinase might be so disruptive that inhibiting just this one molecule might have a strong impact on the disease, but our bodies produce over 500 types of kinases. Finding a molecule that selectively inhibits each of these would be very difficult.

Nathanael Gray’s lab has made outstanding contributions through the development of inhibitors for kinases such as mTor, Bcr-Abl and EGFR, which are frequently associated with tumors. They now serve as tools to shut down individual kinases in pharmacological and other experiments for researchers across the world. This is an important step in establishing the precise roles that specific kinases play in cell growth. Gray’s molecules also can be used to help test other experimental inhibitors and evaluate their potential for further development as drugs. Finally, the characteristics of these molecules provide a basis for searching for similar inhibitors. So far, no kinase inhibitor has been approved as a drug, but several of the molecules are currently being tested in clinical trials.

Nathanael S. Gray received his PhD in organic chemistry from the University of California at Berkeley, USA, in 1999. He then moved to the Genomics Institute of the Novartis Research Foundation in San Diego, where he served as a staff scientist and group leader. In 2001 he was named director of biological chemistry. In 2006 Dr. Gray joined the faculty of Harvard Medical School and the Dana Farber Cancer Institute to continue his research at the Department of Biological Chemistry and Molecular Pharmacology.

The award will be presented at a scientific symposium hosted by the Meyenburg Foundation that begins at 4pm on Dec. 2, 2013, in the DKFZ Communication Center. Honorary guest Siddhartha Mukherjee, a scientist and physician from New York, will talk about his Pulitzer Prize-winning book “The Emperor of All Maladies: A Biography of Cancer.” He will subsequently be available to sign copies of the book.

The award will personally be presented to Nathanael Gray by Dr. Marion Meyenburg, daughter of founders Wilhelm and Maria Meyenburg, at the end of the symposium. The Meyenburg Award honors outstanding achievements in cancer research and treatment. It has been presented annually since its establishment in 1981 and is accompanied by one of

the highest monetary prizes in German science. So far, three laureates have gone on to win the Nobel Prize for Medicine: Shinya Yamanaka, Meyenburg Award winner of 2007, received the Nobel Prize in 2012; Dr. Elizabeth Blackburn, laureate of 2006, became a Nobel Prize winner in 2009; and Dr. Andrew Fire, who won in 2002, received a Nobel Prize in 2006.

Date: Monday, December 2, 2013, 4 p.m. – 6:30 p.m.
Communication Center (KOZ) of the German Cancer Research Center (DKFZ)
Im Neuenheimer Feld 280
69120 Heidelberg

Journalists and interested members of the public are welcome to attend this event at DKFZ.

A picture of the award winner is available on the Internet at:
www.dkfz.de/de/presse/pressemitteilungen/2013/images/nathanael-gray.jpg

The German Cancer Research Center (Deutsches Krebsforschungszentrum, DKFZ) with its more than 2,500 employees is the largest biomedical research institute in Germany. At DKFZ, more than 1,000 scientists investigate how cancer develops, identify cancer risk factors and endeavor to find new strategies to prevent people from getting cancer. They develop novel approaches to make tumor diagnosis more precise and treatment of cancer patients more successful. The staff of the Cancer Information Service (KID) offers information about the widespread disease of cancer for patients, their families, and the general public. Jointly with Heidelberg University Hospital, DKFZ has established the National Center for Tumor Diseases (NCT) Heidelberg, where promising approaches from cancer research are translated into the clinic. In the German Consortium for Translational Cancer Research (DKTK), one of six German Centers for Health Research, DKFZ maintains translational centers at seven university partnering sites. Combining excellent university hospitals with high-profile research at a Helmholtz Center is an important contribution to improving the chances of cancer patients. DKFZ is a member of the Helmholtz Association of National Research Centers, with ninety percent of its funding coming from the German Federal Ministry of Education and Research and the remaining ten percent from the State of Baden-Württemberg.

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