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## **University of Chicago to share in \$540 million gift from Ludwig Cancer Research**

*Ludwig Center at the University of Chicago to receive \$90 million to support research on cancer metastasis*

Cancer researchers at the University of Chicago and five other leading institutions will share equally in a \$540 million gift from Ludwig Cancer Research, on behalf of its founder Daniel K. Ludwig. Ludwig Cancer Research is an international community of researchers dedicated to pursuing life-changing discoveries to alter the course of cancer.

The gift adds to a \$120 million endowment in [2006](#) that created Ludwig Centers at each of the six chosen institutions, which include the University of Chicago, Johns Hopkins University, Harvard University, Massachusetts Institute of Technology, Memorial Sloan-Kettering Cancer Center and Stanford University. The gift of \$90 million to each Center brings Ludwig's total funding of the six institutions, including support for endowed professorships and operating costs, to \$900 million. Ludwig Cancer Research's total commitment to cancer research to date now reaches \$2.5 billion.

“The Ludwig funding enables us to increase the pace of discovery at a time when federal research funding has been severely curtailed,” said Kenneth S. Polonsky, MD, executive vice president for medical affairs at the University of Chicago and dean of the Biological Sciences Division and Pritzker School of Medicine. “It is an honor to be part of this small, elite group and a pleasure to anticipate the many ways that this cancer research program may lead to breakthroughs in cancer treatment.”

### **Focus on metastasis**

Under the direction of Ralph Weichselbaum, MD, and Geoffrey Greene, PhD, the Ludwig Center at the University of Chicago will use the funding to accelerate research on metastasis, the process by which cancer cells spread from a primary tumor to multiple distant sites.

To metastasize, a tumor cell must learn how to survive independently, enter the blood stream, travel to distant sites, establish a home in the new setting, invade nearby tissues and commandeer its own blood supply. By the time cancer cells acquire these attributes, they have developed resistance to most standard therapies.



“This funding allows us to expand the Center, to buy exceptional equipment and to recruit extraordinary scientists who would otherwise be impossible to get,” said Greene, Center co-director, Virginia and D.K. Ludwig Professor and Chairman of the Ben May Department for Cancer Research at the University of Chicago. “It would not be possible to obtain this kind of funding from, say, the National Institutes of Health. Thanks to the Ludwig gift, we plan to make this Center one of the best in the world.”

Weichselbaum, Center co-director and D.K. Ludwig Professor and Chairman of the Department of Radiation and Cellular Oncology, said the gift meets an urgent and widespread need, particularly as cancer rates among the elderly in the United States are expected to continue to increase as the population ages.

“Although metastasis is the leading cause of cancer deaths, accounting for 80 to 90 percent of cancer mortality, it has only recently become a major focus of research,” he said. “This will enable us to learn more about its basic biology and to use that knowledge to develop new therapies.”

The University of Chicago team has made significant progress in cancer-metastasis research, particularly in the area of radiotherapy.

“We’ve already had some success using precisely targeted high-dose radiotherapy for patients with a limited number of metastases,” Weichselbaum said. “We completed small clinical trials involving patients with five or fewer metastases and no proven treatment options. At least 20 percent of those patients are still alive five years after their therapy. We are also developing genetic classifiers to identify those patients who are most likely to benefit from this approach.”

As an initial focus, the Chicago researchers at the Ludwig Center have been studying the genes and processes involved in metastasis and developing and testing novel ways to treat it. This includes using steroid hormone analogs and their receptors to detect metastasis, determine their location and deliver cancer-killing treatments directly to tumor cells.

“We find that steroid receptors can provide accessible and highly specific targets, even in advanced metastatic disease,” Greene said.

They also will continue promising studies of treatment, using highly focused radiation and other tools, for patients with [oligometastasis](#), a defined intermediate state between localized disease and widespread metastasis.

## **A History of Innovation**



The University of Chicago Ludwig Center directors combine deep expertise in the basic biology of cancer with a long-term commitment to innovation in cancer care. Greene is an authority on the role of steroid hormones and their receptors as targets for cancer therapy and on the roles of microRNAs, which can promote or inhibit cancer cell growth, invasion and metastasis. Weichselbaum is an expert on radiation therapy for cancer care and on novel ways to combine it with other forms of treatment, such as genetic or immunotherapies.

University of Chicago scientists have been at the forefront of hormone- and radiation-based cancer treatments since the 1940s. In 1941, Charles Huggins, MD, a urologic surgeon at the University of Chicago, demonstrated the relationship between testosterone and prostate cancer, establishing the concept of hormonal treatment of cancer, which he subsequently extended to breast and other cancers. His discoveries brought him the Nobel Prize for Physiology or Medicine in 1966.

Large-scale investigations at the University on radiation biology and its application to cancer treatment grew out of the Manhattan Project during World War II, leading to rapid advances, with substantial early funding from the U.S. Atomic Energy Commission.

#### **About Ludwig Cancer Research**

Ludwig Cancer Research is an international collaborative network of acclaimed scientists with a 40-year legacy of pioneering cancer discoveries. Ludwig combines basic research with the ability to translate its discoveries and conduct clinical trials to accelerate the development of new cancer diagnostics and therapies. Since 1971, Ludwig has invested \$2.5 billion in life-changing cancer research through the not-for-profit Ludwig Institute for Cancer Research and the six U.S.-based Ludwig Centers. For more information about Ludwig Cancer Research, visit [www.ludwigcancerresearch.org](http://www.ludwigcancerresearch.org). Follow Ludwig Cancer Research on Twitter at @Ludwig\_Cancer.

#### **About the University of Chicago Medicine and Biological Sciences**

The University of Chicago Medical Center, established in 1927, is one of the nation's leading academic biomedical institutions. It includes the University of Chicago Medicine, the Pritzker School of Medicine, and the Division of the Biological Sciences. The Medical Center is consistently recognized as a leading provider of groundbreaking research, medical education, complex medical care and biomedical innovation. University of Chicago physician-scientists have been pioneers in cancer biology, organ transplantation, sleep research, evolutionary biology and many other fields.

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