

Awards given for leukemia treatment, DNA advances

September 14 2009, By MALCOLM RITTER , AP Science Writer

(AP) -- Five scientists have won prestigious research awards for developing a life-saving leukemia treatment and for advances in "reprogramming" DNA, which led to a new kind of stem cell.

The \$250,000 Lasker Awards will be presented Oct. 2 in New York by the Albert and Mary Lasker Foundation. In addition, New York mayor [Michael Bloomberg](#) will receive a Lasker prize for public service.

The clinical medical research award is shared by three scientists for work related to Gleevec, a drug that transformed [chronic myelogenous leukemia](#) from a fatal cancer into a manageable chronic condition.

The honorees are Brian Druker, 54, of the Oregon Health & Science University; Nicholas B. Lydon, 42, formerly of Novartis AG; and Charles L. Sawyers, 50, of the Memorial Sloan-Kettering Cancer Center in New York.

Druker and Lydon's research led to development of the drug, which gained federal approval in 2001, while Sawyers led efforts to overcome resistance to the drug that arises in some patients.

All three worked on studies in patients that began in 1998 and produced "astonishing results," the foundation said.

"At one point they witnessed something no oncologist had seen before: Patients on the edge of death were climbing out of bed and leaving the

hospital within one week of their first Gleevec dose," the foundation said.

The award for basic medical research is shared by John Gurdon, 76, of Cambridge University and Shinya Yamanaka, 47, of Kyoto University in Japan and the Gladstone Institute of Cardiovascular Disease in San Francisco.

Their work is key to research into [stem cells](#), which scientists hope will reveal secrets of some diseases and lead to new treatments for disorders like spinal cord injury and Parkinson's disease.

Gurdon's work in the 1950s and 1960s showed that the DNA from specialized cells of frogs, like skin or intestinal cells, could be used to generate new tadpoles. That showed the DNA still had its ability to drive the formation of all cells of the body.

His work ignited the field of reprogramming DNA from specialized cells back to a more versatile state, like that in stem cells. In 1997, other scientists announced a startling advance in that area: They'd extended Gurdon's work to mammals by cloning Dolly the sheep from the DNA of an adult.

Gurdon and Dolly's creators had reprogrammed DNA by transplanting it into an egg. But in 2006, Yamanaka reported a landmark discovery: He'd been able to reprogram the DNA within ordinary skin cells from mice so that the cells behaved very much like embryonic stem cells. The next year, he and others reported success in transforming human cells.

Yamanaka's work showed a new way to make human stem cells, without the ethical quandry of growing eggs into embryos that are then destroyed. Many labs now use the new approach to make what scientists call "induced pluripotent stem cells."

Bloomberg, 67, won the Mary Woodward Lasker Public Service Award for "employing sound science in political decision-making, setting a world standard for the public's health as an impetus for government action ... advancing public health through enlightened philanthropy" and fighting tobacco use, the foundation said.

On the Net:

Lasker Foundation: <http://www.laskerfoundation.org>

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