

Oliver Smithies, 2007 Nobel Prize winner in medicine, dies (Update)

January 11 2017

Genetics researcher Oliver Smithies, who won the Nobel Prize for medicine in 2007, has died at age 91.

The University of North Carolina at Chapel Hill announced Smithies' death Wednesday. University spokeswoman MC VanGraafeiland said school officials were told of his death on Tuesday by his wife, Dr. Nobuyo Maeda.

Smithies won the Nobel Prize for developing a technique used to manipulate genes in mice. The advance enhanced genetic research to better understand cancer, obesity, heart diseases and other diseases.

The university said Smithies' lab created the first animal model of cystic fibrosis in 1992.

"Oliver was a truly remarkable person with a joy for life and science. His brilliance was paired with infectious enthusiasm that inspired everyone around him," said Dr. J. Charles Jennette, chair of the UNC School of Medicine department of pathology and laboratory medicine.

Smithies' work aided in the creation and use of "knockout mice," which have helped scientists understand how individual genes work. According to a National Institutes of Health genome research webpage, knockout mice are mice in which researchers have inactivated, or "knocked out," an existing gene and replaced or disrupted it with an artificial piece of DNA.

Knockout mice have been used to study and model varieties of cancer, obesity, heart diseases and other diseases.

In 1992, Smithies' lab at UNC-Chapel Hill created the first animal model of cystic fibrosis.

Smithies shared his 2007 prize with the University of Utah's Mario Capecchi and Sir Martin Evans of Cardiff University in the United Kingdom. On that day, his lab threw together a party for the modest, British-born scientist. In his cluttered office, little toy mice lined his bookshelves.

"I feel rather peaceful," Smithies told The News & Observer of Raleigh at the time. "I've been working at the bench for more than 50 years, and it's nice to find that people appreciate what you've done. It feels like what a lot of people have mentioned - a capstone on one's career."

Smithies and his fraternal twin brother, Roger, were born June 23, 1925, in Halifax, England. A bout with rheumatic fever at age 7 left him with a heart murmur. The condition was then considered serious enough that he wasn't allowed to play sports until he was a teenager.

Smithies received a scholarship to Oxford University in 1943, and briefly studied medicine before changing his concentration to physiology. He was awarded a bachelor's degree in physiology in 1946, and a master's degree and doctorate in biochemistry from Oxford in 1951.

Smithies did postdoctoral work at the University of Wisconsin and later worked at the Connaught Medical Research Laboratory from 1952 until 1960.

After returning to the University of Wisconsin in 1960, Smithies was

among the first scientists to physically separate a gene from the rest of the DNA of the human genome.

At Chapel Hill, his research continued using gene targeting to create animal models to study human diseases, better understand their cause and progression and help develop new treatments. His most recent research focused on hypertension and kidney disease.

Last fall, the university launched the Oliver Smithies Research Archive website to make available more than 150 of his notebooks.

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Citation: Oliver Smithies, 2007 Nobel Prize winner in medicine, dies (Update) (2017, January 11) retrieved 26 April 2024 from <https://medicalxpress.com/news/2017-01-oliver-smithies-nobel-prize-winner.html>

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