ON THE BEAT

Obituary

Dr. Edwin G. Krebs, a Nobel laureate whose codiscovery of reversible phosphorylation would ultimately affect research in the fields of heart disease, diabetes, cancer, and nerve disease, died Dec. 21 in Seattle. He was 91.

Dr. Krebs, who spent most of his career at Seattle's University of Washington School of Medicine (he joined the faculty in 1948, 2 years after the school opened), died of complications from progressive heart failure.

Although the Lansing, Iowa, native had designs on becoming a physician when he started his undergraduate studies at the University of Illinois, it was his fascination with research work that motivated him to change course after his graduation from Washington University School of Medicine in St. Louis in 1943.

After serving in the United States Navy during World War II as a medical officer, Dr. Krebs was recruited by the husband-and-wife team of Carl and Gerty Cori (1947 Nobel laureates for their research in carbohydrate metabolism and enzymes) to conduct postdoctoral research in biological chemistry at Washington University.

Dr. Krebs then went to Seattle to take a faculty position in the medical school at the University of Washington.

DR. EDWIN G. KREBS

It was there that he met Dr. Edmond H. Fischer, starting a professional partnership and personal friendship that would last for 60 years.

The two made what Dr. Krebs would later describe as an accidental discovery in the early 1950s: that the enzyme glycogen phosphorylase, which affects the energy in muscle cells, was activated by a chemical reaction with phosphate, and deactivated by its removal. The process became known as reversible phosphorylation.

Subsequent research by Dr. Krebs and

NIH, FDA Join to Speed Therapy Development

Top scientists at the National Institutes of Health and the Food and Drug Administration will be working together more closely in an effort to improve regulatory science and bring new treatments to market sooner.

With more new treatments based on emerging technologies, NIH and FDA scientists must communicate earlier and more often, explained Kathleen Sebelius, secretary of the Department of Health and Human Services. From the beginning of a therapy's development, basic scientists at the NIH should share information with the FDA so that FDA regulators can develop appropriate safety and effectiveness standards early on.

At the same time, FDA scientists can help researchers identify possible safety or quality issues earlier in the process, she said during a news conference to announce the partnership.

"By communicating throughout the process, it will help researchers navigate the regulatory process and give regulators the scientific tools they need to quickly assess a treatment's risks and benefits," Ms. Sebelius said. "For Americans, this is going to mean that new treatments are available sooner."

The initiative calls for the creation of a joint FDA–NIH Leadership Council that will include FDA Commissioner Dr. Margaret A. Hamburg and NIH Director Dr. Francis S. Collins, as well as six senior scientists from each of the two agencies. The NIH and the FDA have also pooled their resources to offer $6.75 million in grants over the next 3 years for research on regulatory science. For example, the agencies are looking for ideas on how the FDA would evaluate safety and effectiveness in new stem cell therapies.

Government officials will be seeking public comment on how the two agencies can improve their collaboration. The NIH and the FDA will hold a public meeting jointly this spring to gather input from industry, patient advocates, and the public.

To bring safe, effective therapies into the market sooner, the science used to develop new therapeutic compounds must be closely connected to the science the FDA uses to review those compounds, said Dr. Collins of the NIH.

—Mary Ellen Schneider

Dr. Fischer, as well as that of other scientists, led to the discovery that reversible phosphorylation affects cellular proteins, and is key in the regulation of cellular processes.

It was a breakthrough that, among other things, eventually led to the development of techniques to help prevent the rejection of transplanted organs.

In 1992, 40 years after their initial discovery, Dr. Krebs and Dr. Fischer were awarded the Nobel Prize in Physiology or Medicine.

In his autobiographical notes for the Nobel Foundation, Dr. Krebs said that as a youngster, he did not aspire to a career in science, but he liked to make gunpowder using his brother's chemistry set, and "the closest that I came to expressing an interest in biology was the maintaining of a balanced aquarium."

In 1933, when Dr. Krebs was 15, he and his siblings moved with their newly widowed mother to Urbana, Ill.

Dr. Krebs recalled being fascinated by his undergraduate research in organic chemistry at the University of Illinois, where he spent a lot of time in the laboratory. He first heard about phosphorylase while attending medical school in St. Louis, and his research there with the Coris, which involved the study of protamine with rabbit muscle phosphorylase, sealed his destiny as a biochemist, he wrote.

His long career at the University of Washington in Seattle, where he started as an assistant professor of biochemistry, was interrupted only by a stint as founding chair of the biological chemistry department at the University of California, Davis, from 1968 to 1977, after which he returned to UW to chair the department of pharmacology.

He was a recipient of an Albert Lasker Basic Medicine Research Award, a Gairdner Foundation Award from Canada, and Columbia University's Louisa Gross Horwitz Prize, among many other honors.

Dr. Krebs is survived by his wife of 65 years, Virginia Krebs, three children, four grandchildren, and six great-grandchildren.

He also is survived by Dr. Fischer, 89, who remembered him as "the epitome of a gentleman" in a statement a few days after Krebs' death. "It marks the end of an extraordinary and wonderful friendship."

—Jane Locastro