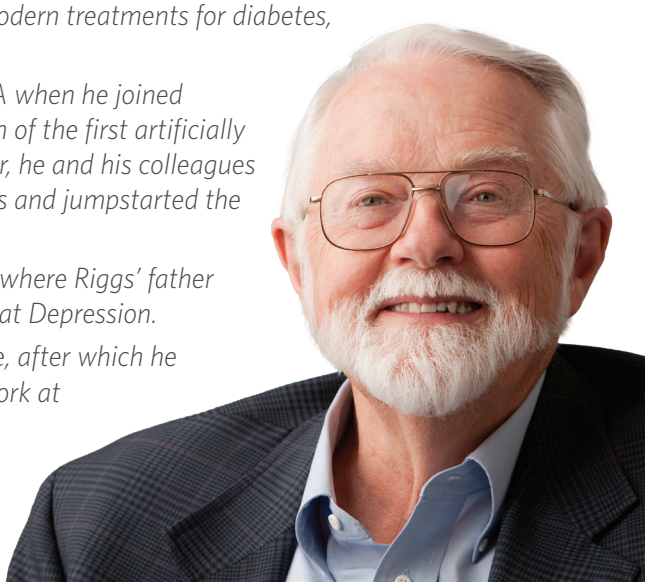
City of Hope

6 Questions With Arthur Riggs, Ph.D.

Arthur D. Riggs, Ph.D., the Samuel Rahbar Chair in Diabetes & Drug Discovery, is a biotechnology pioneer and the longtime leader of the diabetes research team at City of Hope. His major discoveries, made over more than a half-century of dedication to the pursuit of solutions through science, have paved the way for development of synthetic human proteins, such as synthetic insulin, as well as recombinant antibody technology that has served as the foundation of so many modern treatments for diabetes, cancer, autoimmunity, blindness and a host of other diseases.



Riggs was already recognized for his novel research into the inner workings of DNA when he joined City of Hope as a research scientist in 1969. In 1977, his research led to the creation of the first artificially synthesized human protein, the human growth hormone somatostatin. A year later, he and his colleagues were able to synthesize human insulin — a breakthrough that saved countless lives and jumpstarted the launch of a $500 billion global biotech industry.

Riggs was born in California's Central Valley. His family moved to San Bernardino, where Riggs' father built and managed a mobile home park after losing the family farm during the Great Depression.

Riggs completed his undergraduate studies at the University of California Riverside, after which he received his Ph.D. in biochemistry from Caltech in 1966, conducted postdoctoral work at the Salk Institute until 1969 and then accepted his first full-time appointment at City of Hope.

Below, he explains the motivation behind his historic gift to City of Hope as well as what has driven him to spend a lifetime pursuing cures for humanity's most catastrophic diseases.

1. Can you tell us more about the critical research at City of Hope that your donation is making possible?

We have a broad-based research program in diabetes, with robust programs in several important areas. One area of study is beta cell biology, where we're learning how the beta cell works and how it functions to release insulin. We have a strong program in regeneration and development, where we are studying how to repopulate a pancreas with beta cells. Finally, we're exploring islet cell transplantation, where we are taking beta cells from cadavers, and eventually from regenerative cells, and transplanting them into people with diabetes. These new funds will support that research and make sure we continue to have a robust diabetes research program well into the future.

2. How will your gift help the diabetes community? Patients?

The beta cells in people with diabetes are not making insulin or not making enough insulin. Everything we are doing related to reactivating, reawakening or regenerating beta cells is leading toward cures for both type 1 and type 2 diabetes.

3. Why has it been important for you to give back to nonprofits like City of Hope?

First, I believe that the cure of catastrophic human diseases is a high calling, and it's always been my goal. Second, City of Hope has been an extremely good place to do research on these diseases. It has a hospital on site where you can see the need, where you get the reinforcement of what you're trying to do, which is curing disease and reducing human suffering. So, I am an enthusiast for what City of Hope is trying to do. Finally, the money I have acquired has come largely from patents, and I have the general idea that money derived from science should go back to science. So, in giving to City of Hope, I'm able to behave consistently with my philosophy.

4. Why have you chosen to focus on diabetes research in your career? Do you have a personal connection to diabetes?

When I became deeply involved in diabetes research, it was an epidemic that was becoming disastrous for the entire world, a catastrophic disease for which we needed to find a cure. I felt for that reason it was important for City of Hope, in addition to its focus on cancer, to become a leader in diabetes research.

5. What has been your proudest moment as a researcher?

For me, the pinnacle of my accomplishments was early in my career, when we were able to get somatostatin produced in bacteria. For the first time, humans were able to use the genetic code to design a gene that hadn't existed in nature before. From then on, we knew that humans could design genes and get them to work. It was a fundamental discovery that opened up an entirely new approach to medicine.

6. What are your thoughts on the future of diabetes? In your opinion, what needs to happen to cure diabetes?

I think we're making progress rapidly, and we're very near to a cure at the research level. After that, you have to do clinical trials and ensure safety and efficacy [for patients]. But in the lab, we're very close.