Our collaboration with AstraZeneca is fabulous. Of all the interactions I’ve had with industry over the years, this one is the most open and mutually beneficial.

Gary K. Owens, Ph.D., Director, Robert M. Berne Cardiovascular Research Center, University of Virginia

Through a strategic research collaboration established in 2009, the University of Virginia (UVA) and AstraZeneca are working together to develop innovative treatments for cardiovascular disease.

The partnership supports preclinical to clinical research projects aimed at identifying disease mechanisms and biological targets with potential to become successful and commercially viable treatments in areas of high unmet medical need. Principal investigators from the university are matched with AstraZeneca researchers to accelerate the translation of research into new drugs, by tapping into the strengths of both partners.

The collaboration started as a programme aimed at identifying novel targets in areas including atherosclerosis and heart failure but has since expanded into also defining a new model for integrated translational and clinical research, from target identification to eventually bringing a new drug to patients.

**Success to date includes**

- 10 potential new targets
- 6 projects contributing to testing of AstraZeneca drug candidates
- 5 National Institutes of Health grants for AstraZeneca-sponsored research
- 12 publications

**Clinical studies underway**

Several clinical studies are currently underway or in planning. Work has included design and funding of integrated clinical trials aimed at optimising assessments of coronary atherosclerotic disease, heart failure and overall residual cardiovascular risk. The project focuses on measurements of coronary flow reserve and microvascular disease, which is a key priority for AstraZeneca and an area where UVA ranks among the top universities in the world.

The partners have also established unique translational science research teams, which are working to optimise the transition from animal models to human clinical trials. This includes a comprehensive mouse study examining how atherosclerosis and hyperglycemia impact coronary flow reserve, as well as development of methods for targeted drug delivery to areas of myocardial infarction.

A new study will be carried out this year to characterise patients suffering heart failure with preserved ejection fraction (HFpEF), through the use of high end MRI technology to quantify fibrosis. Plans are also in place for a study to assess the effects of novel anti-inflammatory compounds in patients with chest pain and normal angiogram.
What's special about the collaboration?

**AstraZeneca perspective:**
“The collaboration is going really well. The UVA team is able and willing to adapt to the evolving needs of our partnership and to recognise and discuss areas of improvement. As a result, we’ve made great progress and are now planning for clinical trials. The ultimate objective of any drug development effort is to get new medicines to patients who need them, so this is really exciting,” said Peter Åkerblad, Associate Director, Cardiovascular & Metabolic Diseases iMed.

Nils Bergenhem, Collaboration Manager, Cardiovascular & Metabolic Diseases iMed, said: “I have been involved in many collaborations, both at AstraZeneca and other pharmaceutical companies, as well as on the academic side. This is by far the best one I’ve come across in all those years. The close interaction with the university makes this a perfect partnership and an excellent best practice example.”

**University of Virginia perspective:**
“We feel like we’ve gone from bench to bedside. The collaboration with AstraZeneca is enhancing our ability to do research that has a direct impact on patients. During the past four years, this has put the UVA cardiovascular group ahead of every other research area at the university,” said Professor Gary Owens, Director, Robert M. Berne Cardiovascular Research Center, University of Virginia.

“Unlike many other pharmaceutical companies, AstraZeneca are willing to open up. They tell us what they have done and why they had to abandon a particular route. We might have suggested going down that route. But once we know it doesn’t work, we can do something else, which promotes creativity and innovation.

“This is a fabulous partnership and we are enthusiastic about its future. We would like to continue discussions about possible joint UVA-AstraZeneca faculty hires in areas of strategic need. We are also excited about the opportunity to augment our joint translational science efforts.”

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