

NSU researcher makes breakthrough discovery to curb heart failure

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A Nova Southeastern University (NSU) researcher has announced a breakthrough discovery to block a protein that can contribute to heart failure.

His discovery will appear in an upcoming issue of the prestigious medical journal, the *Journal of the American College of Cardiology*.

Anastasios Lymperopoulos, Ph.D., an NSU College of Pharmacy assistant professor of pharmacology, has discovered a novel method, using gene therapy, to block the actions of a gene-encoded protein.

That protein, known as beta-arrestin 1, causes an increase of aldosterone production from the body's adrenal glands into the blood. Aldosterone is a hormone. It increases the reabsorption of sodium and water into the kidneys, causing high blood volume and blood pressure. It also has several direct damaging effects on the heart, such as fibrosis, [hypertrophy](#), and inflammation.

An increase in blood volume causes [high blood pressure](#). This in turn decreases the pumping action of the heart, and is one of the causes of [heart failure](#).

By finding a way to block beta-arrestin 1 through this gene therapy approach, professor Lymperopoulos hopes it will lead to the reduction of the severity of heart failure. He is now testing new and existing heart failure medications such as Cozaar, Diovan and Atacand, to see how

effective they are at blocking this damaging effect of beta-arrestin on the heart.

Provided by Nova Southeastern University

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