Research Proposal:
Activating good genes to improve heart function.

Chief Investigator: Associate Professor Julie McMullen
Laboratory: Cardiac Hypertrophy Laboratory.

A UNIQUE NEW ANGLE
Until now, most research has largely focused on blocking the ‘bad’ genes connected with heart failure, slowing the damage and delaying the gradual, ultimately fatal, decline in heart function.

Rather than just alleviating the effects of ‘bad’ genes on the heart, A/Professor Julie McMullen and her team have approached this problem from a unique new angle – by activating the good genes that improve heart function.

This unique approach to solving an age-old problem puts Julie ahead of the game. 10 years ago, she came up with this novel idea to treat heart failure; today her bright spark of an idea is coming to fruition.

RESEARCH IN DETAIL
Julie began by identifying genes critical for heart growth in athletes, a normal response to healthy exercise which leads to an increase in the heart’s muscle mass and pumping ability.

Through her research she identified that if she could activate these same good genes in heart failure models, she could improve heart function. In patients, this approach could help make their hearts beat stronger and give them a better quality of life, and a longer life to live.

In laboratory trials, A/Professor McMullen’s team and her collaborators have now proven they can elevate one of these ‘good genes’ – and improve heart function – using a safe and proven drug.

“Heart failure is a real area of unmet need – there are so many people like my late grandmother, who experience a reduced quality of life, preventing them from undertaking simple tasks alone. This can have a big impact on entire families. With increasing rates of obesity and diabetes, much younger people are also affected by heart conditions which can progress to heart failure. Current drugs are not very effective so it is important that we identify new therapies for patients with heart disease and heart failure.”

A/Professor McMullen and her collaborators are on the verge of a breakthrough that could make a big difference to people living with heart failure.

Having made this exciting discovery, the team are now applying to take the drug to a human clinical trial in patients with heart failure.

Without your essential support, many research ideas like Julie’s would simply never progress.
HOW YOUR DONATION WILL HELP

Your donations 'make ideas fly'. Without your essential support, many potentially life-saving ideas like Julie's would simply never get off the ground.

Research funding is very limited – every year, just one in four research projects are successfully funded by the government’s NHMRC. It leaves many promising, potentially life-saving research applications stalled and unable to progress.

That’s where your donation helps. Your gifts are invested into the most important, promising, innovative research in urgent need of support.

Thanks to you, researchers like Julie have the resources they desperately need to develop novel, unique ideas into new treatments, therapies and cures that will benefit us all.

KEY AREAS OF SUPPORT

Your kind donation today could support Associate Professor McMullen in developing a new, ground breaking treatment for heart failure patients.

1 CONSUMABLES

Identification of novel biomarkers in the blood (e.g. genes, lipids (fats) and proteins) in experimental models and heart failure patients:

Your gift could help fund essential laboratory consumables needed by the team to analyse these samples.

2 TREATMENT

Laboratory testing into whether novel drugs can improve heart function:

Your donation could purchase these drugs to allow researchers to test their effectiveness.

3 EQUIPMENT

High-tech equipment needed by the team to manipulate genes in culture, is being pushed to its limit:

Your support could help fund this expensive but essential equipment to gain more accurate and quicker results, allowing the treatment to be available to sufferers in the near future.

Your gift today will support research to help broken hearts beat stronger.