



Nasab Ghazal

David, Helen and Marian Woodward Award

Ph.D. Student, Biochemistry, Cell and Developmental Biology
Second Year ARCS Scholar

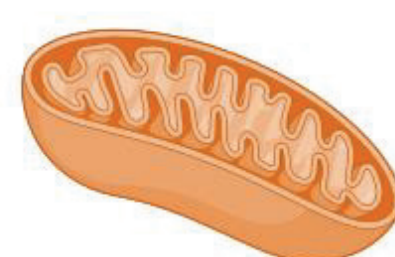


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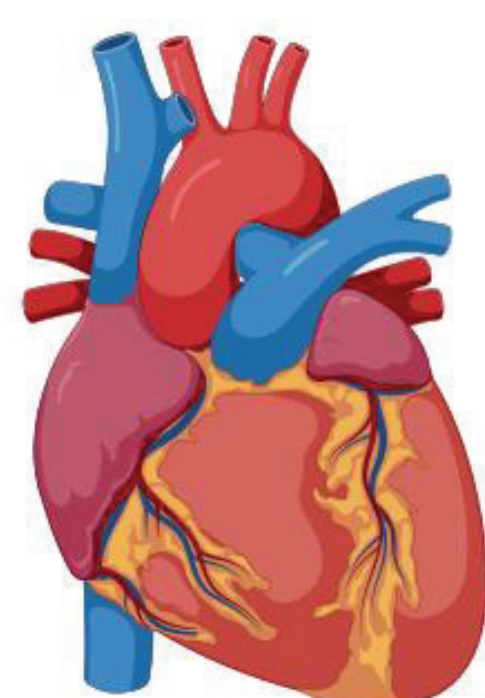
Reviving the Heart's Power Plants with a Surprising Medicine

Using meclizine, a safe over-the-counter drug, I study how reorganizing mitochondria—the cell's power plants—protects the heart in a genetic model of mitochondrial disease.

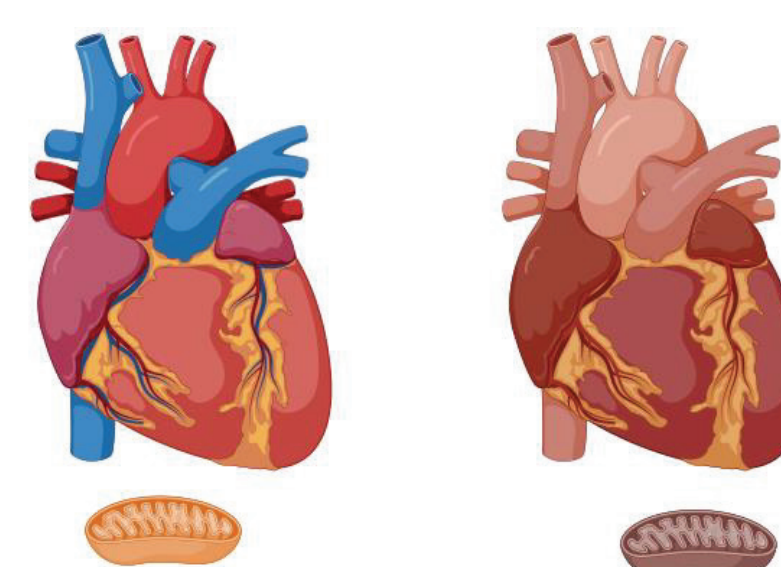
Finding ways to keep the heart's power plants running



My research studies how heart cells keep producing energy when their mitochondria—the cell's power plants—are damaged.

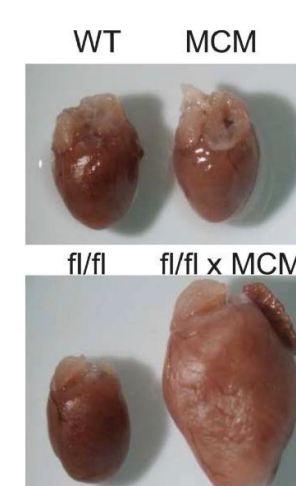


Heart Failure Starts with an Energy Crisis



- Heart cells rely on mitochondria to make energy.
- When mitochondria fail, the heart weakens.
- No therapies currently fix mitochondrial defects.

A Mouse Model of Mitochondrial Heart Disease



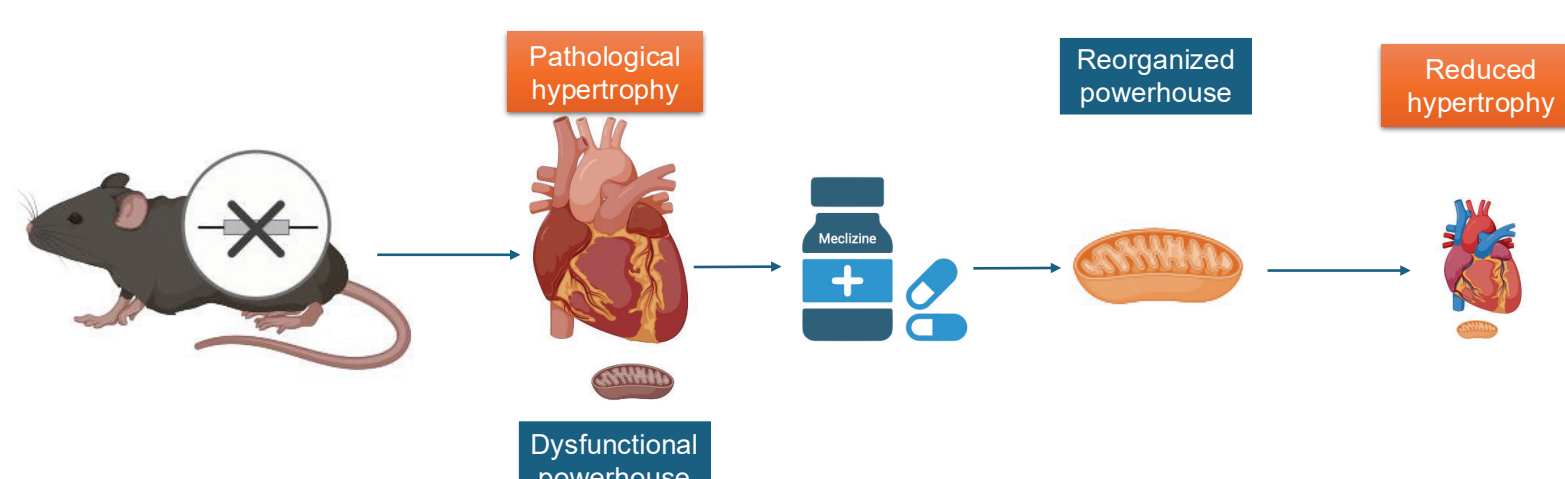
- Engineered mice mimic rare mitochondrial heart disease.
- Let's test therapies in a controlled setting.

Repurposing an Old Medicine



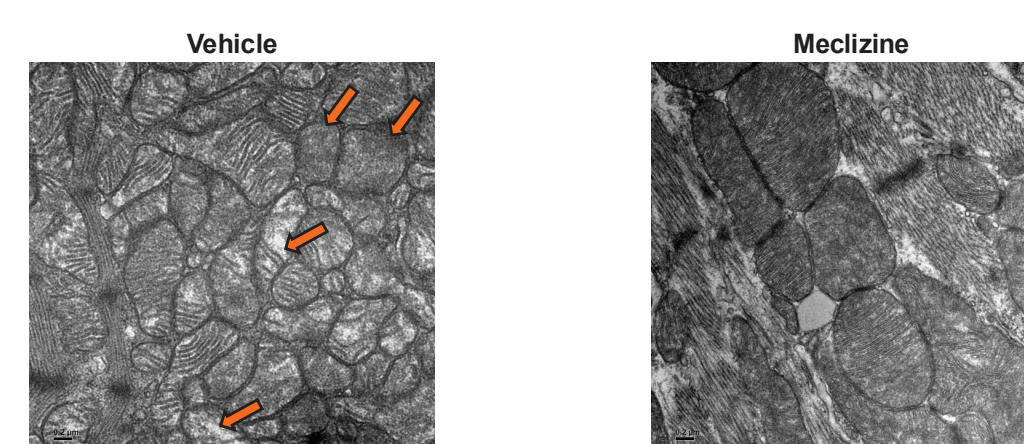
- Meclizine is an FDA approved over-the-counter motion sickness drug.
- It surprisingly improved heart health in mice.

Fixing the heart's power plants



- Could lead to the first treatments for mitochondrial heart disease.
- Offers hope for thousands of children & adults.

Connecting Structure and Function



Meclizine reorganizes mitochondrial cristae, improving mitochondrial function.

Scholar Awards Celebration
November 12, 2025



Igniting
Innovation
in Georgia