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# ***How does knocking down specific genes cause dysregulation in metabolic pathways?***

College of Sciences and Health Professions

**Student Researcher:** Jasline S. Rosario

**Faculty Advisor:** Shamone Gore Panter

## **Abstract**

Atrial Fibrillation (AF) is an arrhythmia that can cause stroke, heart failure and several other complications. The purpose of this research is to see how knocking down specific genes can cause dysregulation in metabolic pathways in the mitochondria. Oxidative stress on the mitochondria aids in the development of Atrial Fibrillation. A technique called gene knockdown is essential because we can manipulate and reduce genes in favor of what we are trying to find. [We use this technique in C2C12 myotubes because they relate to the way a human's system works.] This needs to be done because if we can knockdown a certain gene, it could possibly aid in the prevention of atrial fibrillation and reduce the number of cases in patients.