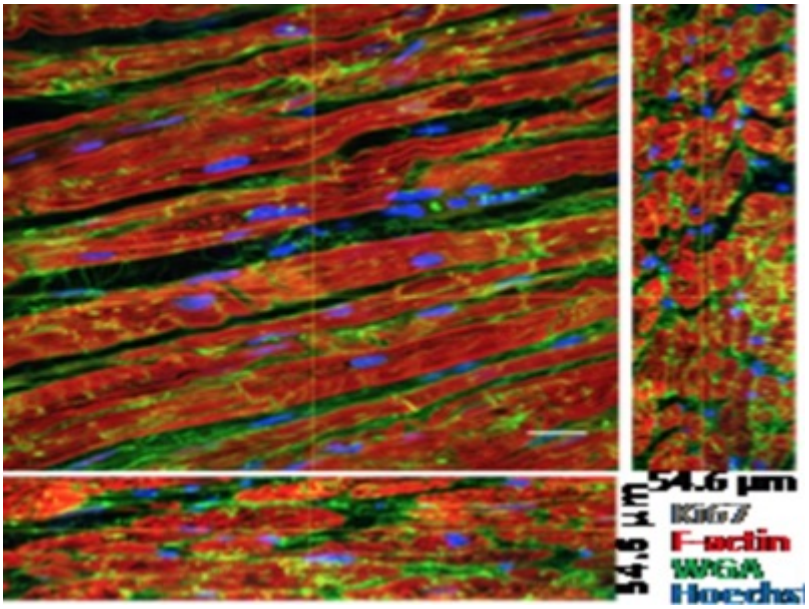
Approaches to Improving Cardiac Regeneration

The innovation offers insights into cardiomyocyte proliferation which may have important implications for therapeutic strategies that target cardiac regeneration in treating inherited and acquired heart diseases.



What is the Problem?

New adult cardiomyocytes (CMs) are generated throughout life from pre-existing CMs, but the magnitude of CM self-renewal is very low, especially after myocardial injury. Numerous genetic factors have been analyzed for their effects on cardiomyocyte proliferation. However, mechanisms through which these factors exert their effects are still poorly understood.

What is the Solution?

The solution is an innovative synergistic epigenetic and genetic model that preferentially increases G2/M and S-phase markers in CMs. This model has demonstrated increased cultured neonatal rat ventricular myocytes (NRVM) in culture, providing valuable insights into cardiomyocyte proliferation and its potential implications for cardiac regeneration therapies.

Technology ID

BDP 7317

Category

Research Tools
Therapeutics/Cardiovascular
Selection of Available Technologies

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What is the Competitive Advantage?

The competitive advantage of this innovation lies in its potential to contribute to the understanding of epigenetic regulation in inherited cardiovascular diseases and its involvement in the development of induced pluripotent stem cell cardiomyocyte therapies. By offering a novel approach for studying cardiomyocyte proliferation, the innovation holds promise for advancing the field of cardiovascular medicine and drug development. As the global cardiovascular drugs market is projected to reach USD 63.96 billion by 2026, this innovation can play a significant role in addressing the ongoing need for innovative drugs and therapies for cardiovascular diseases.

Patent Information:

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