

REVIEWER'S REPORT

Manuscript No.: JNHM-155

Title: From Bugs to Drugs: Harnessing the Cardioprotective Metabolome for Next-Generation Cardiovascular Therapeutics: A Narrative Review.

Recommendation:

Accept as it is

Accept after minor revision...

Accept after major revision

Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality		Good		
Techn. Quality	Excellent			
Clarity	Excellent			
Significance	Excellent			

Reviewer's ID: Dr.Sumathi

Detailed Reviewer's Report

1. Short-chain fatty acids (SCFAs) are small organic compounds with fewer than six carbon atoms, primarily acetate, propionate, and butyrate. They are produced when good bacteria in your gut ferment dietary fiber that your body cannot digest.
2. Novel therapeutic strategies include chimeric antigen receptor (CAR) T-cell therapy, proteolysis-targeting chimeras (PROTACs), and mRNA-based platforms. These modern medical approaches aim to treat complex diseases more precisely by engineering immune cells, degrading specific disease-causing proteins rather than just inhibiting them, or instructing cells to produce their own healing proteins.
3. Small-molecule gut-restricted enzyme inhibitors are locally acting therapeutic agents designed to stay confined within the gastrointestinal tract. By minimizing systemic absorption and exposure, these compounds target specific enzymes in the host tissue or gut microbiome to maximize local efficacy while reducing off-target systemic side effects.

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4. Early-phase clinical trials (Phase 0 and Phase 1) represent the initial transition of a medical treatment from laboratory or animal testing into human subjects. These small-scale studies primarily focus on evaluating safety, identifying side effects, determining safe dosage ranges, and understanding how the drug processes in the body.
5. Cardiovascular disease is a group of conditions affecting the heart or blood vessels, usually caused by a buildup of fatty plaque inside the arteries. It is a leading global cause of death and includes major medical events like coronary artery disease, heart attacks, and strokes.
6. The phrase "bugs to drugs" describes turning microscopic organisms like gut bacteria, or defensive compounds found in insects, into modern medical treatments. This field splits into using live microbes as advanced therapies and mining natural insect or bacterial molecules to design life-saving medicines.
7. Harnessing the cardioprotective metabolome is a revolutionary clinical strategy that transitions cardiovascular medicine from structural and hemodynamic management to precision biochemical targeting. By mapping small-molecule profiles via advanced liquid chromatography-mass spectrometry (LC-MS) and nuclear magnetic resonance (NMR) spectroscopy, researchers can isolate metabolites that shield the heart from ischemia, oxidative stress, and inflammatory failure.
8. Next-generation cardiovascular therapeutics shift care from daily symptom management to root-cause repair. Cutting-edge approaches use gene editing, RNA interference, and cellular engineering to target genetic and metabolic drivers of heart disease.
9. Key findings are good but can be given key words. It would be good to understand easily.
10. Abstract is impressive.
11. Result part can be made tables with graphs.
12. Summary points also be needed.
13. Result, discussion and summary points are essential.
14. References are sufficient but can be made in alphabetical order.
15. After those changes good to publish in your journal.