Wnt1 as a Therapeutic to Enhance Cardiac Repair and Increase Blood Flow in Patients with PVD

Technology #11-0002

Wnt-1 has been identified as a potential new therapeutic agent to enhance cardiac repair in patients with heart ailments, and to increase blood flow in patients with peripheral vascular disease. Following acute cardiac injury, Wnt1 orchestrates a critical early repair response and disruption of downstream Wnt1 signaling leads to heart failure and death. Furthermore, studies in mice show that injection of recombinant Wnt1 protein alone or human endothelial progenitor cells (hEPCs) over expressing Wnt1 improve blood flow and capillary formation in ischemic tissues.

Benefits:

- Recombinant Wnt1 can be therapeutically employed for augmenting blood flow to ischemic tissues in patients with coronary artery disease, peripheral artery disease and stroke.
• Targeting Wnt1 to epicardium and cardiac fibroblasts during acute cardiac injury may enhance wound healing response and reduce mortality in patients.
• Approach can be synergistic with current therapies salvaging myocardium after cardiac injury.
• hEPCs are already in use in clinical trials for treating heart and vascular diseases and Wnt1 can be used for enhancing the function of hEPCs prior to cell based therapy.

Related Publications:


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