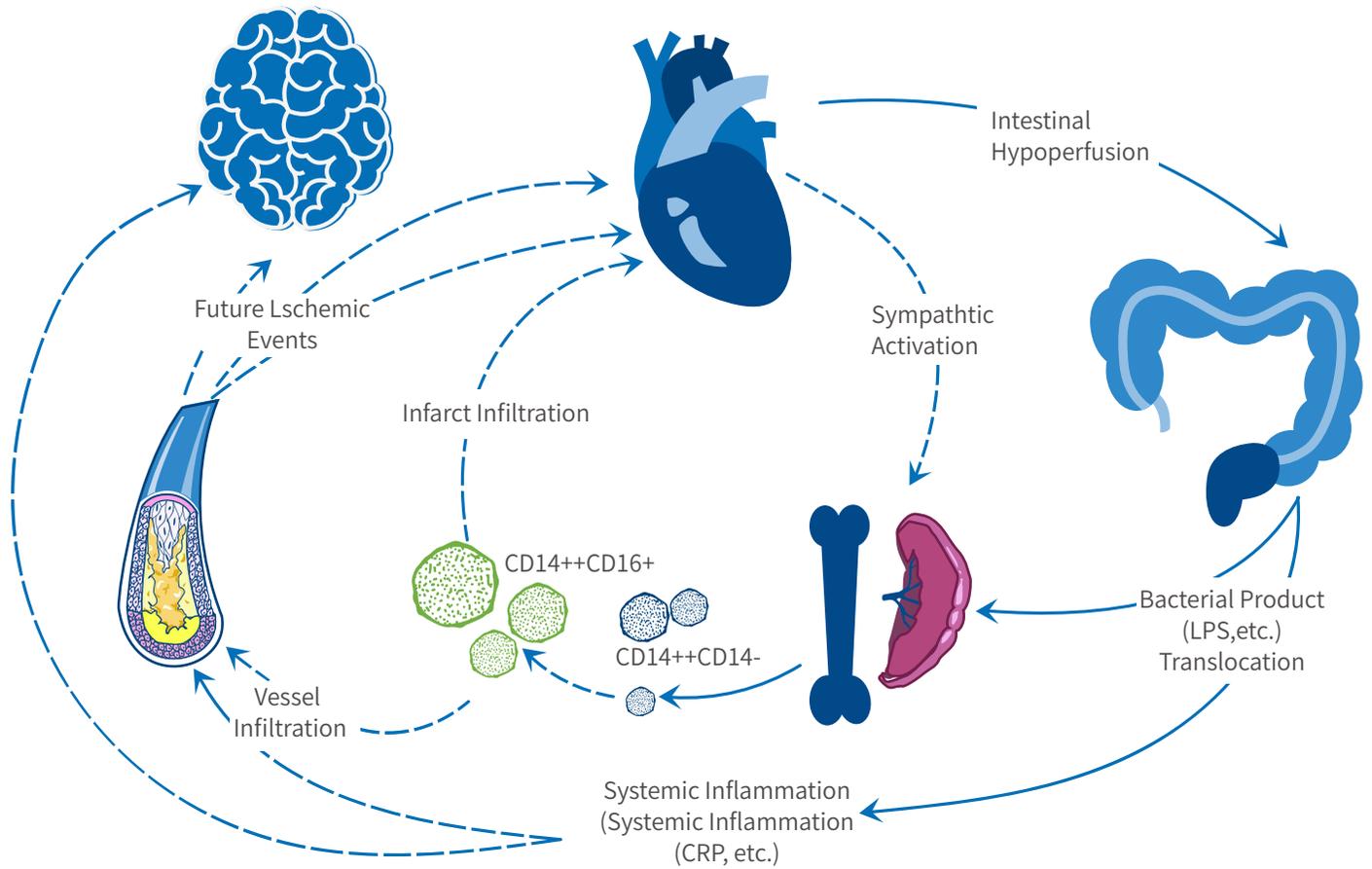


Amplicon Sequencing Application, Published on Microbiome

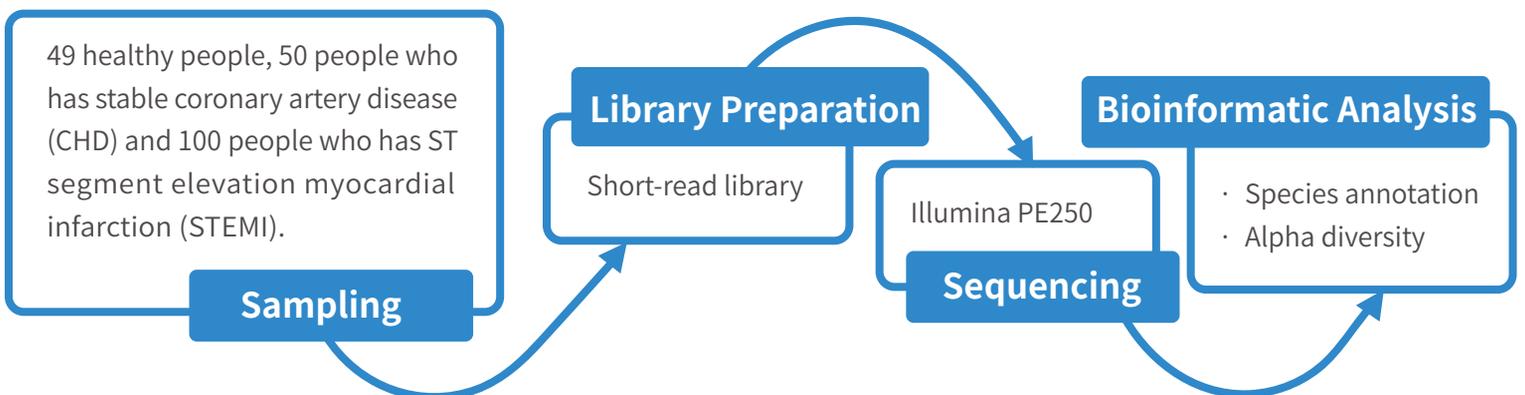
Gut-dependent microbial translocation induces inflammation and cardiovascular events after ST-elevation myocardial infarction



Introduction

Post-infarction cardiovascular remodeling and heart failure are the leading cause of myocardial infarction (MI)-driven death for the past decades. Experimental observations have involved intestinal microbiota in the susceptibility to MI in mice; however, in humans, identifying whether translocation of gut bacteria to systemic circulation contributes to cardiovascular events post-MI remains a major challenge.

Research Pipeline



Results & Conclusions

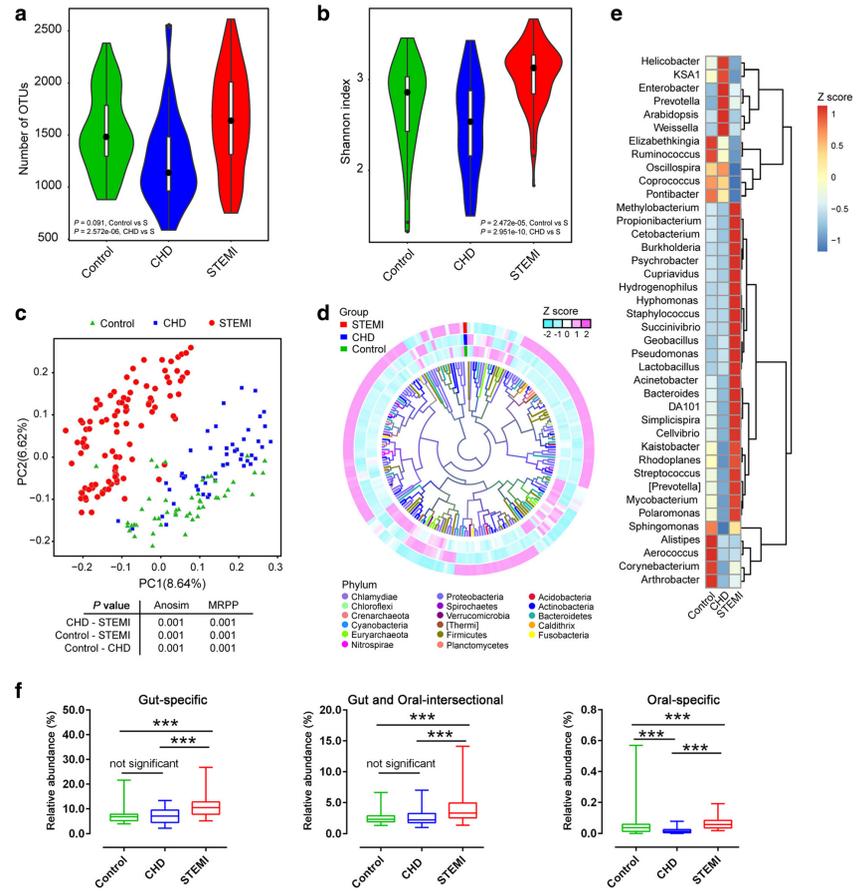
1 Intestinal-associated bacteria is enriched in systemic circulation. Because the highest translocation products of intestinal bacteria in STEMI patients occurs at 2 days after onset, the composition of blood microorganisms in three groups of people at 2 days was analyzed. It was found that STEMI patients had more OTUs and diversity than CHD and healthy people. More than 12% of plasma bacteria originated from the intestine after STEMI, indicating that intestinal flora entered the blood after myocardial infarction thus increasing the diversity of microorganisms in the systemic circulation.

2 Intestinal bacterial translocation products are associated with inflammation and left ventricular function.

3 Intestinal flora translocation promotes cardiovascular events after STEMI.

4 Intestinal permeability of MI leads to microbial translocation and inflammation.

5 Inhibition of intestinal microbial translocation reduces infarct area.



References

Zhou X, Li J, Guo J, et al. Gut-dependent microbial translocation induces inflammation and cardiovascular events after ST-elevation myocardial infarction[J]. Microbiome, 2018, 6(1):66.

Other Novogene Powered Literature

Year	Journal	Title
2018	Microbiome	Soil microbiomes with distinct assemblies through vertical soil profiles drive the cycling of multiple nutrients in reforested ecosystems
2018	Microbiome	The chemodiversity of paddy soil dissolved organic matter correlates with microbial community at continental scales
2018	Nature Communications	Hypoxia induces senescence of bone marrow mesenchymal stem cells via altered gut microbiota
2018	Nature Communications	A mapping framework of competition-cooperation QTLs that drive community dynamics
2018	Nature Communications	The microbiota maintain homeostasis of liver-resident $\gamma\delta T-17$ cells in a lipid antigen/CD1d-dependent manner
2018	Microbiome	Gut microbiota dysbiosis contributes to the development of hypertension