The generation of heart tissues from pluripotent stem cells is hampered by the lack of cellular maturation as well as problems with cellular composition.

In addition to cardiomyocytes, the heart also contains several other supporting cell types including fibroblasts, immune cells and, vascular endothelial and smooth muscle cells.

This study is a continuation of attempts to develop more realistic cardiac tissues using a "biowire" platform.

Here identified the proportions of fibroblasts, cardiomyocyte and matrix necessary to yield optimal mature heart tissue properties.

Reference: Zhao Y, Rafatian N, **Backx PH**, et al. Engineering microenvironment for human cardiac tissue assembly in heart-on-a-chip platform. Matrix Biol. 2020;85-86:189-204. doi:10.1016/j.matbio.2019.04.001

Here is a link to this article: