

Product Description

Cardiac fibroblasts (CF) provide structural support for cardiac myocytes and are responsible for extracellular matrix synthesis in the heart during growth and pathophysiological conditions. CF are an important cellular component of myocardial responses to injury and the source of paracrine growth factors. CF proliferation and synthesis of matrix is essential for scar formation at sites of myocardial infarction [1] and cardiac fibrosis [2]. CF have also been found to respond to mechanical loading to regulate the metabolic activity of ventricular cells [3], making them a good model to study the cardiac matrix remodeling using physiological (exercise) and pathological (hypertension) stressors [4].

iXCells Biotechnologies provides high quality Human Cardiac Fibroblasts-adult ventricular (HCF-av), which are isolated from human adult ventricle and cryopreserved at P1, with >0.5 million cells in each vial. HCF-av express fibronectin and are negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast, and fungi. They can further expand for 16 population doublings in Fibroblast Growth Medium (Cat# MD-0011) under the condition suggested by iXCells Biotechnologies.

Product Details

Tissue	Human adult ventricle
Package Size	0.5 million cells/vial
Passage Number	P1
Shipped	Cryopreserved
Storage	Liquid nitrogen
Growth Properties	Adherent
Media	Fibroblast Growth Medium (Cat# MD-0011)

References

- [1] Sabri, A., Short, J., Guo, J., Steinberg, S. F. (2002) Protease-activated receptor-1-mediated DNA synthesis in cardiac fibroblast is via epidermal growth factor receptor transactivation: distinct PAR-1 signaling pathways in cardiac fibroblasts and cardiomyocytes. *Circ. Res.* 91:532-9.
- [2] Akiyama-Uchida, Y. et al., (2002) Norepinephrine enhances fibrosis mediated by TGF-beta in cardiac fibroblasts. *Hypertension* 40:148-54.
- [3] Burgess, M. L., Terracio, L., Hirozane, T., Borg, T. K. (2002) Differential integrin expression by cardiac fibroblasts from hypertensive and exercise-trained rat hearts. *Cardiovasc Pathol* 11(2):78-87.

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