

Synchronization of iPS-derived cardiomyocytes to visitor heartbeat in an interactive museum exhibit

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Abstract

Science museums play an important role in science education, both engaging the public with science concepts and building support for scientific research. Designing museum exhibits to meet increasing public interests in the life sciences is particularly important, yet remains challenging. In this report we describe *Give Heart Cells a Beat*, a permanent interactive science exhibit that allows museum visitors to synchronize the beating of live stem cell-derived cardiomyocytes to their own heart rate in real-time. Evaluation with museum visitors reveals that the exhibit engaged the public with the specimen and prompted curiosity in heart biology and, to a lesser degree, stem cells and electrophysiology. *Give Heart Cells a Beat* is the product of a close collaboration between a museum and a research laboratory, and, to our knowledge, the first example of the use of live human heart cells in an interactive exhibit. We hope this exhibit will serve as an example for the implementation of stem cell technology in the field of informal science education and encourage others to pursue close working relationships between academia and public science venues such as museums.

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