

FLEXcyte 96

Contractile Force Analysis

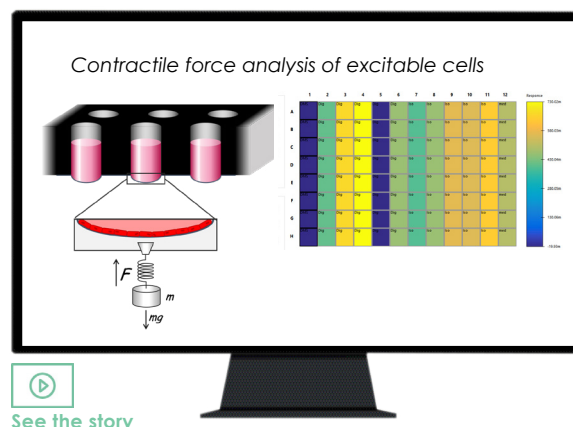
Advance your cardiac research

Contractile force measurement is an important prerequisite for applications of human induced pluripotent stem cell-derived cardiomyocytes (hiPSC-CMs) in disease modeling and in vitro drug screens. Contractile force calculation is available as an analysis parameter for the FLEXcyte 96.

This innovative technology greatly enhances the evaluation of drug candidates in cardiac safety, tox, efficacy studies or basic research.

An increase in the cell's contractile force over time, as well as a decreasing beat rate, are both well known parameters for an adult cardiac phenotype. The FLEXcyte 96 system provides both basic prerequisites needed to perform sophisticated cardiac research:

- Physiological mechanical conditions on the FLEXcyte 96 plate support mature cell behavior
- Contractile force (mN/mm^2) quantification is available in the FLEXcyte 96 software suite.



Contact us today



FLEXcyte 96

Throughput, flexibility, pro-maturation

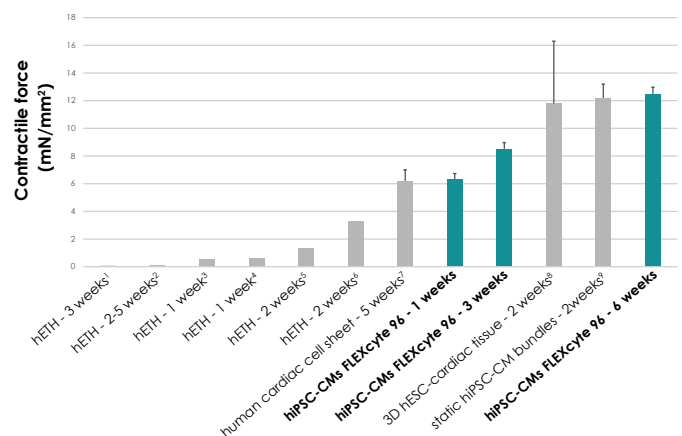
Flexibility is key for pro-maturation effect on human iPSC-derived cardiomyocytes.

Throughput is essential when working with precious materials, such as patient cells or when running multiple drug assays. Standard format 96-well plates ensure optimal experimental flexibility, data reliability and speed. Electrical, optical and pressure stimulation options offer the perfect tool for contractility research in the pre-clinical field.



The graph on the right shows contractile force values as identified in different 2D or 3D cell models with different culture times. hiPSC-CMs cultured on FLEXcyte 96 plates show increasing contractile force over prolonged culture times (hEHT = human engineered heart tissue). [¹Tulloch *et al.*, 2011; ²Schaaf *et al.*, 2011; ³Turnbull *et al.*, 2014; ⁴Masumoto *et al.*, 2016; ⁵Ruan *et al.*, 2016; ⁶Sasaki, 2018; ⁷Tiburcy *et al.*, 2017; ⁸Zhang *et al.*, 2013; ⁹Jackman *et al.*, 2018]

Contractile force as identified in different cell models using various technologies



Maturity indicators beat rate and contractile force in iCell® Cardiomyocytes² are shown in the graphs on the right. Cells were being cultured on FLEXcyte 96 plates over 40 days.

