Maturation of iPSC-CM
CardioExcyte 96 continuous pacing

- Full control of beating rate
- 96 channel electrical pacing
- Continuous pacing induces further maturation of iPSC-CM
- Improved responses to inotropic compounds in mature iPSC-CM

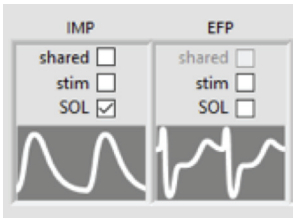
Functional maturation of iPSC - CM by pacing with CardioExcyte 96

Electrical pacing and combined investigation of contractility, extracellular field potentials and viability.

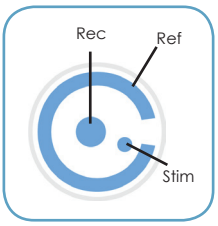
The CardioExcyte 96 device supports highly resolved impedance-based contractility measurements, MEA-like extracellular field potential (EFP) and viability recordings. It has a small footprint and allows for automated recordings from 96 wells in parallel.

The benefit of iPSC-CM (induced pluripotent stem cell -derived cardiomyocytes) due to their predictive power in drug safety assays is well established. There are however challenges to overcome due to relative immaturity of the cells, before the cells can be utilized as an all-round predictive model for drug safety assays. **Pacing at physiological heart rates can improve functionality of iPSC-CM and responses to inotropic compounds.**

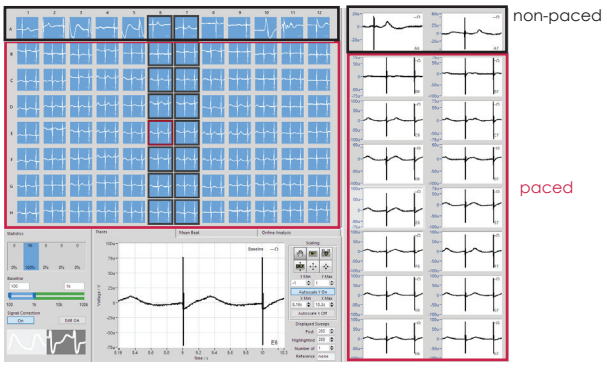
The CardioExcyte 96 allows for two independent pacing options. Electrical pacing via stimulus electrode or the stimulating optical lid, CardioExcyte 96 SOL, which uses LEDs for spatially uniform stimulation of cells transfected with light-gated ion channels such as Channel-rhodopsin2 (ChR2).



Fined-tuned user interface. Pace rate, Pulsewidth and Intensity settings can be defined.



Electrode design of 96-well stimulation plates with recording (Rec), reference (Ref) and stimulation (stim) electrode.



Extracellular field potentials in paced and non-paced iPSC-CM.

Nanion Technologies
info@nanion.de
Phone: +49 89 2 190 95072
www.nanion.de

CardioExcyte 96

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