Cardiomyocyte platform

Created on: 11-07-2019 - Last modified on: 08-11-2019

Contact person

Jolanda van Hengel

Organisation

Name of the organisation Ghent University (UGent)
Department Faculty of Medicine and Health Sciences
Country Belgium
Geographical Area Flemish Region

SCOPE OF THE METHOD

The Method relates to	Human health
The Method is situated in	Basic Research
Type of method	In vitro - Ex vivo
Specify the type of cells/tissues/organs	Cardiomyoctyes, myocard

DESCRIPTION

Method keywords

drug development
embryonic stem cells
induced pluripotent stem cells
multi electrode array
cardio

Scientific area keywords

cardiovascular disorders
cardiac toxicity

Method description

Functional cardiomyocytes can be efficiently derived from human pluripotent stem cells, which collectively include embryonic and induced pluripotent stem cells (iPSC). Specific affected biological pathways involved in disease can be functionally studied in differentiated cells at a single patient resolution and identify genetic and phenotypic correlations. In our research group, this cardiomyocyte platform presents opportunities 1. to understand complex congenital cardiovascular disorders and 2. for development of pharmacologically relevant in vitro screens to detect cardiac toxicity. Cardiac toxicity is an

unfortunate side effect of several drug compounds increasing the risk for morbidity and mortality. Furthermore, discontinuation of approval or withdrawal of these drugs for clinical use imposes financial drawbacks to pharmaceutical companies. To improve drug performance and reduce costs for drug development, cellular methods that screen for cardiotoxic effects early in the discovery process are available in my group.

Lab equipment

Multi electrode arrays (MEA)

Method status

Internally validated

REFERENCES, ASSOCIATED DOCUMENTS AND OTHER INFORMATION

Coordinated by

Financed by