

# Cardiomyocyte platform

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## SCOPE OF THE METHOD

<b>The Method relates to</b>	Human health
<b>The Method is situated in</b>	Basic Research
<b>Type of method</b>	In vitro - Ex vivo
<b>This method makes use of</b>	Human derived cells / tissues / organs
<b>Specify the type of cells/tissues/organs</b>	Cardiomyocytes, 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**

### **Associated documents**

## PARTNERS AND COLLABORATIONS

### Organisation

**Name of the organisation** Ghent University (UGent)

**Department** Faculty of Medicine and Health Sciences

**Country** Belgium

**Geographical Area** Flemish Region

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