# DrugPrint® - Predictive ion channel profiling & cardiotoxicity screening using a multicellular human cardiac model and proprietary analytical software

CRACK IT Solutions

We are seeking collaborators to help extend the utility of DrugPrint®, a novel, multicellular, human cardiac tissue model for predictive ion channel profiling and cardiotoxicity screening.

## What could your solution be used for?

Cardiotoxicity is a major cause of costly late-stage withdrawal of new medicines. Relatively little is known about ion channel function in specific diseases, due to the limitations of existing tissues and technologies available for ion channel research.

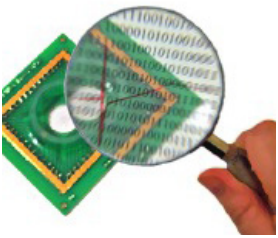
DrugPrint® overcomes many of these limitations by providing a rapid, cost-effective and highly sensitive system for assessing multiple ion channel functions and potential cardiotoxicity risk, in real time, in human cardiac tissues. This enables investigators to make an early integrated assessment of drug candidate suitability where animal tests or single-ion tests may fail to provide discriminatory information on which to base compound selection.

## Need for collaboration

Early testing for multiple effects on key cardiac ion channels is required to prevent the advancement of potentially cardiotoxic drug candidates through drug development, thus reducing animal testing, industry costs and potentially saving lives.

We are seeking industrial and academic partners to extend the utility of DrugPrint® in the following areas:

- Evaluating new drug candidates for ion channel on and off-target effects early in drug development,
- Extending the set of reference compounds in the DrugPrint® human database,
- Providing MEA data analysis and developing user-specific interrogation tools and report outputs,
- Developing new human phenotypic models for disease and ion channel drug target evaluation.



## 3Rs impact assessment

In 2012, 377,000 procedures were conducted with animals in the UK for safety and efficacy testing and toxicology. Given the importance of cardiotoxicity and the burden this represents to drug development and potential patient safety, many of these animals would have been used in cardiotoxicity assessment.

DrugPrint® has the potential to greatly reduce some of this animal use by enabling the early detection and accurate characterisation of compounds with ion-channel modifying properties. This has the benefit of reducing the need for further animal testing on compounds that would otherwise remain undetected until clinical development. DrugPrint® also enables more efficient use of animal data by providing complementary human insights on new drugs targeting ion channels, further reducing the need for extensive animal testing.

To find out more or to connect with the technology developer contact crackitenquiries@nc3rs.org.uk

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