Three dimensional, microfluidic cell culture technology for cell-based drug screening assays

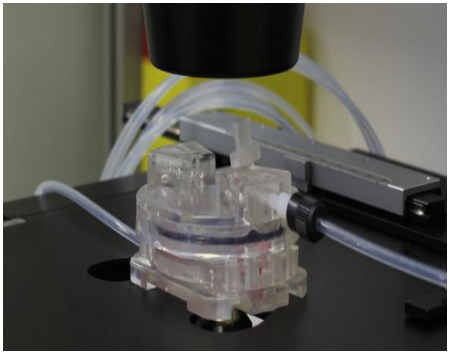
CRACK IT Solutions

Partners sought in the development of a new cell culture chamber for improved drug screening

What could your solution be used for?

The current Solution provides researchers with a microfluidic device that combines 3D cell culture and gradient conditions to develop cell cultures which are more physiologically relevant than current 2D *in vitro* models. The device is compatible with adherent and non-adherent cells and it allows live microscopy imaging of cell behaviour due to its optical grade base.

The Solution is amenable to the study of diverse pathophysiologies, but cancer research is probably of most relevance because of the many substance gradients which are common in tumours.



Need for collaboration

EBERS commercialises microfluidic gradient devices for cell culture research. We aim to transfer this technology to a device useful for pharmaceutical companies for use in drug screening experiments, but lack the specific expertise to do this. We are seeking partners able to advise and guide us in the development of our technology for this application. We are particularly keen to work with companies/ researchers with a focus on cancer drug development and who have cancer cultures and compounds with preclinical and clinical data with which to test in the device.

3Rs impact assessment

This Solution has the potential to improve the early identification of drugs with undesirable efficacy and/or toxicity profiles and remove them from the development pipeline, reducing the number of compounds entering regulatory animal testing. The development of the culture device for this application will benefit the wider utility of the platform for use within academia in a diverse range of disciplines, increasing further the potential 3Rs impact.

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

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