

Human and animal lung slices: a phenotypically-accurate functional assay system for screening and target validation

Overview

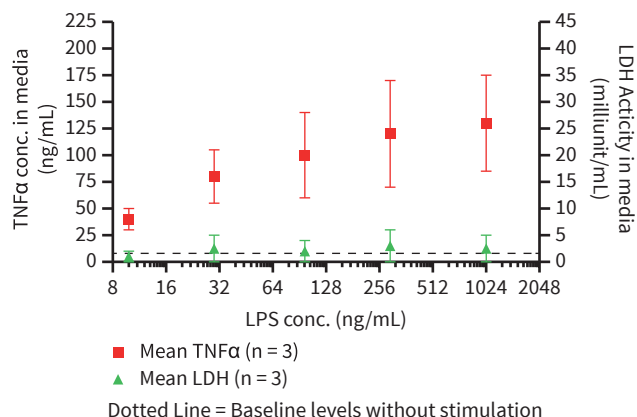
Precision-cut lung slices (PCLS) are increasingly in demand for the testing of xenobiotics, chemicals and cosmetics. By retaining both the structural and functional integrity of human or animal lungs, the method combines throughput with relevance, offering a phenotypically-accurate model of lung behaviour.

Moreover, REPROCELL's unique access to healthy and diseased lung allows it to investigate drug effects in patients with COPD or asthma. Cross-species comparisons also allows the translation of preclinical animal data to the human situation to be assessed.

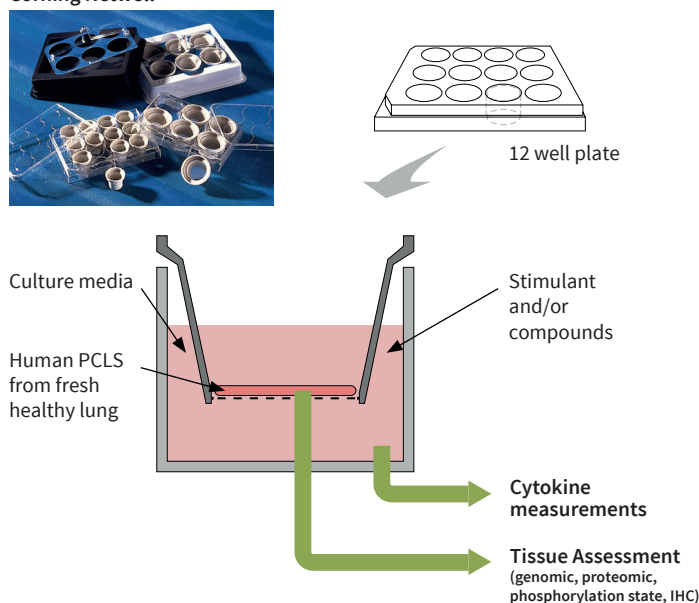
PCLS: a flexible and cost-effective assay offering a range of endpoints and good throughput

REPROCELL will work with you to design a protocol that meets your requirements. Our expert scientific team is on-hand to discuss the range of applications of PCLS.

Mean Data – LPS Stimulation of PCLS



Corning Netwell



Precision-cut lung slices

- Slices can be kept in culture for up to 7 days
- Dozens of slices can be created from each donor or animal lung
- The effect of test compounds on biomarker release, structural integrity, tissue viability or inflammatory processes can be evaluated
- Customised protocols to meet your needs

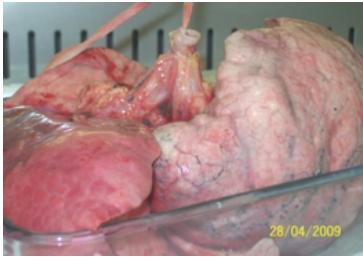


Speak to an expert

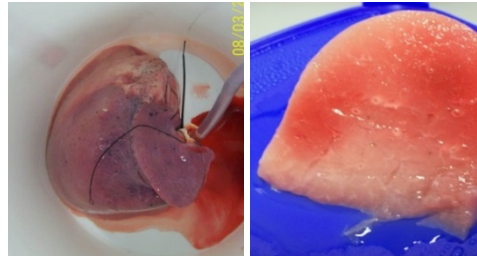
Discuss a customized solution with our scientists – email our experts today

info-emea@reprocell.com

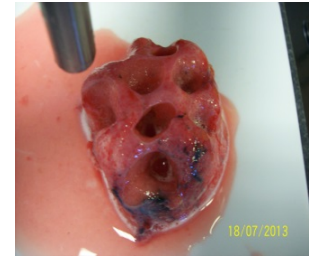




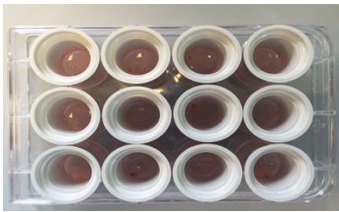
Whole diseased or healthy lungs available



Tissue is stabilised by perfusion of agarose through the airways, prior to slicing



Cores are taken through the tissue



Slices are placed on a mesh in culture medium for up to 7 days

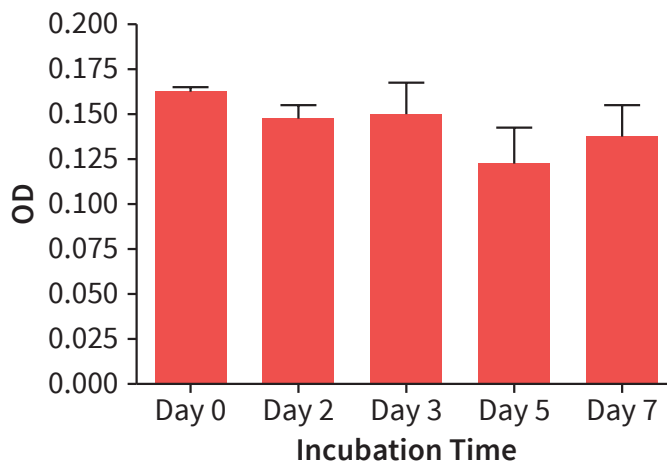


Precision-cut slices (250 or 500 µm thickness) are generated using a Krumdieck tissue slicer



Slices remain viable in culture for up to 7 days as shown by histology (Masson's trichrome) and MTT turnover.

Mean MTT Turnover, n = 3 Donors



Benefits of Human Fresh Tissues

- Phenotypically-accurate intact human tissues can retain the normal cell population, cell-cell interactions and extracellular matrix needed to reflect human biology
- REPROCELL (formerly Biopta) assesses ethically sourced human materials; established in 2002, work with a trusted human tissue laboratory
- Data generated in fresh human tissue adds commercial value and de-risks development projects

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