Make the invisible visible

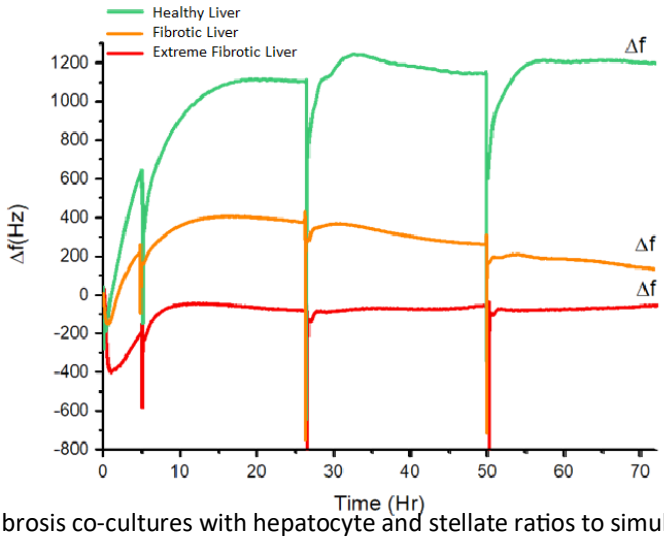
Using the Discovery-Q to model liver fibrosis; quantitatively measure the effect of co-cultures on liver cell health and behavior

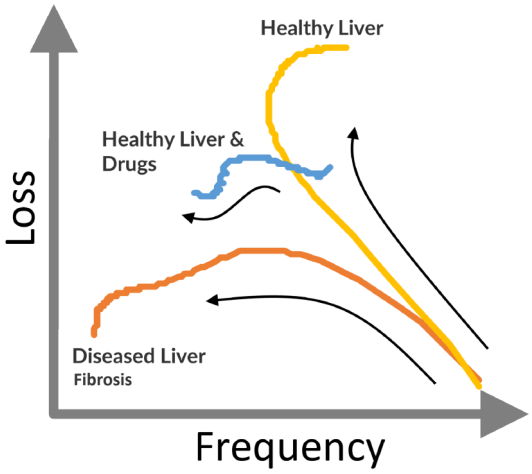
Abstract

The Discovery-Q is a biosensor that measures the changes in mass and viscoelasticity of adherent cells in real-time over multiple days. These measurements relate to co-culture homeostasis and cell-to-cell tension cell-to-extracellular matrix tension. The Discovery-Q allows for hepatocyte and stellate co-cultures ratios mimicking physiological disease states. This modeling allows for generation of signatures of disease states and testing of the response of drugs on this model.

"Based on data presented, we believe that this method would allow for detection of cellular changes following toxicant treatment; thus, becoming a real-life platform for drug detection and testing."

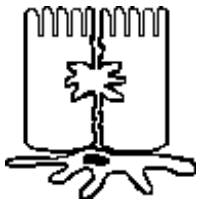
Rafal Witek, Director Advanced Cell Systems, Thermo Fisher Scientific.



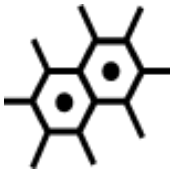


Fibrosis co-cultures with hepatocyte and stellate ratios to simulate liver fibrosis. The Discovery-Q can quantify the effect of adding stellates to the culture and the resulting rigidity and tension in the cell layer mimicking liver disease states.

Modeling co-culture and cellular interplay in disease progress



Hepatocyte & Stellate interaction



Monitoring Cell to cell effects

Monitor Real–time Cell Health

Product information

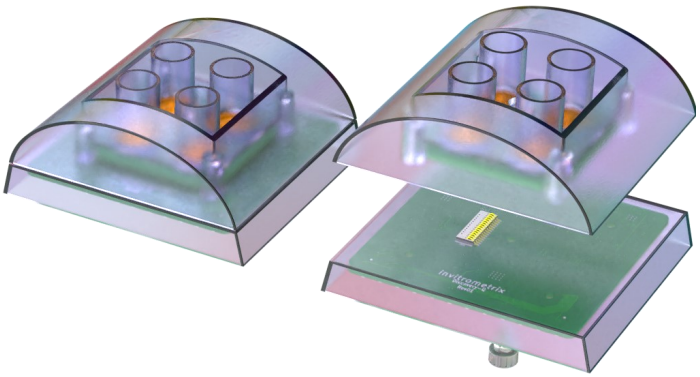
Platform: Discovery-Q

- Compatible with adherent and semi-adherent cell lines
- Simultaneous real time readings of frequency and resistance (dissipation)
- Minimum cell number per well: 1,000
- Label free detection, **specialized media or serum not required**
- Network based system
- Remote operations on web browser
- Data is date and time stamped and downloadable as CSV files

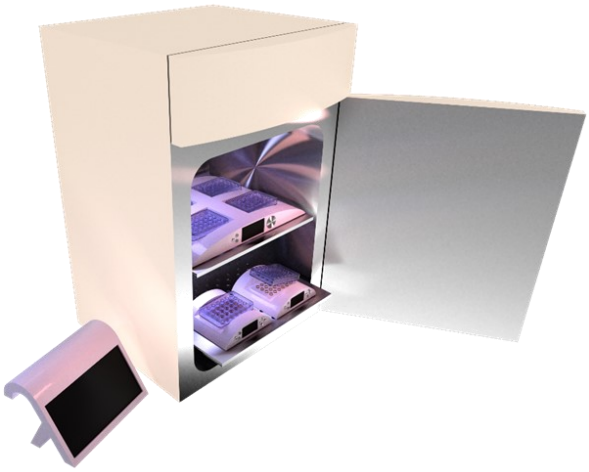
Cell culture types tested: Primary cell lines (cryopreserved plateable hepatocytes, stellates and co-cultures), isolated cells from liver, breast, lung, umbilical , macrophage, and primary tumors

Cell culture lines tested (not a comprehensive list): HepG2, Sk-Hep-1, DH82, SK-Br-3, MDA-MB-231, HUVEC, BAE, BAEC, HL-60, HT-29, HMEC, NHBE, HMVEC-L, HMVEC-BL, HepRG, Hs578t, FaDu, MCF-7, MCF-12A,

For information regarding pricing of units or any other matters please contact: info@invitrometrix.com



The Discovery-Q and consumable well plate



Invitro-Q units working in a cell culture incubator.

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