Make the invisible visible

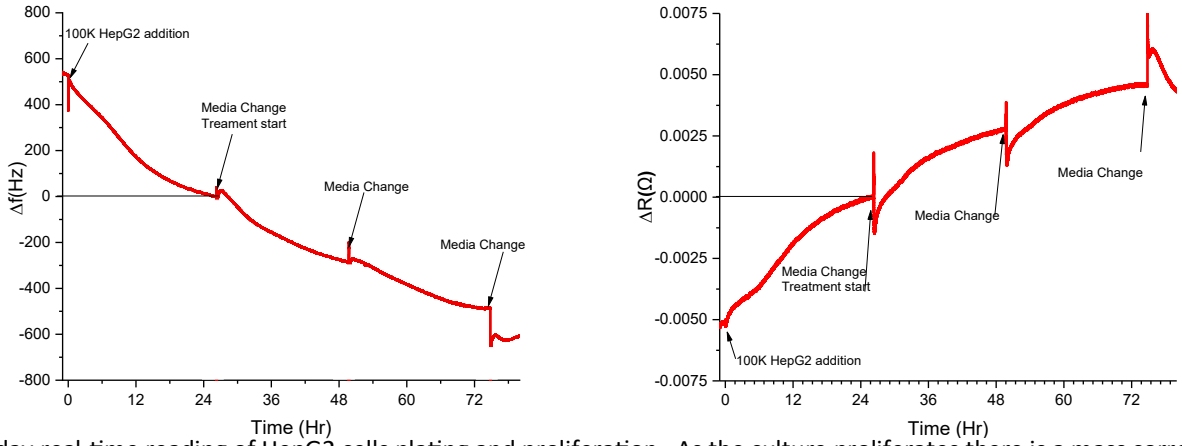
Monitor multi-day real-time cell culture health and physiological conditions using the Discovery-Q

Abstract

The Discovery-Q is a 4-well mini plate designed for cell-based research. The device provides a real-time quantitative phenotypic cell-based noninvasive investigation method. The device works in a cell culture incubator to ensure physiological conditions for cell research over multiple days.

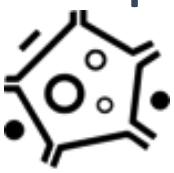
The Discovery-Q is a living whole cell biosensor that detects measurable changes in cellular biomechanics: attachment, mass redistribution, viscoelasticity. The system creates real-time, reproducible and robust experiment data and can be used with any adherent and semi-adherent cell type, including primary isolates. The technique is label free, rapid, and sensitive, and it gives unique kinetic information when an agent interacts with the bound cells.

The device enables research ranging from (but not limited to) cell death mechanism, mitochondrial perturbations, chemotherapeutic agent mechanism of action, co-culture interactions, disease and regeneration modeling with diverse extracellular matrix, liver toxicity, liver fibrosis, and immune cell behavior and response.

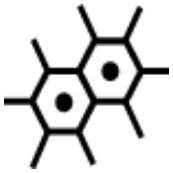


A multi-day real-time reading of HepG2 cells plating and proliferation. As the culture proliferates there is a mass correlated decrease in the frequency as the cytoskeletal attachment and cell connectivity form. Meanwhile, the resistance (dissipation) monitors the viscoelasticity of the monolayer and interactions with the extracellular matrix.

Increase repeatability and accuracy of research



Organelle & Cell changes due to agent



Cell to cell interactions

Adherent & Semi-Adherent cells

Monitor Real–time Cell Health

Product information

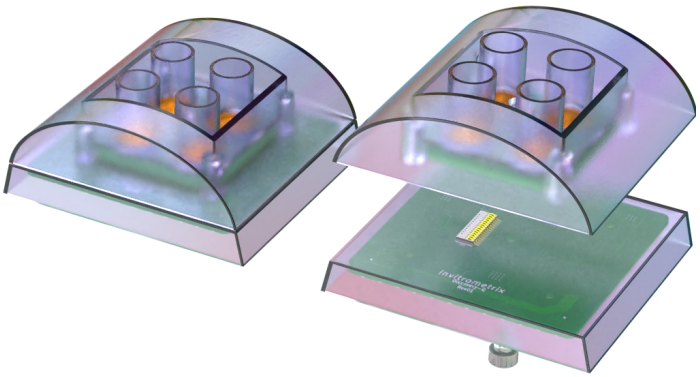
Platform: Discovery-Q

- 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

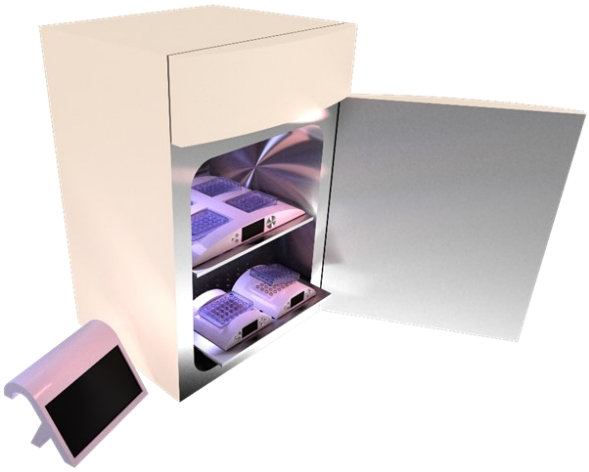
Cell culture types tested: Primary cell lines (cryopreserved plateable hepatocytes, stellates and co-cultures), isolated cells from liver, breast, lung, umbilical , macrophage, and primary tumors

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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For Research Only:
Not for use in diagnostic procedures

Published in the USA , July 2019
AB-001