The ECIS® Z instrument provides researchers with an advanced, automated, non-invasive instrument capable of monitoring cell behavior in real-time without the use of labels. The ECIS® Z measures the simple impedance spectrum (Z) of adherent cells growing on gold electrodes. The ECIS® Z can be configured to address 16 or 96 independent electrodes patterned in various 1, 2, 8 and 96 well cultureware. The instrument consists of a Z system controller, 16 and/or 96 channel array station, computer and integrated software running on Windows 7 or Mac OS. The ECIS® Z includes the elevated field module to carry out automated wound-healing and electroporation experiments. Optional accessories include:

• The ECIS® flow module consisting of a pump controller and up to 8 peristaltic pumps for specialized cell applications under flow conditions.

• A CO_{2} stage incubator to allow simultaneous ECIS® and optical measurements.

• A specially adapted hypoxia chamber to conduct ECIS® experiments in a controlled gas environment.