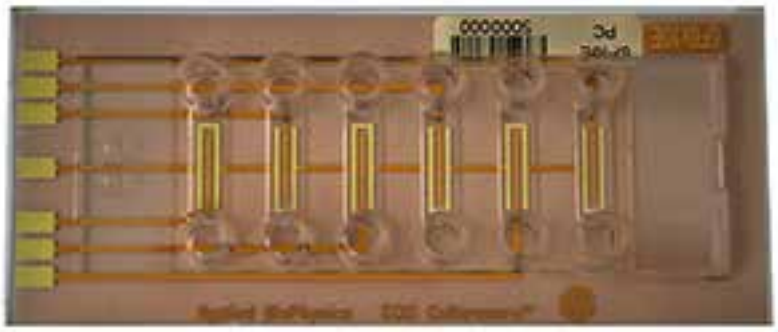
Press release
For Immediate release
Multi-channel TEER measurement under Dynamic Flow Conditions
Troy, NY, August 10, 2014



ECIS™ (Electric Cell-Substrate Impedance Sensing) is the only commercially available technology which continuously monitors TEER under dynamic flow conditions. In their natural environment, endothelial cells are constantly exposed to physical and biochemical stimuli that can alter cell permeability. Laminar shear stress due to blood flow is a principal regulator of systemic endothelial cell gene expression, morphology, and the production of soluble mediators. Its importance is highlighted by pathological processes associated with reduced or absent laminar shear stress, including atherosclerosis. Endothelial transport of macromolecules has been shown to be responsive to flow shear stress, hydrostatic pressure, thermal shock, and agonists such as histamine and thrombin. The ECIS six channel flow array allows 6 independent flow assays to be run simultaneously. Each channel has either one or ten active electrodes allowing researchers to study endothelial permeability in vitro under complex shear flow conditions. Each channel is 0.66mm in height and 5mm wide. Applications also include cell-cell interaction studies and cell-drug interaction screenings under flow conditions. This flow array interfaces with the ECIS variable flow pumps and ECIS measurement system.

The ECIS system continuously monitors the TEER of cell monolayers exposed to shear stress conditions. This allows for the dynamic changes in TEER to be recorded due to changes in flow rates, addition of vasoactive compounds under flow conditions, or the introduction of secondary cells.

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