

## Portable Cell Culturing System of Long-term Cell Viability

To develop a truly field portable cell based sensor, **Bioenno Lifesciences** is developing a miniaturized cell culture chip that has the capability of long-term maintaining cell viability automatically with low cell media consumption. The cell culture chip was designed as an enclosed perfusion cell culture chamber containing multiple parallel microchannels. The enclosed cell culture chamber integrated with automatic media perfusion was designed to meet two requirements for improving long-term cell viability: (1) minimize flow related shear stress effects to below the level which can impair cell function and, (2) control cell media flow for equality at all points in the cell culture chamber. Experiments performed with the enclosed perfusion chambers were achieved by connecting to a peristaltic pump with variable flow, used to drive media over the cells in the culturing chamber.

