



## The Next Generation of *In Vitro* Culture Systems

*In vitro* culture systems are being developed to meet international demands for research and development methods that serve as alternatives to animal testing, as well as in efforts to mimic or represent biological systems of humans, such as bioprinted functional human tissues for *in vitro* use.

### Introducing the VersaWells™ System\*:

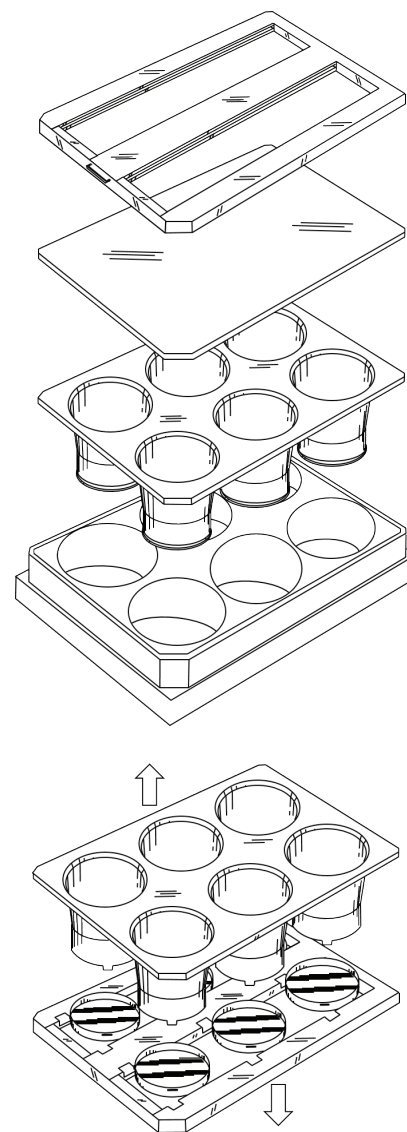
Unlike traditional transwell® plates and transwell® inserts, the VersaWells™ system includes:

- a transwell-like plate containing multiple culture inserts, **with each insert having a detachable/attachable cassette containing the transparent membrane**; and
- **a transfer plate** that can be used to detach membrane cassettes from the transwell-like plate (e.g., to facilitate subsequent imaging analysis), or that can be used to attach a membrane cassette to the transwell-like plate for culturing (e.g., bioprinting tissues using the transfer plate, with subsequent transfer of the bioprinted membrane cassettes to the transwell-like plate for subsequent culturing).

**The VersaWells™ System transfer plate** can, either manually or using an automated handling system, facilitate:

- simultaneous removal of multiple membrane cassettes from the transwell-like plate;
- bioprinting onto the membrane surface (e.g., deposition of cells, tissues, or biological components onto the membranes for culturing);
- simultaneous attachment of multiple membrane cassettes to the transwell-like plate;
- storage or shipping of multiple membrane cassettes containing cells or tissues, and supporting components, applied thereon;
- processing for imaging, and subsequent imaging of cells or tissues applied onto the membranes of the membrane cassettes.

\*Patent-pending



It is an important advantage of the VersaWells™ system that membrane cassettes, removably attached to the transfer plate, provide versatility for imaging cells or tissues in at least two orientations. In one orientation, the transfer plate presents the membrane cassettes in an upward-facing direction for imaging with an imaging system utilizing upright microscopy. The orientation of the transfer plate may also be flipped, presenting the membrane cassettes in a downward-facing direction, for imaging with an imaging system utilizing inverted microscopy.