Why culture cells in a mechanically active environment?

Cells are subjected to compression, tension, and shear in the body and undergo acute and adaptive biochemical changes in response to deformation. Stressing cells in culture simulates the in vivo environment causing dramatic morphologic and biochemical responses. Flexcell®'s tension, compression, and fluid shear systems have broad applications since strain, compression, or fluid flow have been found to induce biochemical changes in cells derived from a variety of tissues including cardiac. skeletal and smooth muscle. lung, vascular endothelium, skin, tendon, ligament, cartilage, and bone.



Pathways activated in response to applied mechanical load.

Culturing cells

in a mechanically active environment

Flexcell® International Corporation

2730 Tucker Street, Suite 200 Burlington, NC 27215

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BASEPLATE KITS

Add uniaxial or equibiaxial strain or create 3D tissues with these kits for the FX-5000™ Tension System

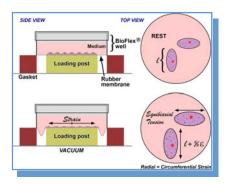


Flexcell® Baseplate Kits

BioFlex® Baseplate Kit for Equibiaxial Strain

Apply equibiaxial strain to cells cultured in monolayer on the flexible-bottomed membrane of the BioFlex® culture well.

Available with 25, 28, or 31 mm diameter cylindrical Loading StationsTM.



Equibiaxial strain application to cells in a BioFlex® well.

| Culture Plate | Strain Range |
|----------------------|-----------------------------|
| BioFlex® | 0.8% - 21.8% <i>(25 mm)</i> |
| | 1.0% - 15.9% <i>(28 mm)</i> |
| | 0.8% - 6.0% <i>(31 mm)</i> |
| Tissue Train® | 1.6% - 20.8% |
| UniFlex® | 1.1% - 12.2% |
| HT BioFlex® | 1.2% - 8.0% |

24-Well HT Baseplate Kit for High Throughput Strain

Apply equibiaxial strain to cells cultured in 24-well flexible-bottomed HT BioFlex® culture plates.

Uses 10 mm diameter cylindrical Loading Stations™.

Plates are standard size and microplate reader compatible.

Plates rescer colori

Plates available in black for fluorescent imaging and white for colorimetric assays.

Trapezoidal shaped

hydrogel made with the

Tissue Train® system.

24-well HT BioFlex® Plates

UniFlex® Baseplate Kit for Uniaxial Strain

Apply uniaxial strain to cells cultured in monolayer on the flexible-bottomed membrane of the UniFlex® culture well.

Requires $Arctangle^{\otimes}$ Loading $Stations^{TM}$ for uniaxial strain application.



UniFlex® Well and Arctangle® Loading Post



Tissue Train® Culture Plates

Tissue Train® Baseplate Kit for Creating 3D Tissues

Uses Tissue Train[®] culture plates and Trough Loaders[™] for molds.

Create linear, trapezoidal, or circular shaped hydrogels.

Apply uniaxial or equibiaxial strain with Arctangle® or cylindrical Loading Stations™, respectively.

Baseplate Kits includes:

- Baseplate
- Loading Stations[™]
- 4 Gaskets
- 4 Sample Culture Plates
- Acrylic Window
- Grease
- Software Update (if needed)

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