



UniFlex® Culture Plates

Product Information Sheet

02/23/16 Rev. 1.1

UniFlex® culture plates are 35 mm diameter, 6-well plates with 1) flexible silicone elastomer well bottoms and 2) upper membranes upon which cells are seeded and is the designated uniaxial strain region (Fig. 1). The upper silicone elastomer comes untreated or with a covalently bonded protein to improve cell attachment (Table 1). UniFlex® culture plates can be used with the Flexcell® Tension System to apply up to 12% uniaxial tensile strain to cells in monolayer culture. For more information, see the UniFlex® product webpage at <http://www.flexcellint.com/UniFlex.htm>.

PLATING CELLS ON UNIFLEX® CULTURE PLATES

Cells should be seeded onto the membranes according to your laboratory's established protocol for primary cultures or continuous cell lines in the medium of choice. In general:

1. Release cells from their substrates with 0.05% trypsin, trypsin-EDTA, 0.05% bacterial collagenase, or other means.
2. Add serum containing media to the cells to neutralize the trypsin or collagenase.
3. Count cells and determine the number of cells needed, approximately 30,000 – 89,000 cells for each well of a 6-well UniFlex® culture plate. *NOTE: Cell seeding density will vary depending on cell type. We recommend testing cell seeding densities to determine the best cell number for your application and cell type.*
4. Wash cells with medium to remove trypsin or collagenase.
5. Resuspend cells in medium of choice and seed into each well.
6. If cells will be stretched, we recommend having 3 ml of media in each well and changing media approximately every 48-72 hours, or according to the laboratory's standard tissue culture methods.

It should be noted that the only cells that receive uniform strain are those attached to the area of the membrane over the loading post when the membrane is in its fully stretched position. Therefore, it is best to attempt to plate cells only in the uniformly strained area on the upper membrane or to view or test the cells that are only in this uniformly strained area (Fig. 2).

ORDERING INFORMATION

UniFlex culture plates (Cat. No. UF-4001) are sold individually or by the case of 40. Each plate is sterile and individually packaged in a sealed bag. See Table 1 for catalog numbers and corresponding protein coatings. Flexcell® culture plates have a shelf life of 1 year when stored at room temperature or 4 °C in the dark or out of direct light.

For more information about using UniFlex® Culture Plates with Arctangle® Loading Stations™ to apply uniaxial strain, see <http://www.flexcellint.com/LoadingStation.htm>.

Flexcell® culture plates are protected by the following patents: US Patents 4,789,601 and 4,822,741 (International Patents DE3855631D1, DE3855631T2, EP0365536B1); US Patent 6,048,723; US Patent 6,218,178.



Figure 1. UniFlex® culture plate with a close-up of a single well showing the dual membranes.

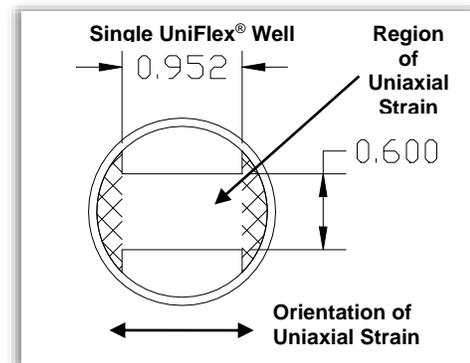


Figure 2. Dimensioned UniFlex® well showing region and orientation of uniaxial strain. Total area = 3.68 cm².

Table 1. UniFlex® culture plate catalog numbers and corresponding protein coating.

Catalog Number	Coating*
UF-4001U	Untreated
UF-4001A	Amino
UF-4001C	Collagen I
UF-4001C(IV)	Collagen IV
UF-4001E	Elastin
UF-4001L	Laminin (YIGSR)
UF-4001P	Pronectin (RGD)

*For more information on these coatings, see Tech Report 106: Matrix Bonded Growth Surfaces. Growing Cells in a More Natural Matrix Environment: http://www.flexcellint.com/documents/106_MatrixBondedSurfacesTech.pdf.