



BioFlex® Culture Plates

Product Information Sheet
02/23/16 Rev. 1.1

BioFlex® culture plates are 35 mm diameter, 6-well plates with flexible silicone elastomer well bottoms with a total growth surface area of 57.75 cm² (9.62 cm²/well; membrane thickness: 0.020 inch; Fig. 1). The silicone elastomer comes untreated or with covalently bonded proteins to improve cell attachment (Table 1). BioFlex® culture plates can be used with the Flexcell® Tension System to apply up to 21% equibiaxial or 33% gradient tensile strain to cells in monolayer culture. For more information, see the BioFlex® product webpage at <http://www.flexcellint.com/BioFlex.htm>.

PLATING CELLS ON BIOFLEX® 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 1.2 X 10⁵ cells for each well of a 6-well BioFlex® 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. 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 your 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 plate cells using a Flexcell Cell Seeder™ device, only in the uniformly strained area or to view or test the cells that are only in the uniformly strained area. To determine this area, the following equation can be used:

$$\text{Diameter} = (\text{Diameter of Loading Station}^{\text{TM}}) / (1 + (\text{Max}\% \text{Elongation}/100)),$$

where *Max%Elongation* is the maximum % elongation that you plan to use in your regimen and *Diameter* is the diameter of the circle at the center of the membrane. Any cells outside of this circle will not receive uniform strain.

For more information about using BioFlex® Culture Plates with Equibiaxial Loading Stations™ to apply equibiaxial strain, see <http://www.flexcellint.com/LoadingStation.htm>. For more information on Cell Seeders™, see <http://www.flexcellint.com/HTCellSeeders.htm>.

ORDERING INFORMATION

BioFlex® culture plates (Cat. No. BF-3001) 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.

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.

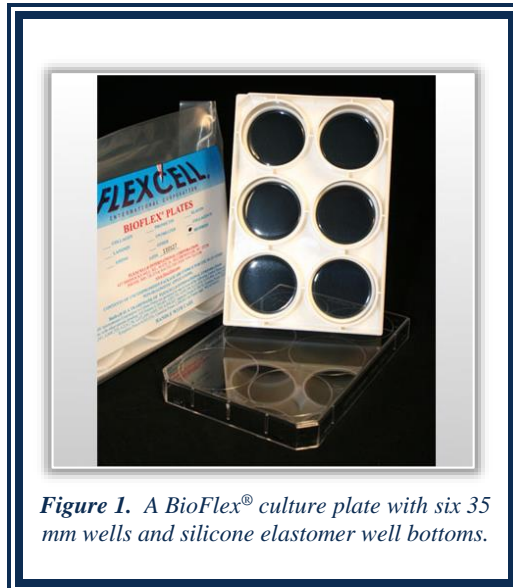


Figure 1. A BioFlex® culture plate with six 35 mm wells and silicone elastomer well bottoms.

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

Catalog Number	Coating*
BF-3001U	Untreated
BF-3001A	Amino
BF-3001C	Collagen I
BF-3001C(IV)	Collagen IV
BF-3001E	Elastin
BF-3001L	Laminin (YIGSR)
BF-3001P	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.*