Directions for Use
CytoForm®-400

3D PRINTED PLG SCAFFOLDS 4.5X4.5X0.15CM SCAFFOLD

Catalog Number **#5239-1EA**

Product Description

CytoForm®-400 consists of a 4.5 x 4.5 x 0.15 cm 3D printed scaffold made out of PLG. It comes as a large sheet that can be readily cut or punched out to meet experimental needs.

The CytoForm® 400 scaffolds consist of 100% polylactide-co-glycolide (PLG).
These scaffolds provide interconnected porosity (for vascularization), high bioactivity, easy handling, workability and high mechanical stability. These features make the substrates ideal for cell culture in bone and hard tissue regeneration.

The CytoForm®-400 scaffolds are ethanol washed prior to shipment, but are not considered sterile.

Every other layer is offset in the X and Y by 0.5mm to provide optimal cell-seeding surface area.

CytoForm®-400 is chemically stable in neutral pH, is flexible, but also has compressive/mechanical strength.

Scaffolds can be seeded with cells or cells can also be suspended in a pre-hydrogel material (such as Type I collagen).

Characterization and Testing

The 3D printed PLG scaffolds have the following characteristics as shown in Table 1.

Table 1:

Test	Specifications
Scaffold Size	4.5x4.5x0.15cm
Pattern	0-90° Offset
Porosity	~600 micron
Interlayer Spacing	0.3 mm
Number of Layers	5

Storage/Stability:

The product ships and is stored at 4°C.

Sterilization

It is recommended to cut or punch samples intended for the experiment prior to sterilization (ie. 4mm biopsy punch).

1. Wash samples in 70% ethanol for 30-60 minutes.

2. Rinse samples 3-5 times in sterile water or PBS.

3. Remove excess liquid from scaffolds via dabbing on filter paper or sterilize cloth, or aspirating out excess liquid. Do not allow scaffolds to become completely dry prior to cell seeding.

Cell Seeding Instructions

1. Place wetted scaffolds into desired tissue culture plate.

2. Dispense 10 uL of cell suspension onto the scaffold for a 4-5mm diameter scaffold (~50,000 cells).

3. Allow cells to attach for 30-60 minutes prior to adding additional media.

4. Slowly fill the cell culture well with media and incubate at 37°C

Cell Seeding Instructions Using Collagen Hydrogel

1. Place wetted scaffolds into desired tissue culture plate.

2. Add cells to a neutralized collagen solution (such as PureCol® EZ Gel).

3. Slowly dispense the collagen/cell solution over the scaffold and allow the solution to fully permeate throughout the scaffold.

4. Allow collagen to polymerize within the scaffold for 60-90 minutes at 37°C.

5. Fill the well with cell culture medium until the scaffold is completely covered and continue incubating at 37°C.

