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Datasheet

PGmatrix™ CDX/PDX Models

Product Information

Catalog Number

PGP-10-2
PGP-50-10

Description

Base membranes are thin extracellular matrices that cells adhere to and grow on *in vivo*. PGmatrix™ CDX/PDX is a protein based solubilized base membrane synthesized from commonly used amino acids, and minerals. The amino acids include Arginine, Aspartate, Glycine, Isoleucine, Leucine, Lysine, Phenylalanine, Proline, Serine, and Valine. PGmatrix™ CDX/PDX is compatible with various adhesion proteins and cell growth factors, including but not limited to laminin, collagens, VE-growth factor, fibroblast growth factor, and other growth factors. PGmatrix™ CDX/PDX is a powerful reagent to package and deliver cancer cells, primary cancer cells, or stem cells *in vivo* for xenograft animal models.

Advantages of PGmatirx™ CDX/PDX;

- **No more icing:** All operation and growth procedures are done at room temperature or 37°C in neutral pH. Cells no longer suffer acidic or chill conditions.
- **Easy procedure:** cells are easily encapsulated and injected into a targeted location *in vivo*, and cells can grow out the matrix to form tumors because the matrix can be degraded into amino acids and absorbed easily.
- **Well-defined system:** Gel matrix has defined components.
- **Biocompatible:** Gel matrix is highly biocompatible with biological environments; avoiding infections; while accurately reflecting the cell microenvironment.

Quantity

PGP-10-2: For 10 animal injections
PGP-50-10: For 50 animal injections

Components

10 Animals	50 Animals
200µl Solution A	1mL Solution A
2mL Solution B	10mL Solution B

Solution A) PGmatrix™ trigger solution: synthetic proteins, and natural proteins commonly used in the cell culture media, minerals, and water.
Solution B) PGmatrix™ solution: synthetic proteins and water.

Source

Synthetic peptides from commonly used amino acids

Shipping

Ambient condition

Storage and Stability

Stable when stored at room temperature, but preferred at 4°C. Do not store in freezer.

Quality Control

Each lot of PGmatrix™ CDX/PDX is subject to QA/QC procedures to ensure consistency and quality. Certificate of Analysis is available upon request.

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Safety Precaution Please wear the appropriate Personal Protection Equipment (lab coat, gloves, safety goggles) when handling the cells and PGmatrix™ CDX/PDX.

Restricted Use Products described here are for research use only and not intended for human or animal diagnostic or therapeutic uses. Products are manufactured by PepGel LLC.

Technical Comparison

	PGmatrix™	Other Peptide Hydrogel	Naturally Extracted ECM
Quality			
Neutral pH solution	✓		✓
Fully defined components	✓	✓	
Accurate matrix pore size	✓	✓	✓
Accurate nanofiber size	✓	✓	✓
Safety			
Biodegradable/absorbable	✓		✓
Simple Procedure			
Operation at room temperature	✓	✓	

Protocol

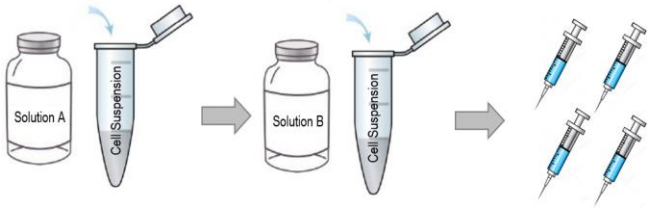
PGmatrix™ Cell Suspension Preparation for CDX/PDX (i.e., for 10 mice)

1. Harvest cells according to cell culture protocol.
2. Prepare cell suspension in a final volume of 900 µL basal culture medium (**NOTE**: cell numbers in this 900 µL varies according to cell types, for example, for regular cancer cell lines, cell number can be up to 3 x10^8 cells, for hard grow primary cancer cells, it can be up to 50 million).
3. Add 100 µL Solution A: PGmatrix™ trigger to the cell suspension from step 2, gently mix well.
4. Add 1mL Solution B: PGmatrix™ matrix solution with the cell suspension from Step 3 pipet well (don't introduce air bubbles).

   Note: the ratio of the (Cell suspension + Solution A): Solution B is 1:1 in this case.

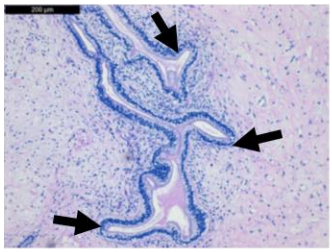
5. Load a 1mL syringe with 100-200µL cell encapsulated suspension from step 4 (used for one mouse; total 10 syringes for 10 mice), keep it at either 4°C or 37 °C until cell transplanted (make sure cells are uniformly distributed before loading; inject 100-200µL per animal).

   Note: The cell suspension should be transplanted into animal as soon as possible or within 1 hour.

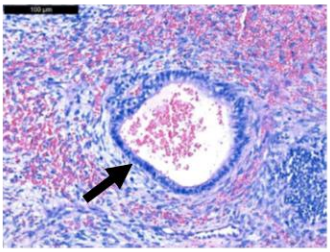


Human iPSC transplantation in PGmatrix™
(Tests were performed by Applied Stemcell Inc. ASC-iPSC-p34 cells cultured in PGmatrix 3D).

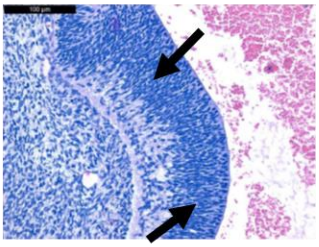
EN Gland 100x



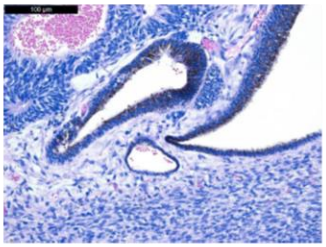
EN Duct 200x



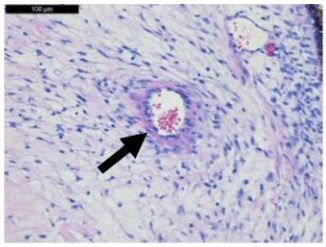
EC Neuronal rosette 200x



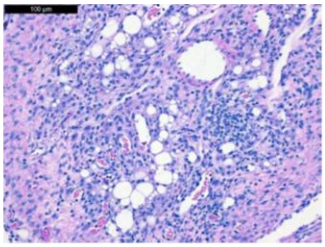
EC Pigment cells 200x



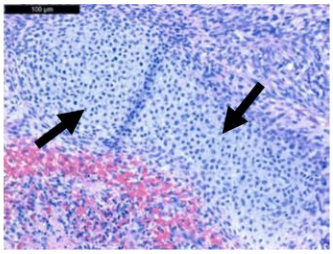
ME Blood vessel 200x



ME Adipose cells 200x



ME cartilage 200x



ME Bone 200x