

## PGmatrix™ CDX Models

### Product Information

**Catalog Number** PG-CDX-10-2  
 PG-CDX-50-10  
 PG-CDX-HC-10-2  
 PG-CDX-HC-50-10

**Description** Base membranes are thin extracellular matrices that cells adhere to and grow on *in vivo*. PGmatrix™ CDX/PGmatrix™ CDX-HC solution 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/PGmatrix™ CDX-HC solution 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/PGmatrix™ CDX-HC solution is a powerful reagent to package and deliver various cells (i.e., cancer cells, stem cells) or biologic products *in vivo* for xenograft animal models or preclinical therapeutic trials.

#### Advantages of PGmatrix™ CDX;

- **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** PG-CDX-10-2: For 10 animal injections  
 PG-CDX-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 / PGmatrix™ trigger-HC solution: minerals, ions (sodium, calcium, potassium etc) and water.

**Solution B)** PGmatrix™ CDX solution / PGmatrix™ CDX-HC solution: synthetic proteins and water.

**Note:** PG-CDX kit is for subcutaneous injection, PG-CDX-HC is for joint injection

**Source** Synthetic peptides from commonly used amino acids

**Shipping** Ambient condition

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

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## Storage and Stability

**Quality Control** Each lot of PGmatrix™ CDX / PGmatrix™ CDX-HC solution is subject to QA/QC procedures to ensure consistency and quality. Certificate of Analysis is available upon request.

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

**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
<b>Quality</b>			
Neutral pH solution	✓		✓
Fully defined components	✓	✓	
Accurate matrix pore size	✓	✓	✓
Accurate nanofiber size	✓	✓	✓
<b>Safety</b>			
Biodegradable/absorbable	✓		✓
<b>Simple Procedure</b>			
Operation at room temperature	✓	✓	

## Protocol

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

1. Harvest cells according to customer's cell culture protocol.
2. Prepare cell suspension in a final volume of 950 µL basal culture medium (**NOTE:** cell numbers in this 950 µL varies according to cell types, for example, for regular cancer cell lines, cell number can be up to  $3 \times 10^8$  cells, for hard grow primary cancer cells, it can be up to 50 million).
3. Add 50 µL Solution A: PGmatrix™ trigger/PGmatrix™ trigger-HC to the cell suspension from step 2, gently mix well.
4. Add 1mL Solution B: PGmatrix™ matrix solution/PGmatrix™ matrix-HC solution to the cell suspension from Step 3, pipet well without introducing air bubbles. (**NOTE:** the ratio of the (Cell suspension + Solution A): Solution B is 1:1 in this case).
5. Aspirate 100-200µL cell encapsulated suspension from step 4 to 1mL syringe by using 16 Gauge dispensing needle (avoid air bubble during aspiration), then replace with a desired size needle (i.e., 25-27 Gauge) for injection. Keep the syringe at either 4°C until cell transplanted.

**NOTE:** \* make sure cells are uniformly distributed within PGmatrix cell suspension before loading; inject 100-200 $\mu$ L per mice and total 10 syringes for 10 mice),

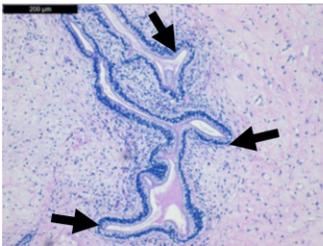
\*\*The cell suspension should be transplanted into animal as soon as possible or stored at 4 °C no more than 4 hours.



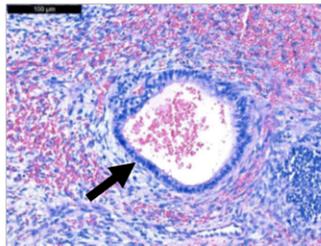
## Human iPSC transplantation in PGmatrix™

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

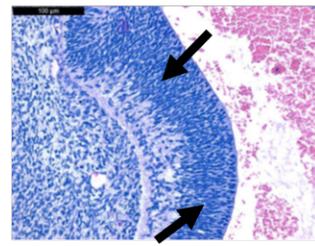
EN Gland 100x



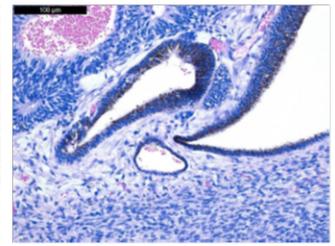
EN Duct 200x



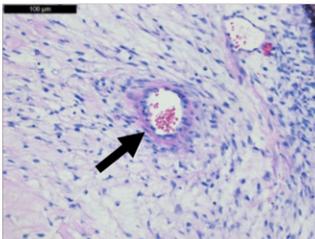
EC Neuronal rosette 200x



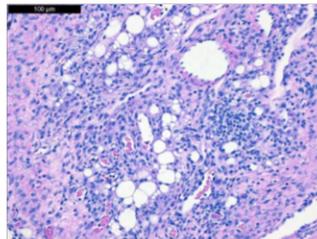
EC Pigment cells 200x



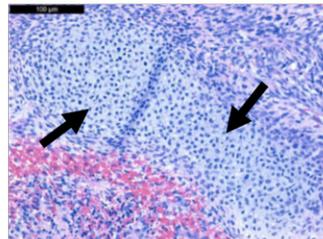
ME Blood vessel 200x



ME Adipose cells 200x



ME cartilage 200x



ME Bone 200x

