VWR We Enable Science

PeptiGelDesign

VWR | PEPTIGEL*DESIGN*

VWR and PeptiGel*Design* are pleased to introduce a brand new family of animal-free, biocompatible and biodegradable hydrogel scaffold formulations for cell-based experiments, cell delivery-vehicles and tissue engineering.

PeptiGel*Design* hydrogel scaffolds are composed of peptides which self-assemble spontaneously to generate a 3D matrix. The hydrogel's mechanical and chemical properties can be customised according to the needs of the cells or the experimental design.

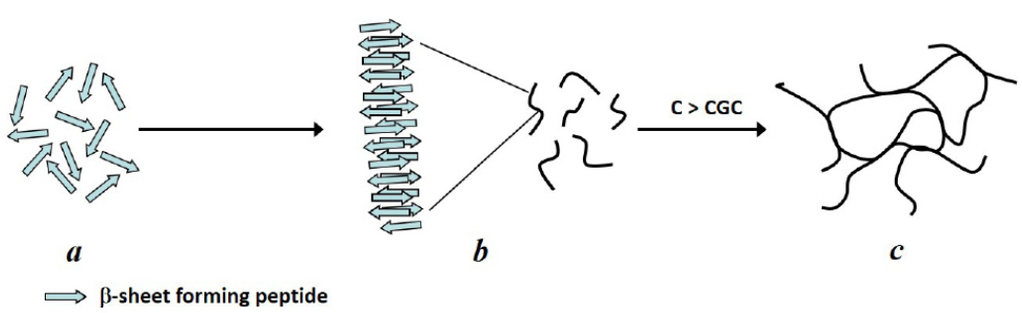
BRAND NEW!

Key features:

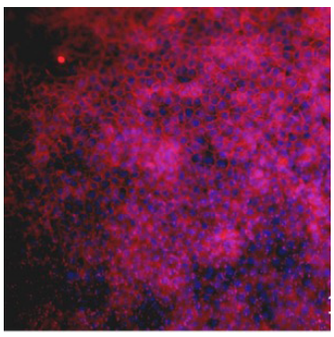
- The hydrogel is animal-free, biocompatible and biodegradable
- It provides the capability to translate experiments from *in vitro* to *in vivo*
- The hydrogel can be customised with functional groups, such as RGD, to make it biologically active and mimic *in vivo* conditions or loaded with functional compounds such as growth factors and drugs
- The mechanical properties of the hydrogel can be adjusted to mimic different kinds of extra-cellular matrixes
- The hydrogel liquefies under shear and recovers instantaneously. This makes it very easy to manipulate and transfer to different supports
- The hydrogel is optically transparent, has neutral pH under cell culture conditions and can be sterilised
- PeptiGel*Design* hydrogels are toolboxes which can be used for a large array of possible applications
- Experiments performed with PeptiGel*Design* hydrogel are highly reproducible

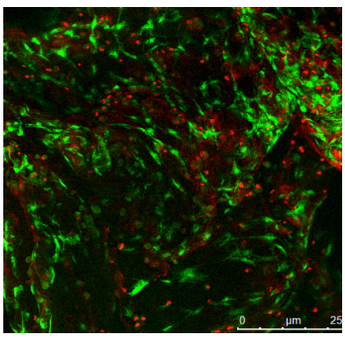
Cell type	PGD-Alpha 1	PGD-Alpha 2	PGD-AlphaProA	PGD-AlphaProB	PGD-AlphaProC
Fibroblasts	x	x	x	x	x
Human Embryonic Stem Cells	x	x	x	x	x
Human Induced Pluripotent Stem Cells	x	x	x	x	x
Human Mesenchemical Stem Cells	x	x	x	x	x
Bone Marrow Derived Mesenchemical Stem Cells	x	x	x	x	
Adipose Tissue Derived Mesenchemical Stem Cells	x	x	x	x	
Human Haemopoetic Stem Cells	x	x	x	x	
Human Neuronal Stem Cells	x	x	x		
Cardiac Progenitor Cells	x	x	x	x	x
Human Endothelial Cells	x	x	x	x	x
Primary Neurons	x	x	x		
Cardiomyocytes	x	x	x		
Nucleus Pulpsus Cells	x	x	x		
Hepatocytes	x	x	x	x	
Chrondrocytes	x	x	x		
Myocytes	x	x	x		

Because all cells are different, PeptiGelDesign Technologies commercialises a family of hydrogel scaffolds to meet end user needs, but can also offer custom made solutions to respond to any experimental necessities.
For more information, or to tailor an hydrogel solution fitting perfectly to your experimental necessities, please contact your VWR Life Science Specialists.



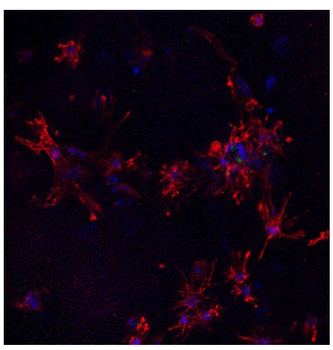
These are some examples of primary cells and cell lines cultured in the PeptiGel*Design* hydrogels:

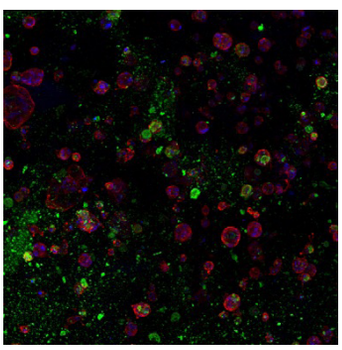




Left: Primary rat oesophageal epithelial cells cultured on **PGD-AlphaProB**. Cell nuclei (blue) and ZO-1 (red).

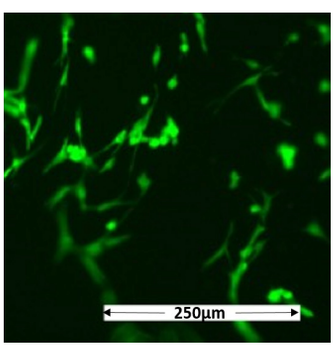
Right: Primary rat oesophageal stromal fibroblasts cultured in **PGD-AlphaProB**. Live cells (green) and dead cells (red).

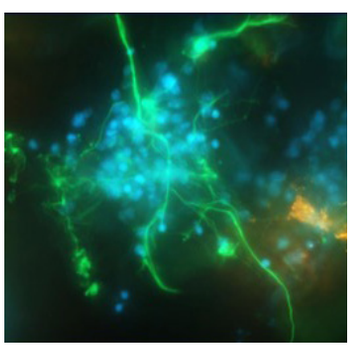




Left: human Mesenchymal Stem Cells (hMSCs) cultured in **PGD-Alpha2.**
Filamentous F-actin (red) and cell nuclei (blue)

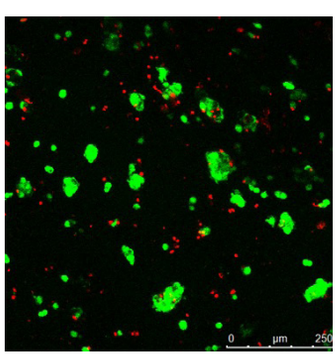
Right: hMSCs cultured within **PGD-Alpha2** using standard osteogenic medium.

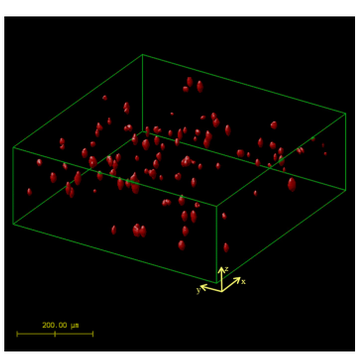




Left:Adipose Derived Mesenchymal Stem Cells differentiated into Schwann cell-like phenotype (dADMSCs) RGD functionalised **PGD-Alpha2**.

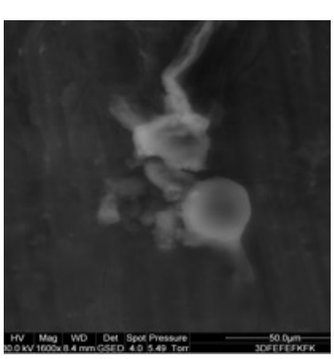
Right: Neuronal Stem Cells differentiation in Neuron Cells in **PGD-AlphaProA.**

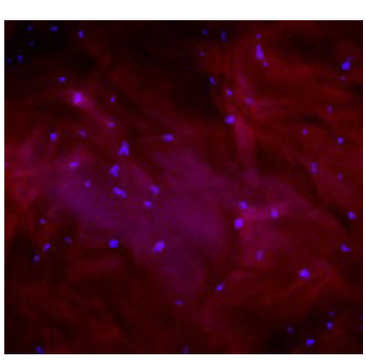




Left: Immortalised cell line, HepG2, encapsulated within **PGD-Alpha1**. Live cells (green) and dead cells (red).

Right: Dilpos CPCs cultured for 8 days in **PGD-Alpha1.**





Left: BESEM micrograph showing Bovine Chrodroncytes in **PGD-Alpha1**
(scale bar = 50µm);

Right: Collagen II antibody staining of Bovine Chrondroncytes encapsulated **PGD-Alpha1**
(scale bar = 50µm).

PeptiGel*Design* hydrogels are suitable for 2D and 3D cell cultures, stem cells experiments, *in vitro* organ models, regenerative medicine, bacteria and virus culturing, vaccine development, drugs and biological delivery and much more.

Get 50% off the 1 ml sample size!

50% OFF 1 ml sizes!

Off the shelf solutions				
Product name	**Description**	**Pk.**	**Cat. No.**	**Price, £**
PGD-Alpha1	Neutral net charge G'= 5-10 kPa	**1 ml**	**734-2860UK**	**55.00**
		5 ml	734-2861	**276.00**
		10 ml	734-2862	**460.00**
PGD-Alpha2	Medium net charge (+) G'= 10-15kPa	**1 ml**	**734-2863UK**	**55.00**
		5 ml	734-2864	**276.00**
		10 ml	734-2865	**460.00**
PGD-AlphaProA	Low net charge (+) G'= 10-15kPa	**1 ml**	**734-2866UK**	**57.50**
		5 ml	734-2867	**288.00**
		10 ml	734-2868	**480.00**
PGD-AlphaProB	High net charge (+) G'= 1-4 kPa a	**1 ml**	**734-2869UK**	**61.00**
		5 ml	734-2870	**306.00**
		10 ml	734-2871	**510.00**
PGD-AlphaProC	High net charge (+) G'= 12-18kPa	**1 ml**	**734-2872UK**	**58.50**
		5 ml	734-2873	**294.00**
		10 ml	734-2874	**490.00**
PGD-Start Kit	2 ml samples of PGD-Alpha1, PGD-Alpha2, PGD-AlphaProA, PGD-AlphaProB and PGD-AlphaProC	5 x 2 ml	734-2859	**516.00**

G' (oscillatory shear modulus) values under cell culture conditions are indicatives and may vary depending on instrument and conditions used to measure them.

Please contact your VWR Life Science Specialist for more information about this hydrogel technology or to test it:

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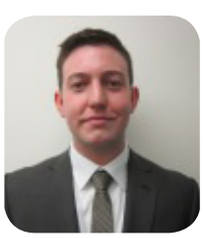

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