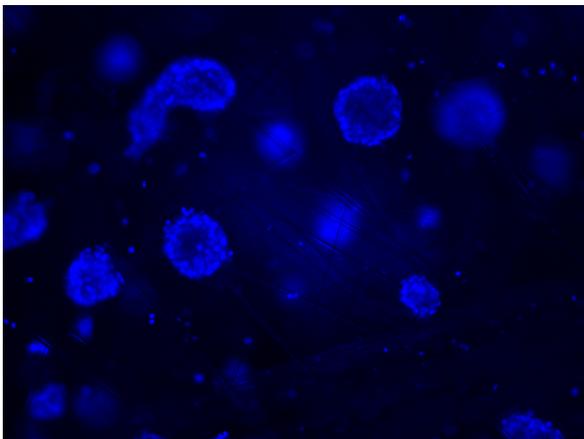
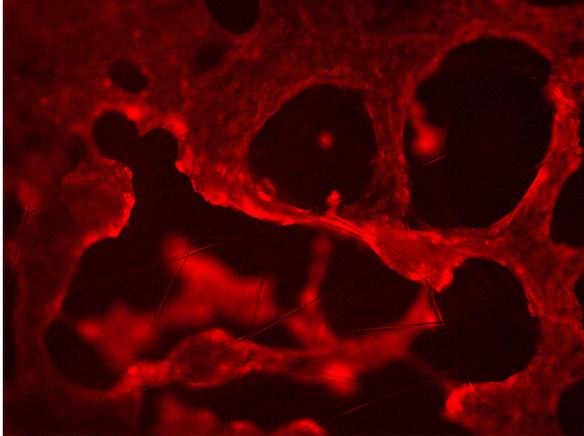
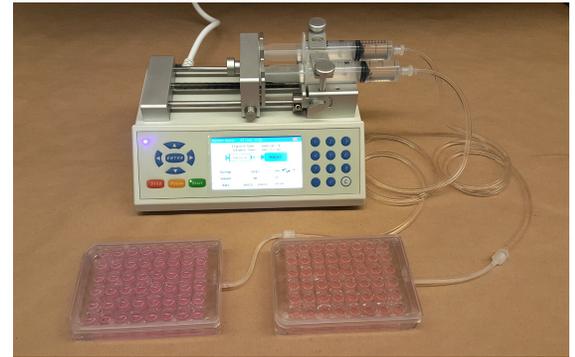


PERFUSIONPAL

LENA BIOSCIENCES

ABOUT PERFUSIONPAL

PerfusionPal is a unique Organ-on-a-Chip insert system that allows cells to be grown in an environment that mimics the human body. The exclusive design of the system enables continuous perfusion of up to 96 different tissue cultures at one time. The perfusion of media and blood substitute through the well plate emulates interstitial fluid flow in the body. This enables the exchange of nutrients, oxygen, & metabolites with the cells. The integration of fluid flow is crucial for maintaining the functionality of tissue. The cells respond to flow through differentiation & metabolic adaptation.



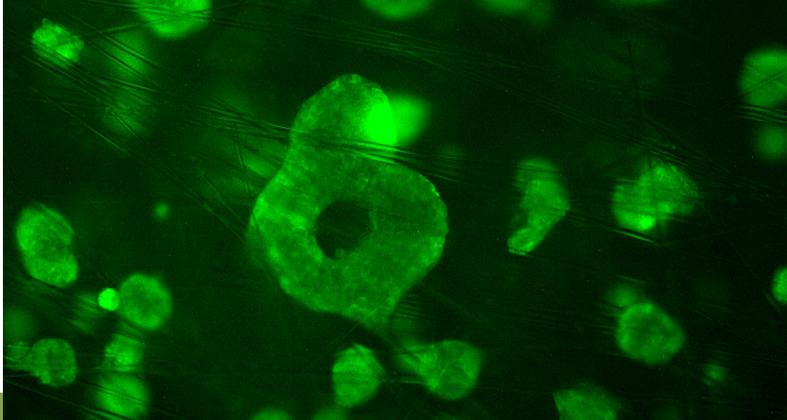
PRODUCT

BENEFITS

- **Reproducible Data**
 - Offers more precision & control than animal models
- **Biologically Relevant**
 - Prolonged cell viability and functionality
- **High Throughput**
 - Suitable for drug development screening & research

HOW IT WORKS

- Cells are seeded in inert, glass-fiber scaffolds & maintained in statistically-independent wells in their own medium that floats atop a high-density blood substitute in which medium and reagents are insoluble. The blood substitute dissolves much more atmospheric gas than aqueous medium can. Pumping of this blood substitute acts as a "liquid piston" that introduces perfusion into the system without the need for separate pumps and tubing for each culture.



ONE TUBE, MANY
ORGANS.



Cell Types:

PerfusionPal accepts all cell types and extracellular matrices. Examples:

- **Primary Cells**

- Human Hepatocytes, T Cells, Neutrophils, Fibroblasts, Astrocytes & Lung Tumor Cells

- **iPSC and iPSC-Derived Cells**

- Human iPSC Neurons, Human Neural Progenitor Cells (NPCs), Microglia, Astrocytes & Hepatocytes

- **Immortalized Cell Lines**

- Brain, Liver, Kidney, Breast, Lung, Bone, Connective Tissue Cells & Blood and Immune System Cells

What does this mean for research?

- **Cancer Treatment**

- Enables the creation of vascularized tumor models for drug treatment & therapy research

- **Human-Relevant Drug Discovery**

- Accurate data that can help researchers identify new drug targets & biomarkers

- **Advancements for Precision Medicine**

- New standard for predicting how a human will respond to drugs, biologics, food, dietary supplements, & cosmetics with greater precision and control than animal-based testing methods

- **Improves R&D Decision Making**

- Enables researchers to focus on new medicines and targeted therapies that are most likely to succeed

For more information about our products and services visit www.lenabio.com. For any inquiries, please email support@lenabio.com or call us at (404)-206-2676.