



## TrailBio® Vascular Leptomeningeal Cell Kit FAQ

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### **What are iPSC-derived Vascular Leptomeningeal Cells?**

Induced pluripotent stem cell (iPSC)-derived vascular leptomeningeal cells (VLMCs) are specialized fibroblast-like cells found in the meninges. They play a key role in blood-brain barrier function, immune surveillance, and neurovascular interactions.

### **How different are VLMCs from pericytes?**

VLMCs are derived from the neuroectoderm, while pericytes come from the mesoderm. Functionally, VLMCs contribute to the extracellular matrix and immune regulation in the meninges, whereas pericytes support vascular stability, blood-brain barrier maintenance, and capillary constriction.

### **How are these cells generated?**

Our iPSC-derived VLMCs are differentiated from human iPSCs using a proprietary directed differentiation protocol that mimics physiological cues to generate cells with high purity and functional characteristics.

### **What applications are VLMCs suitable for?**

Researchers can utilize VLMCs in various applications, such as investigating efficient drug delivery across the blood-brain barrier, developing models of neurological diseases, and identifying novel targets for anti-inflammatory therapies.

### **What markers do these cells express?**

Our iPSC-derived VLMCs are characterized by the expression of key leptomeningeal markers, including DCN, LUM, COL1A1, PDGFRA, CD44 and CD146.

### **What culture conditions are recommended for VLMCs?**

Cells should be cultured in a TrailBio® Basal Medium supplemented with TrailBio® Vascular Leptomeningeal Cell Medium Supplement, with recommended coatings and supplements provided in our user guide. Standard culture conditions include 37 °C, 5% CO<sub>2</sub> in a humidified incubator.

### **Are there further differentiation steps needed before these cells can be used in an assay?**

Yes, the cells will require a 7-day maturation period to be fully ready for assays. This process is described in the User Instructions and ensures that the cells reach the appropriate stage of development necessary for accurate and reliable results.

### **Are any genome modifications used in the production of these cells?**

TrailBio® Vascular Leptomeningeal Cells were produced without the use genome modifications. The differentiation process mimics natural embryonic development using our proprietary HD-DoE® technology.

### **Do you provide custom differentiation services?**

Yes, we offer custom differentiation and characterization services to meet specific research needs, including disease modeling and modified differentiation protocols.

### **How are these cells shipped?**

Cryopreserved cells are shipped in vials on dry ice in temperature-controlled conditions.

### **What is the recommended storage and shelf life?**

Cryopreserved cells should be stored in liquid nitrogen and used within 6 months of the date of purchase. Frozen media and supplements should be used within 3 months of the date of purchase.

### **What support do you provide post-purchase?**

We offer technical support, troubleshooting guidance, and access to detailed protocols to ensure successful cell culturing and experimental reproducibility.

### **Are these cells suitable for co-culture experiments?**

Yes, iPSC-derived VLMCs can be co-cultured with pericytes and astrocytes to study neurovascular interactions and blood-brain barrier properties. Also, VLMCs can be co-cultured with endothelial cells using a transwell system.