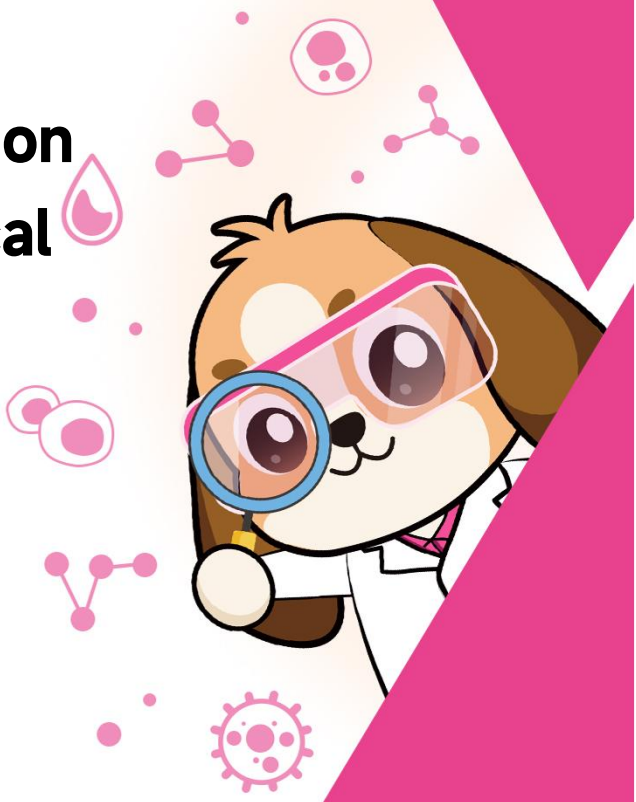
cyagen | OriCell™

User Manual

OriCell™ Angiogenic Induction Medium For Human Umbilical Vein Endothelial Cells

Catalog No. HUVEC-90201



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Introduction

Blood vessel formation depends on endothelial cells. Vascular endothelial cells form a monolayer of flat cells arranged longitudinally on the surface of the vascular intima. They are in direct contact with the bloodstream and serve as a barrier between the blood and surrounding tissues, performing multiple physiological functions. These cells play key roles in maintaining vascular tone, regulating blood pressure, preventing thrombosis, and promoting angiogenesis.

Establishing a vascular endothelial cell culture model is an effective in vitro approach to study endothelial cell functions. Currently, human umbilical vein endothelial cells (HUVECs) are the most widely used, especially in research on the pathogenesis of hypertension, cardiovascular and cerebrovascular diseases, as well as tumor invasion and metastasis.

OriCell™ Angiogenic Induction Medium For Human Umbilical Vein Endothelial Cells promotes blood vessel formation, thereby supporting a variety of biological experiments.

Note: **This product is only provided for further scientific research. It is not intended for diagnostic, therapeutic, clinical, household, or any other applications.**

When citing our products in academic journals, please indicate "OriCell™ + Catalog Number, from Cyagen Biosciences (Guangzhou) Inc. "

Product Information

Components	Catalog Number	Volume
OriCell™ Angiogenic Induction Medium For Human Umbilical Vein Endothelial Cells	HUVEC-90201	100 mL

QC

- Pass the detection of bacteria, fungi, mycoplasma and endotoxins.
- Pass the detection of osmotic pressure and pH.

Please refer to "COA" for details.

General Handing Principles

1. Strict sterile environment. Ensure the overall cleanliness of the laboratory and the operation area.
2. Standardized operating procedures. Please follow the instructions described in the product manual, strictly control variables, and conduct proper control experiments.

Product Stability and Storage Conditions

1. All ingredients must be kept in dark place.
2. The medium should be stored in a refrigerator at 4°C for a period of 6 months.
3. Please use all products within the expiration date. Expired ingredients may significantly affect the cell culture effect.

Procedure for Inducing Differentiation

Materials Required

- OriCell™ Complete Medium For Human Umbilical Vein Endothelial Cells (Cat. No.: HUVEC-90011)
- OriCell™ Human Umbilical Vein Endothelial Cells (Cat. No.: HUVEC-20001)
- OriCell™ Angiogenic Induction Medium For Human Umbilical Vein Endothelial Cells (Cat. No.: HUVEC-90201)
- OriCell™ Matrigel Solution (Cat. No.: MATR-10001)

Steps

Note:

1) This protocol uses a 12-well plate as an example. Please select an appropriate culture vessel based on your specific needs.

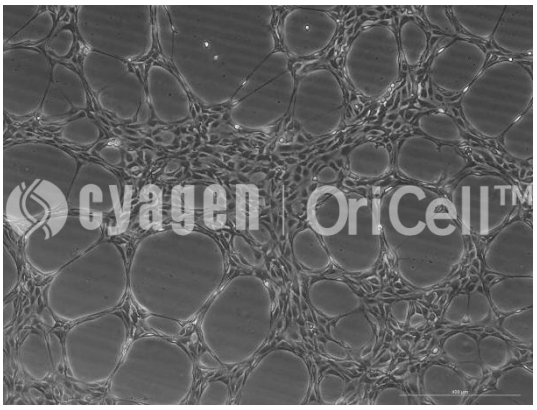
2) The induction medium needs to be preheated to 37°C before use.

3) Please prepare the Matrigel solution in advance of the experiment.

1. Preheat the OriCell™ Angiogenic Induction Medium For Human Umbilical Vein Endothelial Cells in a 37°C water bath.
2. When the cell confluence reaches approximately 60–70%, replace the OriCell™ Complete Medium For Human Umbilical Vein Endothelial Cells (Cat. No.: HUVEC-90011) with OriCell™ Angiogenic Induction Medium For Human Umbilical Vein Endothelial Cells (Cat. No.: HUVEC-90201). Meanwhile, thaw the Matrigel solution (Cat. No.: MATR-10001) on ice at 4°C overnight.
3. After 24 hours (the next day), pre-cool the 12-well plate, pipette tips, and other consumables before coating.
4. Under a biosafety cabinet and on ice, add 300 µL of Matrigel to each well. Gently swirl to evenly cover the bottom surface, avoiding bubbles as they can interfere with microscopic observation.

5. Equilibrate the plate at 4°C for 5 minutes, then transfer to a 37°C incubator to solidify the Matrigel for 30 minutes.
6. After the Matrigel has gelled, digest the cells and resuspend them in induction medium at a density of 1×10^6 cells/mL. Seed 300 μL of the cell suspension onto the Matrigel-coated wells.
7. Incubate the culture plate at 37°C with 5% CO_2. Observe and capture images of tube formation under a phase-contrast microscope at desired time points.
8. Analyze the images using ImageJ software.

The Efficacy of Vascular Differentiation Induction



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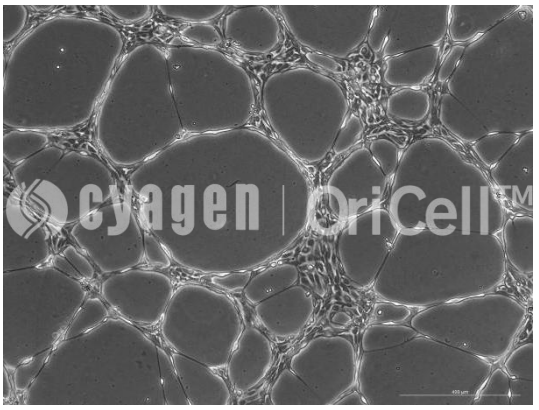

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