Vascular Cell Basal Medium

PCS-100-030™

Description

Vascular Cell Basal Medium is a sterile, phenol-red-free, liquid tissue culture medium intended for use as one component in a complete ATCC Primary Cell Solutions system. Vascular Cell Basal Medium is designed to support cells derived from normal human large vessels such as human umbilical vein endothelial cells, aortic endothelial cells or aortic smooth muscle cells, as well as microvascular endothelial cells. Also to support the proliferation and plating efficiency of cells derived from the vascular system, Vascular Cell Basal Medium must be supplemented with the appropriate cell-specific growth kit.

Volume: 475 mL

Storage Conditions

Storage conditions: 2°C to 8°C

Intended Use

This product is intended for laboratory research use only. It is not intended for any animal or human therapeutic use, any human or animal consumption, or any diagnostic use.

BSL 1

ATCC determines the biosafety level of a material based on our risk assessment as guided by the current edition of *Biosafety in Microbiological and Biomedical Laboratories (BMBL)*, U.S. Department of Health and Human Services. It is your responsibility to

understand the hazards associated with the material per your organization's policies and procedures as well as any other applicable regulations as enforced by your local or national agencies.

Certificate of Analysis

For batch-specific test results, refer to the applicable certificate of analysis that can be found at www.atcc.org.

Handling Procedures

Preparation of Complete Growth Media

1. Obtain one growth kit from the freezer; make sure that the caps of all components are tight.
2. Thaw the components of the growth kit just prior to adding them to the basal medium. It is necessary to warm the L-glutamine component in a 37°C water bath and shake to dissolve any precipitates prior to adding to the basal medium.
3. Obtain one bottle of Vascular Cell Basal Medium (475 mL) from cold storage.
4. Decontaminate the external surfaces of all growth kit component vials and the basal medium bottle by spraying them with 70% ethanol.
5. Using aseptic technique and working in a laminar flow hood or biosafety cabinet, transfer the volume of each growth kit component, as indicated in Table 1, 2, 3, 4, or 5 to the bottle of basal medium using a separate sterile pipette for each transfer.

Table 1. If using the Endothelial Cell Growth Kit-BBE (ATCC® PCS-100-040), add the indicated volume for each component:

Component	Volume	Final Concentration

Bovine Brain Extract (BBE)	1.0 mL	0.2%
rh EGF	0.5 mL	5 ng/mL
L-glutamine	25.0 mL	10 mM
Heparin sulfate	0.5 mL	0.75 Units/mL
Hydrocortisone hemisuccinate	0.5 mL	1 µg/mL
Fetal Bovine Serum	10.0 mL	2%
Ascorbic Acid	0.5 mL	50 µg/mL

Table 2. If using the Endothelial Cell Growth Kit-VEGF (ATCC® PCS-100-041), add the indicated volume for each component:

Component	Volume	Final Concentration
rh VEGF	0.5 mL	5 ng/mL
rh EGF	0.5 mL	5 ng/mL
rh FGF basic	0.5 mL	5 ng/mL
rh IGF-1	0.5 mL	15 ng/mL
L-glutamine	25.0 mL	10 mM

Heparin sulfate	0.5 mL	0.75 Units/mL
Hydrocortisone hemisuccinate	0.5 mL	1 µg/mL
Fetal Bovine Serum	10.0 mL	2%
Ascorbic acid	0.5 mL	50 µg/mL

Table 3. If using the Vascular Smooth Muscle Growth Kit (ATCC® PCS-100-042), add the indicated volume for each component:

Component	Volume	Final Concentration
rh FGF-basic	0.5 mL	5 ng/mL
rh Insulin	0.5 mL	5 µg/mL
Ascorbic acid	0.5 mL	50 µg/mL
L-glutamine	25.0 mL	10 mM
rh EGF	0.5 mL	5 ng/mL
Fetal Bovine Serum	25.0 mL	5%

Table 4. If using the Microvascular Endothelial Cell Growth Kit-BBE (ATCC® PCS-110-040), add the indicated volume for each component:

Component	Volume	Final Concentration

Bovine Brain Extract (BBE)	1.0 mL	0.2%
rh EGF	0.5 mL	5 ng/mL
L-glutamine	25.0 mL	10 mM
Heparin sulfate	0.5 mL	0.75 Units/mL
Hydrocortisone hemisuccinate	0.5 mL	1 µg/mL
Fetal Bovine Serum	25.0 mL	5%
Ascorbic acid	0.5 mL	50 µg/mL

Table 5. If using the Microvascular Endothelial Cell Growth Kit-VEGF (ATCC® PCS-110-041), add the indicated volume for each component:

Component	Volume	Final Concentration
rh VEGF	0.5 mL	5 ng/mL
rh EGF	0.5 mL	5 ng/mL
rh FGF basic	0.5 mL	5 ng/mL
rh IGF-1	0.5 mL	15 ng/mL
L-glutamine	25.0 mL	10 mM
Heparin sulfate	0.5 mL	0.75 Units/mL

Hydrocortisone hemisuccinate	0.5 mL	1 µg/mL
Fetal Bovine Serum	25.0 mL	5%
Ascorbic acid	0.5 mL	50 µg/mL

Table 6. If using the Cardiomyocyte Growth Kit (ATCC® PCS-120-040), add the indicated volume for each component:

Component	Volume	Final Concentration
L-Glutamine	25.0 mL	10 mM
Fetal Bovine Serum	25.0 mL	5%
Fetuin	5.0 mL	25 mg/mL
rh FGF-b	0.5 mL	5 ng/mL
rh Insulin	0.5 mL	5 mg/mL
Ascorbic Acid	0.5 mL	50 µg/mL
rh EGF/TGF-b1	0.5 mL	5 ng/mL, 30 pg/mL

Antimicrobials and phenol red are not required for proliferation but may be added if desired. The recommended volume of each ***optional*** component to be added to the complete growth media is summarized in Table 7.

Table 7. Addition of Antimicrobials/Antimycotics and Phenol Red (Optional)

Component	Volume	Final Concentration
Gentamicin-Amphotericin B Solution	0.5 mL	Gentamicin: 10 µg/mL Amphotericin B: 0.25 µg/mL
Penicillin-Streptomycin-Amphotericin B Solution	0.5 mL	Penicillin: 10 Units/mL Streptomycin: 10 µg/mL Amphotericin B: 25 ng/mL
Phenol Red	0.5 mL	33 µM

6. Tightly cap the bottle of complete growth medium and swirl the contents gently to assure a homogeneous solution. Do not shake forcefully to avoid foaming. Label and date the bottle.
7. Complete growth media should be stored in the dark at 2°C to 8°C (do not freeze). When stored under these conditions, complete media is stable for 30 days.

Quality Control Specifications

Bacterial and fungal testing: Not detected
Mycoplasma contamination: Not detected
Endotoxin: < 0.5 EU/mL
Osmolality: 270 ± 10 mOsm/kg

pH: 7.8 ± 0.3
Functional tests: Rate of proliferation and morphology

Material Citation

If use of this material results in a scientific publication, please cite the material in the following manner: Vascular Cell Basal Medium (ATCC PCS-100-030)

References

References and other information relating to this material are available at www.atcc.org.

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