Human Microvascular Endothelial Cell Lines, #HMEC-1

SKU: CDS10375 | Category: Cell Lines — Normal and Non-Tumor Cell Lines

Validation & Biomarker Data Guide · Lineage classification: Endothelial cell

1. Product Overview

Human Microvascular Endothelial Cell Lines, #HMEC-1 is an established non-tumor cell model for in vitro research. It is suitable for studies of cell physiology, growth, signaling, toxicity, drug response, biomarker analysis and assay development under controlled culture conditions. The cell line provides a reproducible system for basic and translational cell biology. For research use only.

Primary tissue / source: Microvascular Endothelials | Growth type: Adherent Cells | Tumorigenic status: Normal Cells | Pack size: 1 x 1 million cells

2. Typical Applications

- 1. Cancer Biology Research
- Mechanistic Studies
- Gene Function Studies
- Signal Transduction
- 2. Drug Discovery and Development
- Screening of Anticancer Compounds
- IC50/EC50 Studies
- Mechanism of Action
- Combination Therapies
- 3. Assay Development
- ELISA and Immunoassays
- Flow Cytometry Assays

3. Identity & Phenotypic Marker Panel

A representative identity panel for endothelial cell products is shown below. Actual per-lot Certificates of Analysis should be consulted for verified identity data.

Marker	Expected Result	Range
CD31 (PECAM-1)	Positive	85–99% positive

Marker	Expected Result	Range
VE-cadherin	Positive	75–97% positive
vWF	Positive	70–95% positive
Pan-cytokeratin	Negative / low	≤5% (background)
α-SMA	Negative / low	≤10% (background)

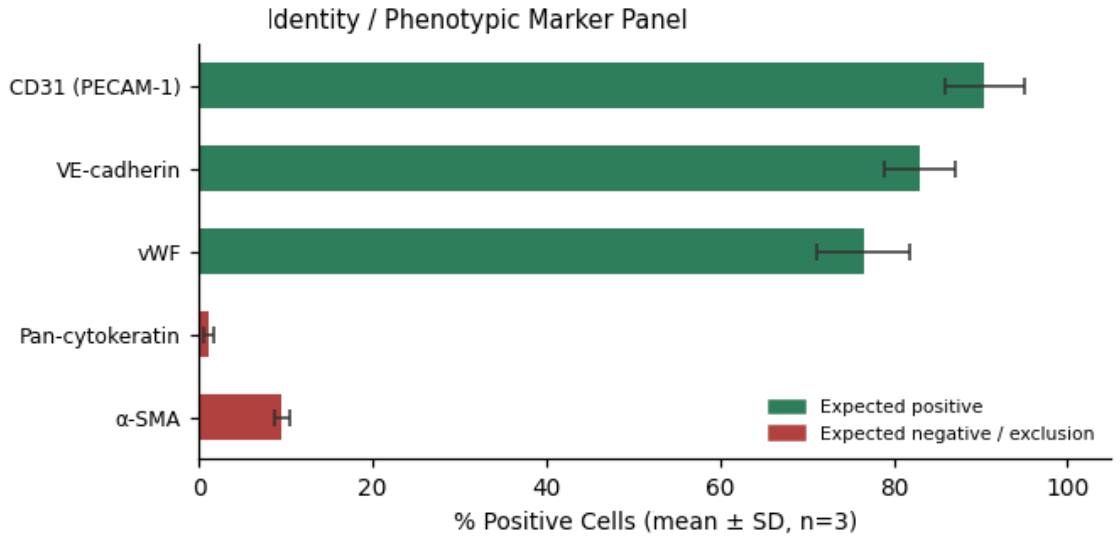


Figure 1. Marker expression profile (mean ± SD, n = 3 replicates).

4. Growth Kinetics & Viability

Growth and viability trends over 120 hours in standard culture conditions.

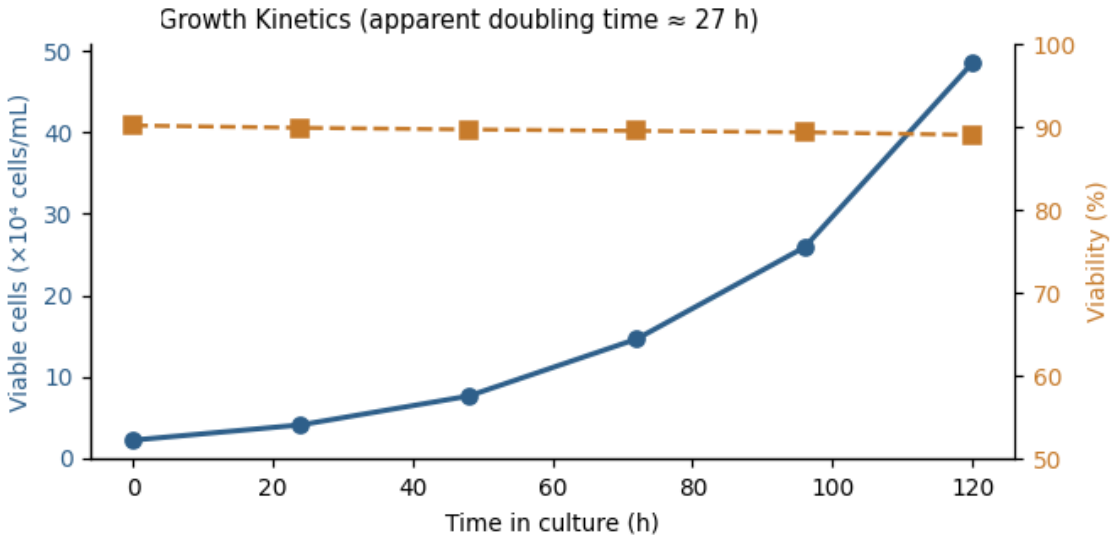


Figure 2. Growth curve (viable cell density, left axis) and viability trend (right axis).

5. Functional Validation Assay

Tube formation (angiogenesis) assay: Matrigel tube-formation assay quantifying network/branch-point formation to confirm angiogenic functional competence; Ac-LDL uptake as secondary marker.

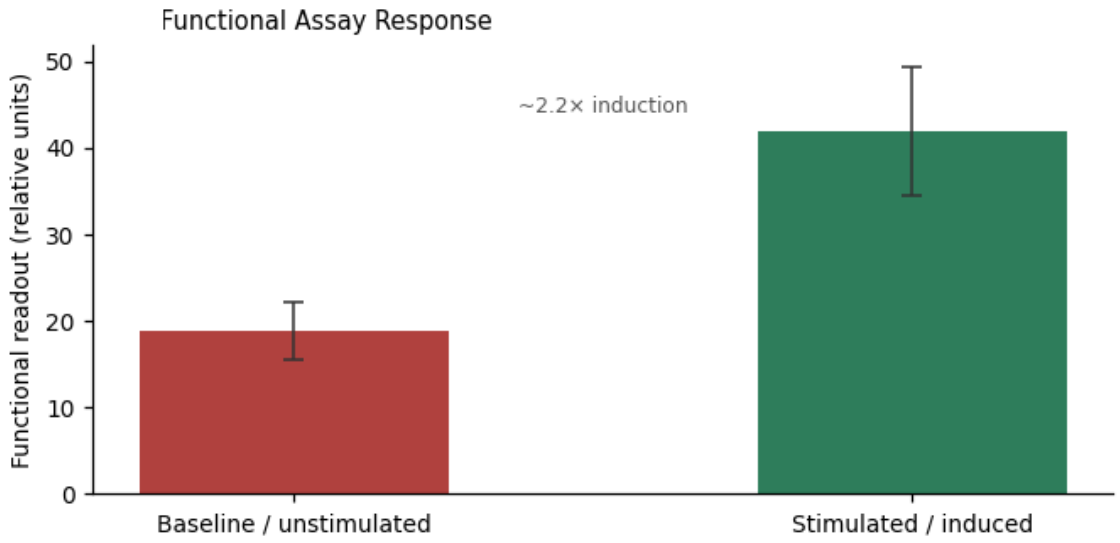


Figure 3. Functional assay readout — ~2.2× induction over baseline.

6. QC Acceptance Criteria

Acceptance Criterion	Result
≥85% CD31+ by flow cytometry/ICC	PASS
Positive tube formation on Matrigel within 6-18 h	PASS
Apparent population doubling time	≈ 27 hours
Functional assay outcome	~2.2× induction over baseline

7. Handling & Culture Notes

- Refer to the product-specific Certificate of Analysis and datasheet for validated culture medium, seeding density, and passaging recommendations.
- As with any primary cell or cell line, confirm mycoplasma-negative status, expected morphology by phase-contrast microscopy, and viability by trypan blue or equivalent dye-exclusion assay at each passage before use in downstream assays.