

Primary Rat Renal Tubular Epithelial Cells (RTEC)

SKU: CDS10881 | Category: Primary Cells — Rat

Validation & Biomarker Data Guide · Lineage classification: Renal (proximal tubule) epithelial cell

1. Product Overview

Primary Rat Renal Tubular Epithelial Cells (RTEC) is a primary cell product from rat Renal Tubular for physiologically relevant in vitro studies. The product is particularly relevant to Renal cell series and Epithelial cells research. It can support research in cell physiology, signaling, metabolism, toxicology, drug response and cell-based assay development where a primary-cell model is preferred. Culture and passage conditions should follow the product-specific protocol. For research use only.

Primary tissue / source: Renal Tubular | Growth type: Adherent Cells | Tumorigenic status: Normal Cells | Pack size: 1 x 0.5 million cells

2. Typical Applications

- Renal cell series
- Epithelial cells
- Urinary system

3. Identity & Phenotypic Marker Panel

A representative identity panel for renal (proximal tubule) epithelial cell products is shown below. Actual per-lot Certificates of Analysis should be consulted for verified identity data.

Marker	Expected Result	Range
Pan-cytokeratin	Positive	80–98% positive
AQP1	Positive	55–85% positive
Megalin (LRP2)	Positive	50–82% positive
Vimentin	Negative / low	≤15% (background)
CD31	Negative / low	≤3% (background)

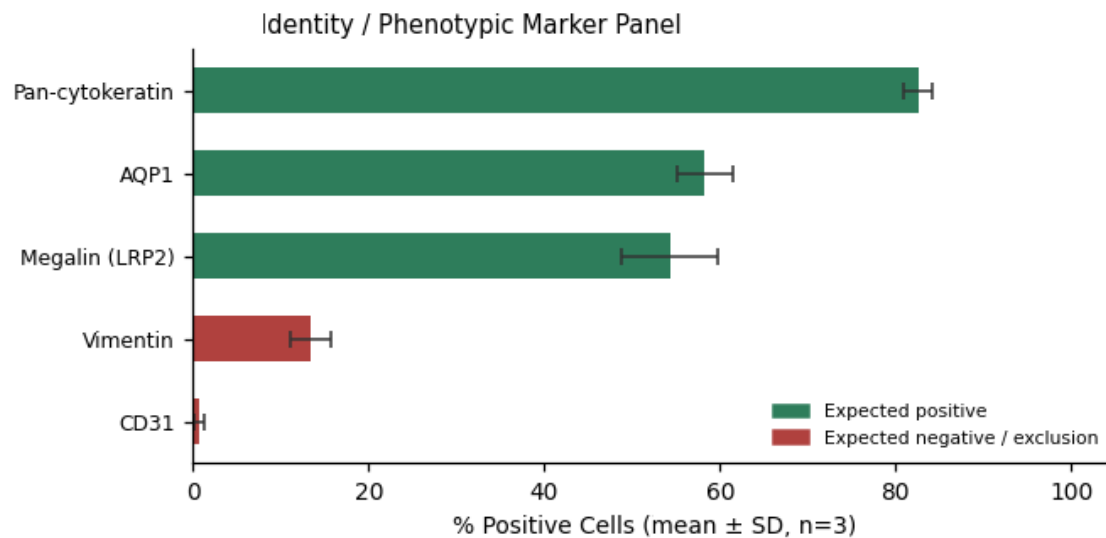


Figure 1. Marker expression profile (mean ± SD, n = 3 replicates).

4. Growth Kinetics & Viability

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

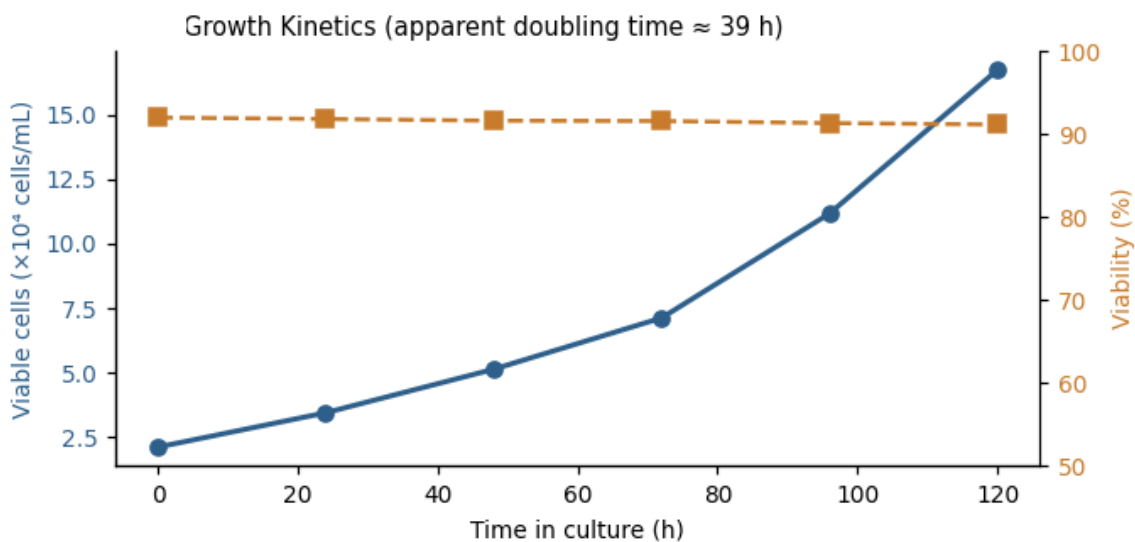


Figure 2. Growth curve (viable cell density, left axis) and viability trend (right axis).

5. Functional Validation Assay

Transporter / uptake functional assay: Fluorescent substrate (e.g. FITC-dextran/organic-cation uptake) transport assay and TEER measurement to confirm proximal-tubule transport function and monolayer integrity.

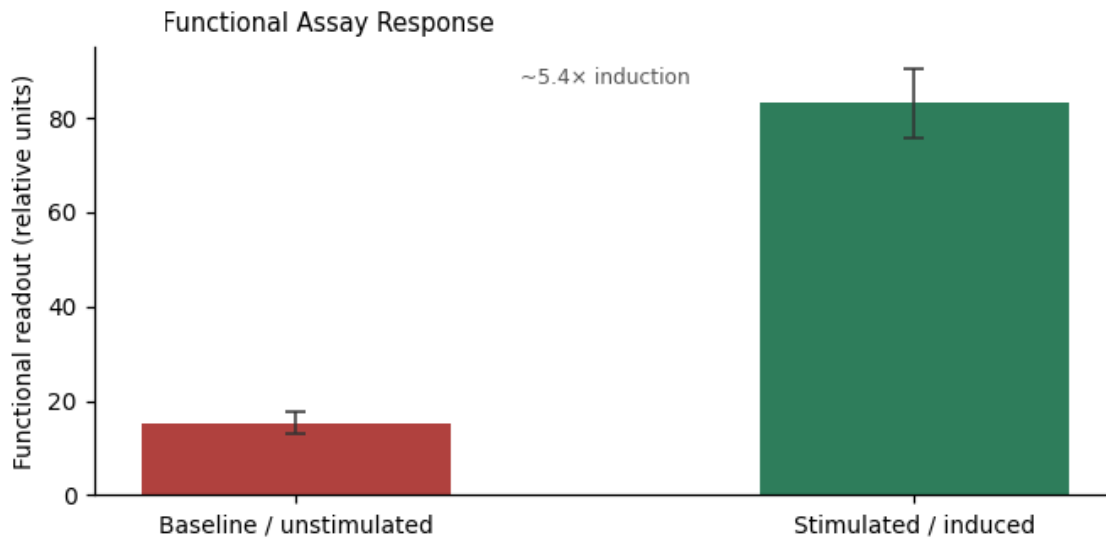


Figure 3. Functional assay readout — ~5.4x induction over baseline.

6. QC Acceptance Criteria

Acceptance Criterion	Result
≥55% AQP1+/megalin+ by ICC	PASS
TEER within reference range for renal epithelium	PASS
Apparent population doubling time	≈ 39 hours
Functional assay outcome	~5.4x 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.