

Primary Rat Neonatal Epidermal Keratinocytes (NEK)

SKU: CDS10992 | Category: Primary Cells — Rat

Validation & Biomarker Data Guide · Lineage classification: Keratinocyte

1. Product Overview

Primary Rat Neonatal Epidermal Keratinocytes (NEK) is a primary cell product from rat Neonatal Epidermal tissue for physiologically relevant in vitro studies. The product is particularly relevant to Keratinocytes and Skeletal, articular and cutaneous systems 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: Neonatal Epidermal tissue | Growth type: Adherent Cells | Tumorigenic status: Normal Cells | Pack size: 1 x 0.5 million cells

2. Typical Applications

- Keratinocytes
- Skeletal, articular and cutaneous systems

3. Identity & Phenotypic Marker Panel

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

Marker	Expected Result	Range
Cytokeratin 5/14	Positive	80–98% positive
p63	Positive	65–92% positive
Involucrin	Positive	40–75% positive
Vimentin	Negative / low	≤15% (background)
CD31	Negative / low	≤3% (background)

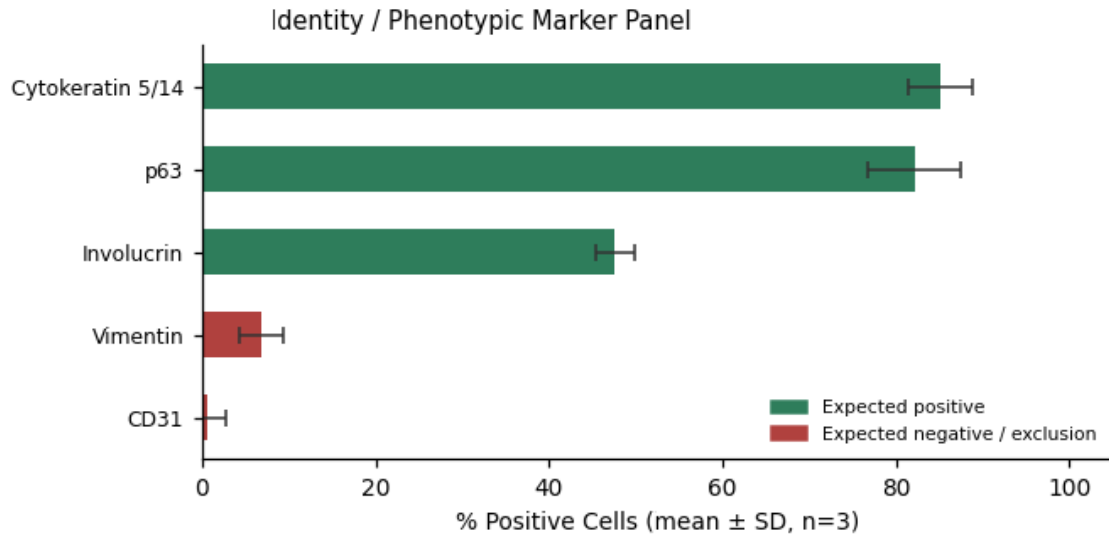


Figure 1. Marker expression profile (mean $\pm$ SD, n = 3 replicates).

4. Growth Kinetics & Viability

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

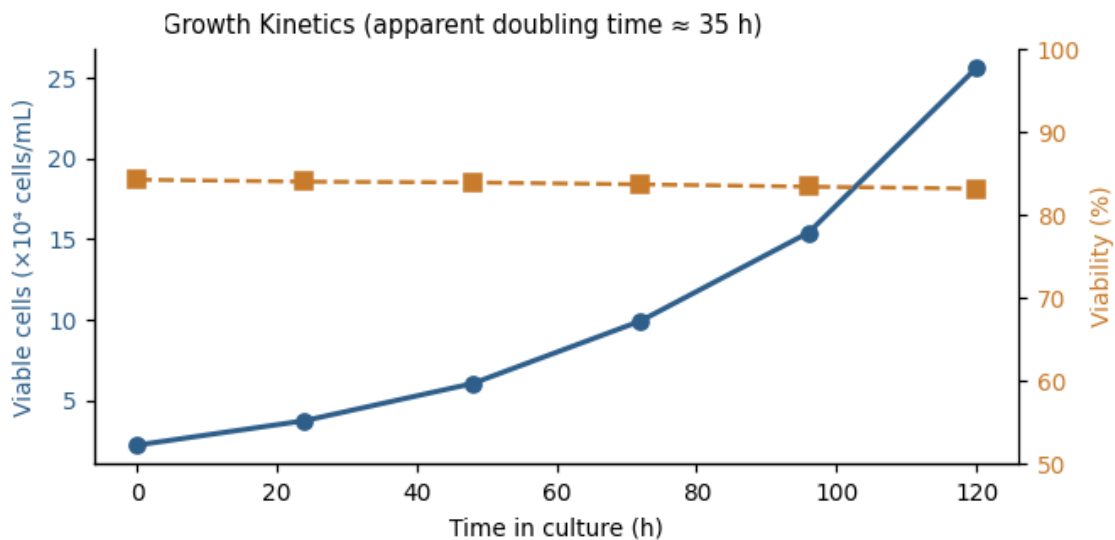


Figure 2. Growth curve (viable cell density, left axis) and viability trend (right axis).

5. Functional Validation Assay

Differentiation / cornification assay: Calcium-induced differentiation with involucrin/loricrin induction assessed by Western blot or ICC to confirm terminal differentiation capacity.

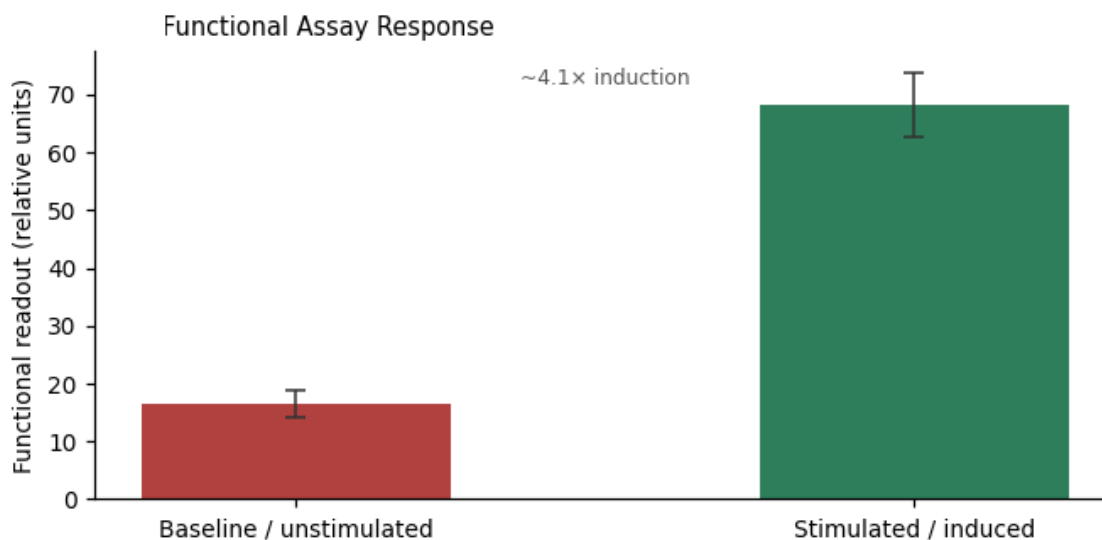


Figure 3. Functional assay readout — ~4.1x induction over baseline.

6. QC Acceptance Criteria

Acceptance Criterion	Result
≥80% CK5/14+ by ICC	PASS
Involucrin induction confirmed after calcium switch	PASS
Apparent population doubling time	≈ 35 hours
Functional assay outcome	~4.1x 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.