

Primary Rat Nucleus Pulposus Cells (NPC)

SKU: CDS11199 | Category: Primary Cells — Rat

Validation & Biomarker Data Guide · Lineage classification: Normal/primary adherent cell (general)

1. Product Overview

Primary Rat Nucleus Pulposus Cells (NPC) is a primary cell product from rat Intervertebral disc for physiologically relevant in vitro studies. The product is particularly relevant to Skeletal cell series and Nucleus pulposus 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: Intervertebral disc | Growth type: Adherent Cells | Tumorigenic status: Normal Cells | Pack size: 1 x 0.5 million cells

2. Typical Applications

- Skeletal cell series
- Nucleus pulposus cells
- Skeletal, articular and cutaneous systems

3. Identity & Phenotypic Marker Panel

A representative identity panel for normal/primary adherent cell (general) products is shown below. Actual per-lot Certificates of Analysis should be consulted for verified identity data.

Marker	Expected Result	Range
Lineage-specific marker panel (product-specific)	Positive	65–95% positive
CD45	Negative / low	≤8% (background)

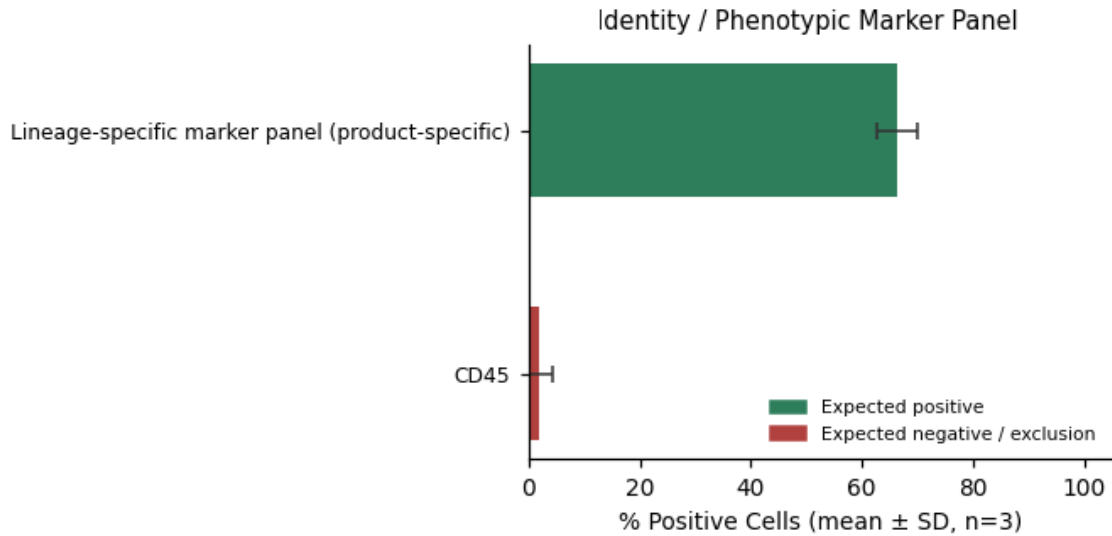


Figure 1. Marker expression profile (mean ± SD, n = 3 replicates).

4. Growth Kinetics & Viability

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

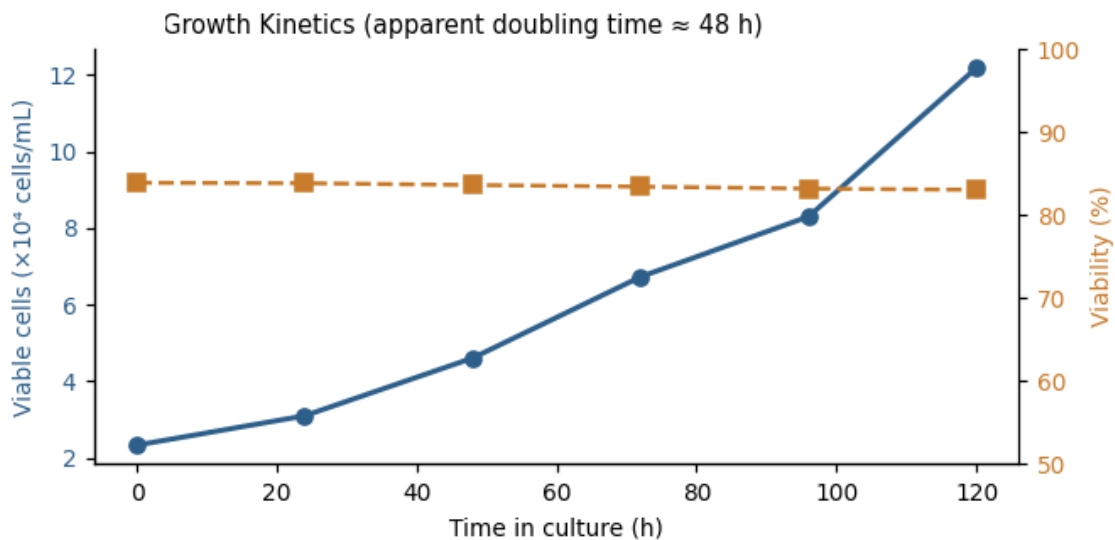


Figure 2. Growth curve (viable cell density, left axis) and viability trend (right axis).

5. Functional Validation Assay

Lineage-specific functional assay: Functional assay appropriate to tissue of origin (e.g. differentiation, secretion, or barrier-formation assay) to confirm the cell retains expected physiological behavior.

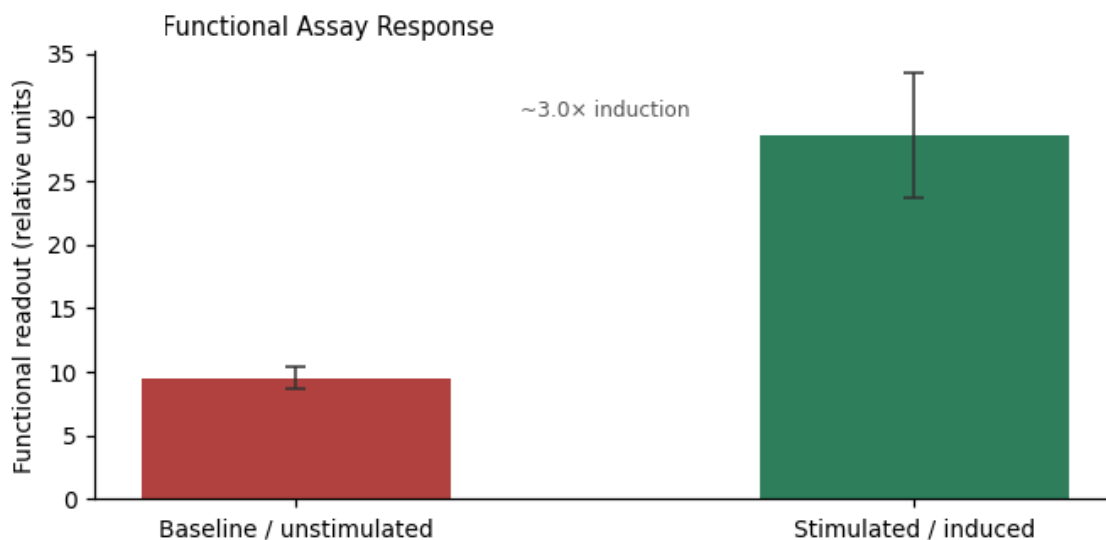


Figure 3. Functional assay readout — ~3.0× induction over baseline.

6. QC Acceptance Criteria

Acceptance Criterion	Result
Marker panel consistent with lineage reference sheet	PASS
Morphology consistent with reference image by phase-contrast microscopy	PASS
Negative for mycoplasma by PCR	PASS
Apparent population doubling time	≈ 48 hours
Functional assay outcome	~3.0× 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.