

Primary Rat Myocardial Cells (MC)

SKU: CDS10674 | Category: Primary Cells — Rat

Validation & Biomarker Data Guide • Lineage classification: **Cardiomyocyte**

1. Product Overview

Primary Rat Myocardial Cells (MC) is a primary cell product from rat Heart from neonatal rat for physiologically relevant in vitro studies. The product is particularly relevant to Cardiac cell series and Cardiac myocytes 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: Heart from neonatal rat | Growth type: Adherent Cells | Tumorigenic status: Normal Cells | Pack size: 1 x 0.5 million cells

2. Typical Applications

- Cardiac cell series
- Cardiac myocytes
- Circulatory system

3. Identity & Phenotypic Marker Panel

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

Marker	Expected Result	Range
cTnT (cardiac troponin T)	Positive	70–96% positive
α-actinin (sarcomeric)	Positive	65–93% positive
Connexin-43	Positive	55–88% positive
CD31	Negative / low	≤5% (background)

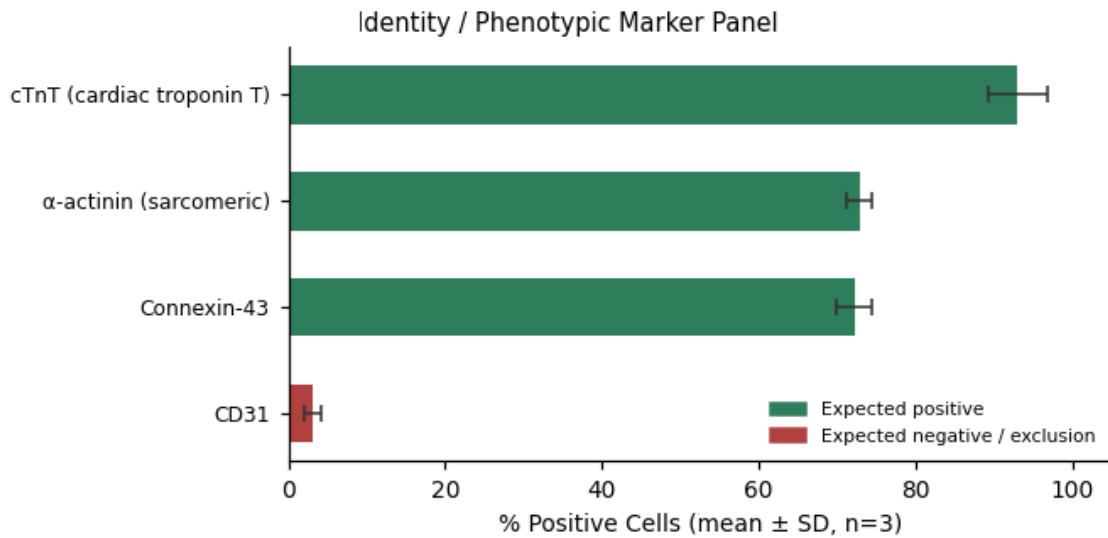


Figure 1. Marker expression profile (mean ± SD, n = 3 replicates).

4. Growth Kinetics & Viability

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

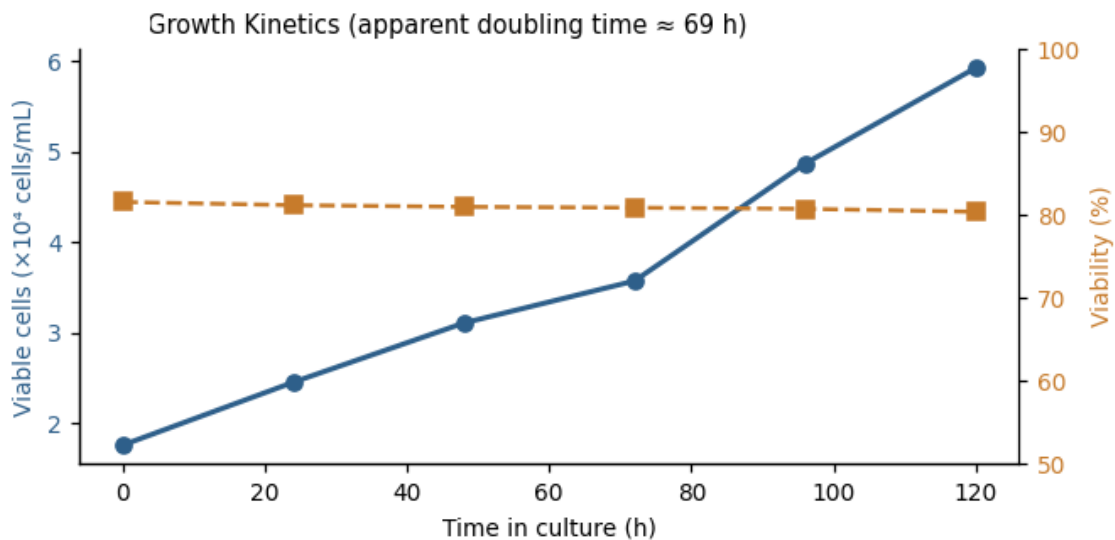


Figure 2. Growth curve (viable cell density, left axis) and viability trend (right axis).

5. Functional Validation Assay

Contractility / calcium-transient assay: Video-based beating/contractility analysis and calcium-transient imaging (Fluo-4) to confirm spontaneous rhythmic contraction and excitation-contraction coupling.

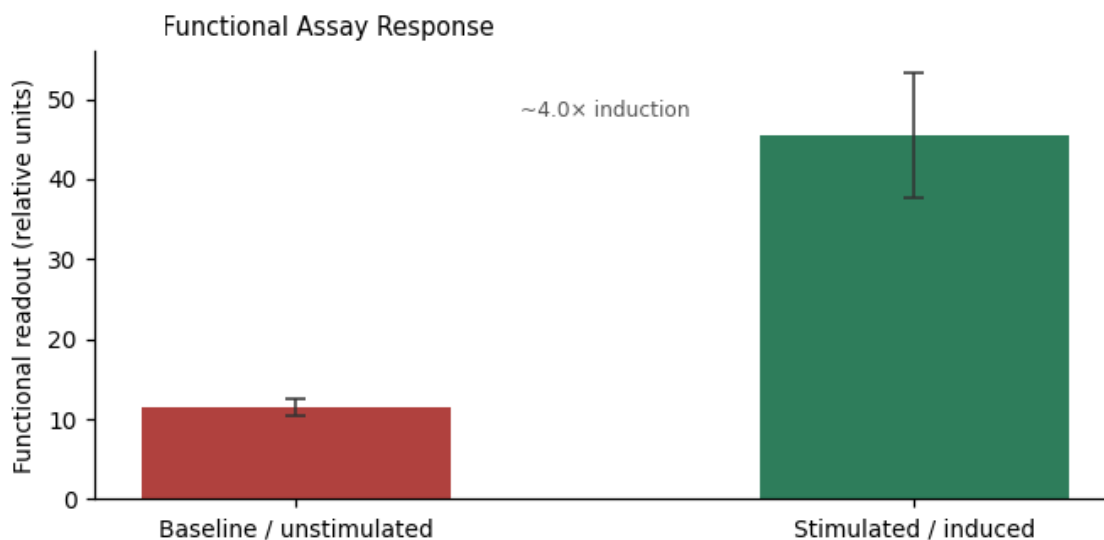


Figure 3. Functional assay readout — ~4.0x induction over baseline.

6. QC Acceptance Criteria

Acceptance Criterion	Result
≥70% cTnT+ by flow cytometry/ICC	PASS
Spontaneous synchronous beating observed by video microscopy	PASS
Apparent population doubling time	≈ 69 hours
Functional assay outcome	~4.0x 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.