

# Primary Rat Spinal Cord Neuron (SCN)

SKU: CDS11415 | Category: Primary Cells — Rat

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

## 1. Product Overview

Primary Rat Spinal Cord Neuron (SCN) is a primary cell product from rat Spinal cord for physiologically relevant in vitro studies. The product is particularly relevant to Nervous cell series and Neurons 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: Spinal cord | Growth type: Adherent Cells | Tumorigenic status: Normal Cells | Pack size: 1 x 0.5 million cells

## 2. Typical Applications

- Nervous cell series
- Neurons
- Cerebral and nervous systems

## 3. Identity & Phenotypic Marker Panel

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

| Marker                      | Expected Result | Range             |
|-----------------------------|-----------------|-------------------|
| <b>β-III Tubulin (Tuj1)</b> | Positive        | 70–95% positive   |
| <b>MAP2</b>                 | Positive        | 60–90% positive   |
| <b>NeuN</b>                 | Positive        | 50–85% positive   |
| <b>GFAP</b>                 | Negative / low  | ≤15% (background) |

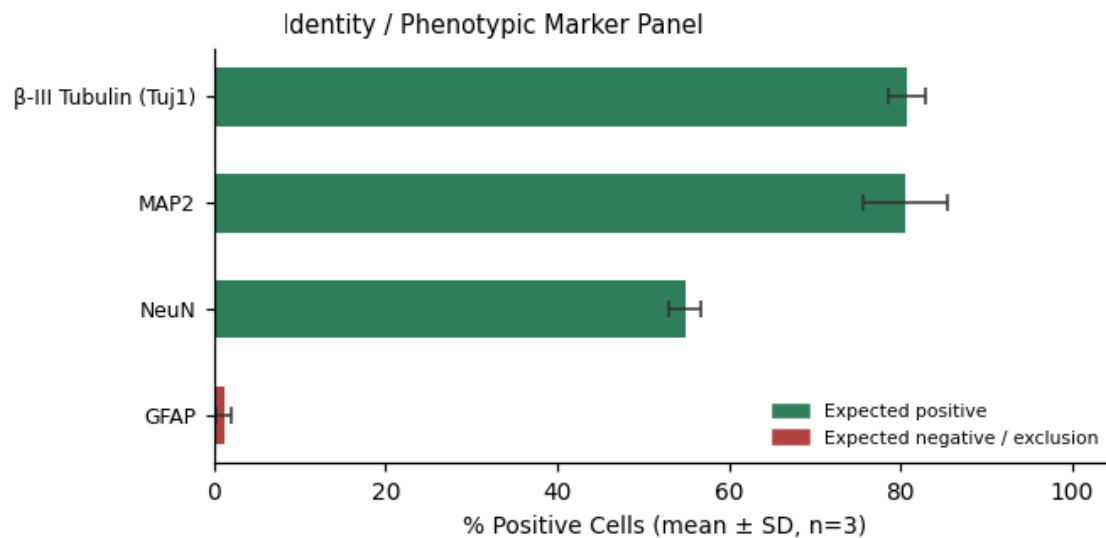


Figure 1. Marker expression profile (mean ± SD, n = 3 replicates).

#### 4. Growth Kinetics & Viability

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

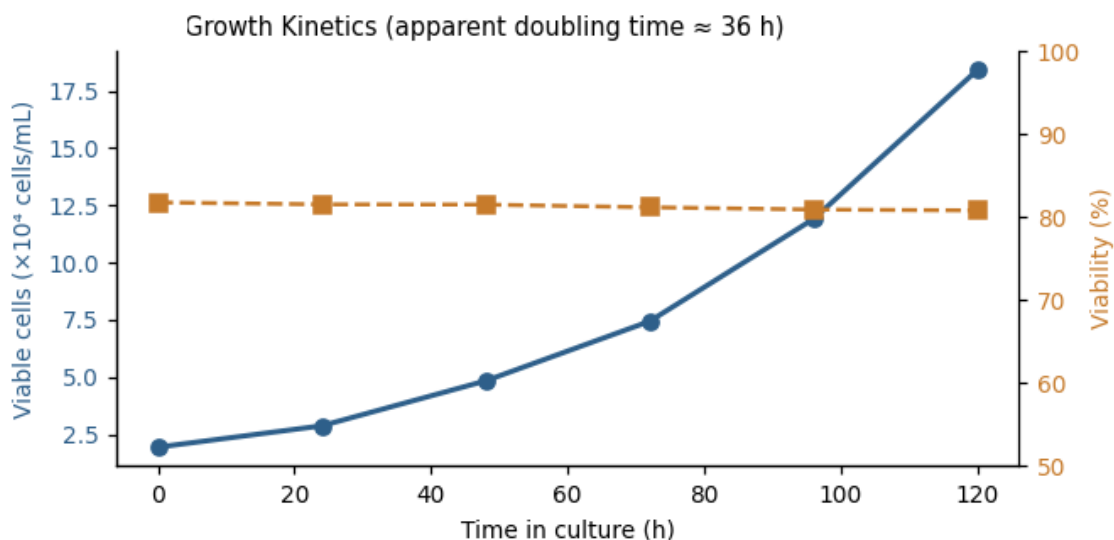


Figure 2. Growth curve (viable cell density, left axis) and viability trend (right axis).

#### 5. Functional Validation Assay

**Neurite outgrowth / electrophysiology assay:** Neurite-outgrowth imaging assay (length/branching quantification) and, where applicable, MEA (multi-electrode array) spontaneous activity recording to confirm neuronal functional maturity.

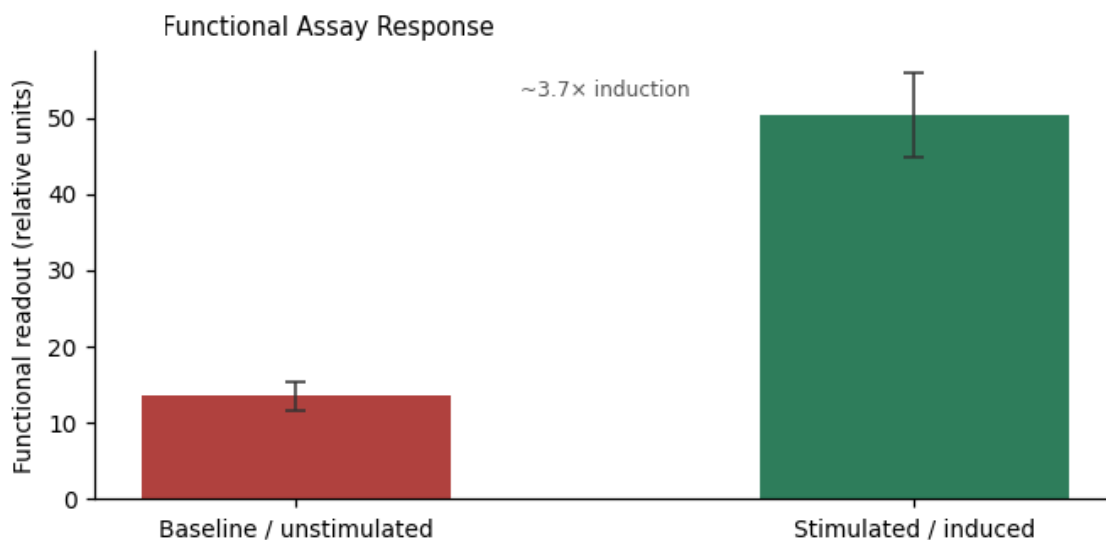


Figure 3. Functional assay readout — ~3.7x induction over baseline.

## 6. QC Acceptance Criteria

| Acceptance Criterion                   | Result                        |
|----------------------------------------|-------------------------------|
| ≥60% βIII-tubulin+/MAP2+ by ICC        | PASS                          |
| Neurite outgrowth observed by DIV 7-14 | PASS                          |
| Apparent population doubling time      | ≈ 36 hours                    |
| Functional assay outcome               | ~3.7x 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.