India Contact:
Life Technologies (India) Pvt. Ltd.
Mobile: +91-9810521400, Ph: +91-11-42208000
Email: customerservice@lifetechindia.com
Web: www.lifetechindia.com

Product Information

Rat Spinal Cord Motor Neurons (RSCMN)

Catalog Number	10RA-033	Cell Number	0.2 million cells/vial
Species	*Rattus norvegicus*	Storage Temperature	Liquid Nitrogen

Description

The spinal cord is the most important structure between the body and the brain. The spinal cord extends from the foramen magnum where it is continuous with the medulla to the level of the first or second lumbar vertebrae [1]. The spinal cord is composed of tubular bundles of nervous tissues and support cells. Extending from the occipital bone of the skull until it terminates near the second lumbar vertebra, the spinal cord transmits neural signals from the motor cortex to the body, and from the afferent fibers of the sensory neurons to the sensory cortex. It is also a center for coordinating many reflexes and contains reflex arcs that can independently control reflexes [2]. Studies using spinal cord neurons will allow a better understanding of the disease mechanisms, physiopathologies, and advancement in drug development and therapies. Cultures of spinal cord neurons can be applied for a variety of experiments including cytotoxicity test, immunocytochemistry staining, live cell imaging and co-culture, etc.

iXCells Biotechnologies provides high quality Rat Spinal Cord Motor Neurons (RSCMN), which are isolated from D16 rat embryo spinal cord and cryopreserved at P0, with >0.2 million cells in each vial. When cultured under the recommended conditions, RSCMN arborize and form complex neurite network since about 4-5 days till one week. RSpN stain positive for Tuj1 and MAP2. RSCMN are negative for mycoplasma, bacteria, yeast, and fungi.

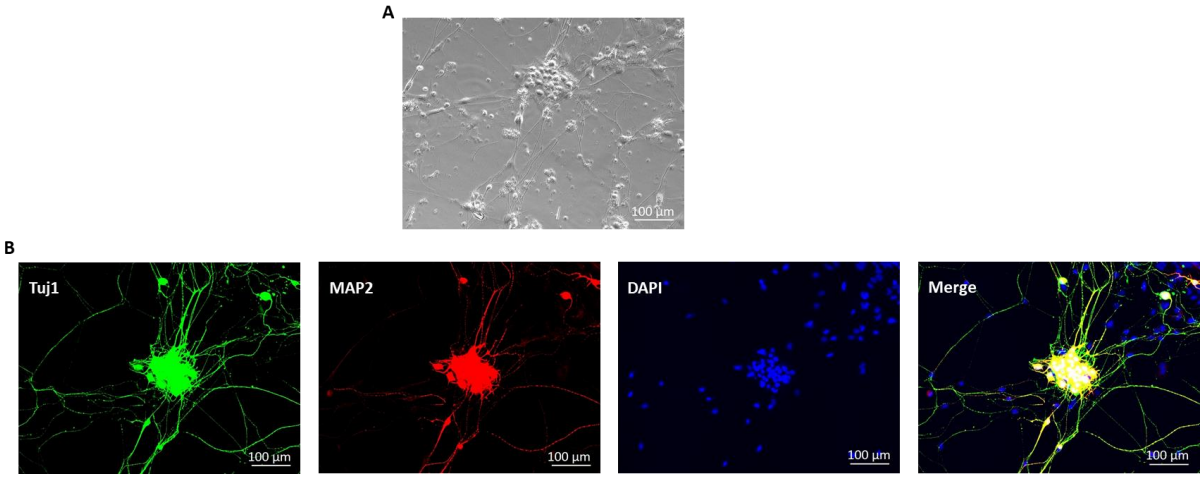

Figure legend: (A) Phase contrast image of Rat Spinal Cord Motor Neurons (RSCMN) (DIV 4). **(B)** RSCMN are positive for β III-Tubulin (TUJ1) and MAP2 as shown by immunofluorescence staining.

Product Details

Tissue	D16 rat embryo spinal cord
Package Size	0.2 million cells/vial
Passage Number	P0
Shipped	Cryopreserved
Storage	Liquid nitrogen
Growth Properties	Adherent
Media	Rat Spinal Cord Neuron Culture Medium (MD-0104)

Protocols

The following protocol is based on 12-well plate format

1. Prepare Matrigel-coated plates the day before.

   Note: Dilute Matrigel with DMEM/F12 medium into 80 µg/ml. Add 0.5 mL diluted Matrigel into each well of the 12-well plates to cover the surface. Coat the plate at room temperature for at least 2 hours before use. The coated plates can be stored at 4°C for a week. Leave the coated vessel in incubator overnight (minimum one hour at 37°C incubator).

2. Upon receipt of the frozen Rat Spinal Cord Motor Neurons (RSCMN), it is recommended to thaw the cells and initiate the culture immediately in order to retain the highest cell viability.
3. To thaw the cells, put the vial in 37°C water bath with gentle agitation for 1-2 minutes. Keep the cap out of water to minimize the risk of contamination.
4. Pipette the cells into a 15 mL conical tube with 5 mL fresh **Rat Spinal Cord Neuron Culture Medium** (MD-0104).
5. Centrifuge at 1,000 rpm (~220 g) for 5 minutes under room temperature.
6. Remove the supernatant and resuspend the cells in fresh culture medium.
7. Seed cells on Matrigel-coated plates at the desired density.

   Note: We recommend seeding 200,000-500,000 cells/well (30-70% confluence).

8. Incubate in 37°C CO_2 incubator overnight.
9. Perform half medium change every 2-3 days.

Safety Precaution: *it is highly recommended that protective gloves and clothing should be used when handling frozen vials.*

References

[1] Squire, Larry Squire; et al. (2013). Fundamental neuroscience (4th ed.). Amsterdam: Elsevier/Academic Press. p.628.
[2] Guertin, PA (2012). "Central pattern generator for locomotion: anatomical, physiological, and pathophysiological considerations". Frontiers in Neurology. 3: 183.

Disclaimers