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Product Information

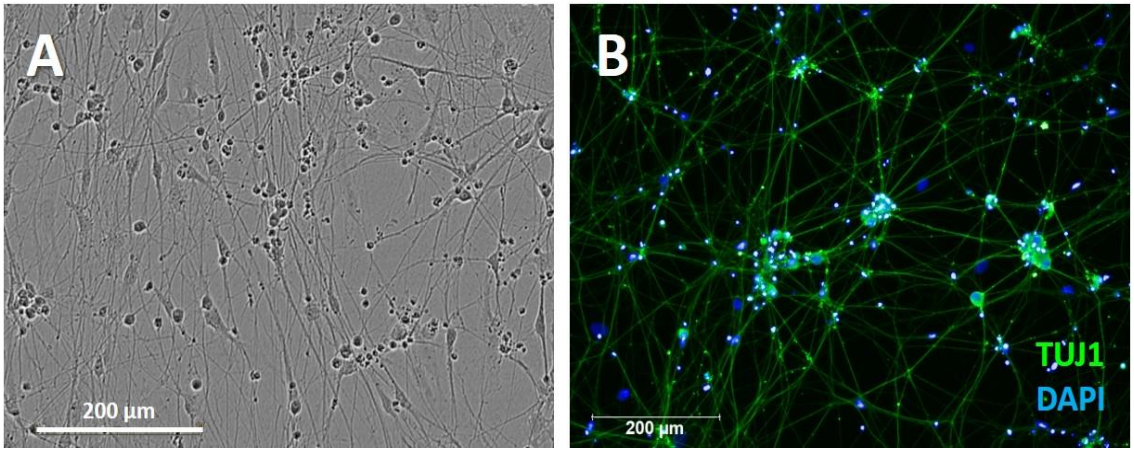
Rat Dorsal Root Ganglion Neurons (rDRGN)

Catalog Number	10RA-044	**Cell Number**	0.5 million cells/vial
Species	*Rattus norvegicus*	**Storage Temperature**	Liquid Nitrogen

Description

A ganglion is a group of nerve cells forming a nerve center, especially one located outside the brain or spinal cord. Dorsal root ganglion is a group of sensory nerve cell bodies. They pass sensory information to neurons in the spinal cord so it can be analyzed by the brain. In anatomy and neurology, the dorsal root ganglion (or spinal ganglion) is a nodule on a dorsal root that contains cell bodies of neurons in afferent spinal nerves. Dorsal root ganglion cells are pseudounipolar cells. Pseudounipolar cells have 2 axons rather than an axon and dendrite. One axon extends centrally toward the spinal cord; the other axon extends toward the skin or muscle. Cultured adult rat dorsal root ganglion (DRG) neurons can be used to study depolarization-induced Ca^{2+} mobilization and the effects of intracellular Ca^{2+} depletion on neurite outgrowth. DRGs are very useful in neurotoxicity assessment & other drug screening studies.

Rat Dorsal Root Ganglion Neurons (rDRGN) provided by iXCells Biotechnologies are derived from spinal cords of normal embryonic rat. >500,000 cells are cryopreserved upon isolation. Each lot was tested for proper morphology, Stain positive for β III-Tubulin (TUJ1), Negative for HIV, Hepatitis B, Hepatitis C, mycoplasma, bacteria, and fungi.



(A) Phase contrast image of Rat Dorsal Root Ganglion Neurons (rDRGN) (DIV 3).
(B) rDRGN are positive for β III-Tubulin (TUJ1) as shown by immunofluorescence staining.

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Product Details

Tissue	Normal healthy embryonic rat spinal cord
Package Size	$0.5x10^6$ cells/vial
Passage Number	P0
Shipped	Cryopreserved
Storage	Liquid nitrogen
Growth Properties	Adherent
Media	Rat Ganglion Neuron Culture Medium (Cat# MD-0099)

Protocols

Thawing & In Vitro Culture of Frozen Cells

1. Upon receipt of the frozen Rat Dorsal Root Ganglion Neurons (rDRGN), it is recommended to thaw the cells and initiate the culture immediately in order to retain the highest cell viability.
2. Prepare Matrigel-coated plates the day before.

   Note: Dilute Matrigel with DMEM/F12 medium into 80 µg/ml. Add 0.5ml diluted Matrigel into each well of a 12-well plates to cover the surface. Coat the plates at room temperature for at least 2 hours before use. The coated plates can be stored at 4°C for a week.
3. To thaw the cells, put the vial in 37°C water bath with gentle agitation for ~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 5ml **Rat Ganglion Neuron Culture Medium (Cat# MD-0099)**.
5. Centrifuge at 200 g for 5 minutes at room temperature.
6. Remove the supernatant and re-suspend the cells in **Rat Ganglion Neuron Culture Medium**.
7. Seed the cells on Matrigel-coated plates at the desired density.

   Note: We recommend to seed 200-500K cells/well (30-70% confluence).
8. Incubate in 37°C CO_2 incubator overnight.
9. Perform half medium change every 2-3 days.

   Note: Primary neurons tend to aggregate and detach from the plates. Change 50% of the medium with extra care to avoid cell loss.

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Disclaimers

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