

RocketCell™ NSC Xeno-Free Complete Growth Kit



All-in-one ready-to-use kit for 3D and 2D neural stem cell culture



Xeno-Free Ready-to-use, all in one kit

100% synthetic kit with optimal combination of matrix and medium for 2D and 3D NSC culture and maintenance.



Support 3D NSC Network Formation

Promotes 3D neurite and axonal outgrowth for 3D networking formation, ideal for advanced studies.



1:200

Enhance Cell Adhesion with Advanced Hydrogel

4X more usage than animal-based ECM for a robust, simple coating for cell adhesion



Long-Term Culture and Maintenance

Confidently culture NSCs for over four weeks without affecting their multipotency.



4+ WEEKS

Simple 3D and 2D Workflows at Room Temperature

Room temperature operation with simple mixing or coating steps; support lab automation



25°C

Easy Cell Harvesting

Simple and efficient cell harvesting with VitroGel® Organoid Recovery Solution



The **RocketCell™ NSC Xeno-Free Complete Growth Kit** is an all-in-one, ready-to-use kit designed to support the expansion and maintenance of neural stem cells (NSCs) in both 3D and 2D formats. This kit offers a fully defined, optimized combination of a synthetic hydrogel and a xeno-free complete medium, eliminating variability and ensuring consistent, reproducible results.

The RocketCell™ NSC Xeno-Free Complete Growth Kit provides a robust, scalable platform for **long-term culture** and **large-scale expansion** of undifferentiated NSCs in both 3D and 2D formats—while maintaining their multipotency and functional integrity. Designed for convenience and performance, this ready-to-use system operates at **room temperature**, integrates seamlessly with **high-resolution imaging** and **high-throughput screening** workflows for advanced neuroscience and regenerative medicine research.

The all-in-one kit includes:

- VitroGel® NEURON, the first-of-its-kind synthetic biofunctional hydrogel for NSC and neuronal cultures
- 1 x 500 mL, RocketCell™ NSC Xeno-Free Basal Medium
- 1 x 10 mL, RocketCell™ NSC Xeno-Free Supplement (50X)
- 1 x 10 µg CytoGrow™ Recombinant EGF (Human), CHO, Tag Free
- 1 x 10 µg, CytoGrow™ Recombinant bFGF/FGF-2 (Human), E. coli, Tag Free

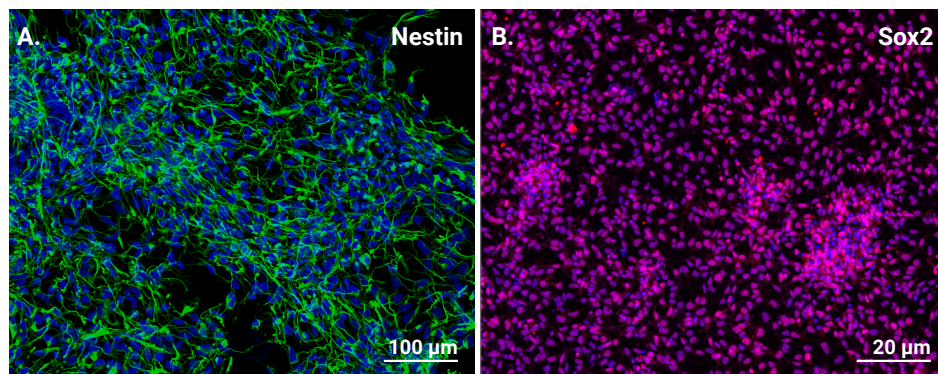


Figure 1. NSC Characterization After Subculturing with the RocketCell™ NSC Xeno-Free Complete Growth Kit. iPSC-derived NSCs (CD34-eIPSC-NSC) were plated at 50,000 cells per well on 24-well VitroPrime™ Spread-Attach Plates coated with VitroGel® NEURON (1:200). Immunofluorescence staining depicts that the presence of cells positive for Nestin (A, green) and Sox2 (B, red), which are NSC markers. The nuclei was stained with DAPI (A, blue) or Hoescht (B, blue).

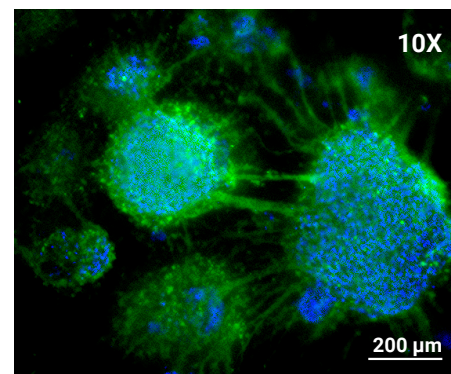


Figure 2. VitroGel® NEURON Hydrogel Supports the 3D Development of Dopaminergic Neurons. iPSCs were cultured in RocketCell™ 3D Xeno-Free iPSC Xeno-Free Growth Kit for 6 passages and were differentiated into Floor Plate Neuro-Epithelial Spheroids.

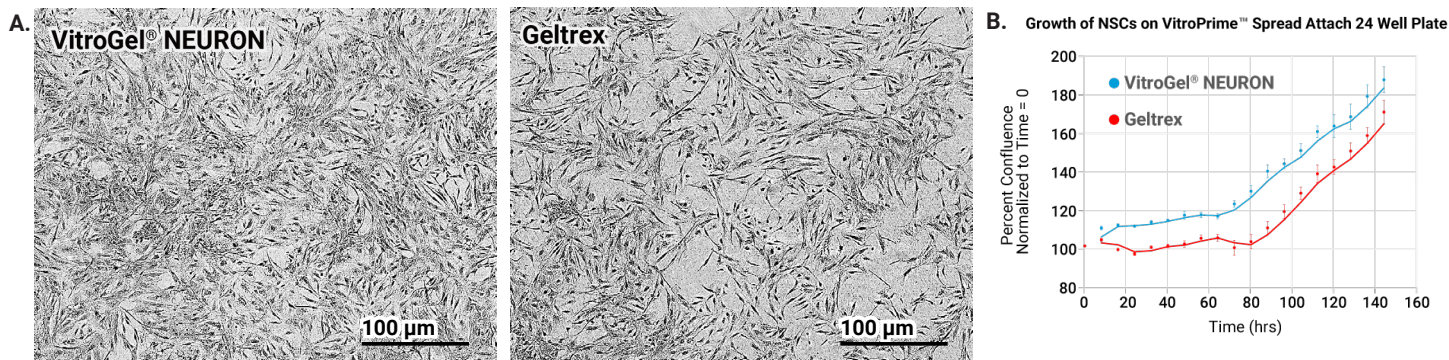


Figure 3. VitroGel® NEURON 2D Thin Coating for Growth of iPSC-Derived NSCs and Confluence Analysis on VitroPrime™ Spread-Attach Plates. **A.** iPSC-derived NSCs (CD34-eIPSC-NSC) were plated at 50,000 cells per well on 24-well VitroPrime™ Spread-Attach Plates coated with either VitroGel® NEURON (1:200) or Geltrex®, and cultured for 6 days. Images were captured using the Incucyte® S3 system. **B.** NSC growth was quantified by percent confluence over time, with images collected every 8 hours and analyzed relative to the initial timepoint (T = 0 + 4 hrs).

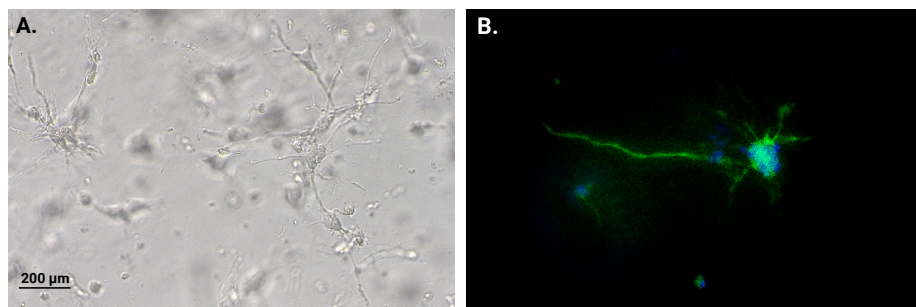


Figure 4. 3D Encapsulation Culture of NSC Cells as Single Cell Suspension in VitroGel® NEURON. VitroGel® NEURON Hydrogel and RocketCell™ NSC Xeno-Free Media support 3D NSC cultures and neurite outgrowth. **(A)** 3D NSC cultures were established by preparing a single-cell NSC suspension with RocketCell™ NSC Xeno-Free Medium and mixing with VitroGel® NEURON for 6 days. **(B)** Immunofluorescence staining was performed to evaluate the presence of beta-III-tubulin, a neuron maturation marker. The images were obtained with the Keyence BZ-X microscope at 10 and 20X magnifications.

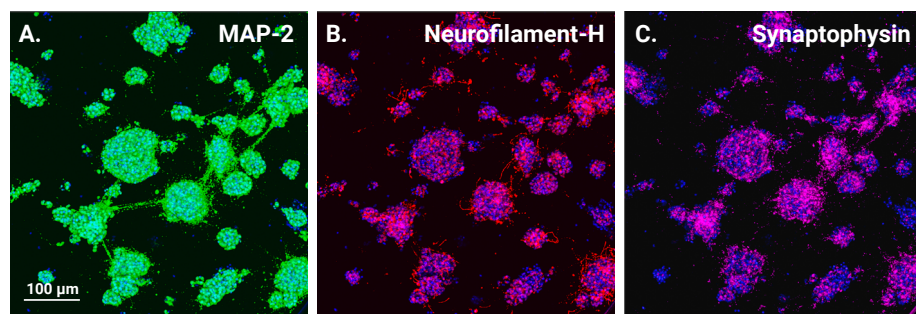


Figure 5. RocketCell™ NSC Xeno-Free Complete Growth Kit Supports the Expansion of NSC Spheroids for Differentiation with RocketCell™ NSC Neuron Differentiation Kit. The spheroids were 3D cultured with the RocketCell™ NSC Xeno-Free Complete Growth Kit. The cells were then differentiated into neurons with the RocketCell™ NSC-Neuron Differentiation Growth Medium. The samples were fixed and stained to evaluate the expression of **(A)** Microtubule-associated protein 2 (MAP2; green), **(B)** Neurofilament-H (red), and **(C)** Synaptophysin (purple). The nuclei was stained with Hoescht dye.

	RocketCell™ NSC Xeno-Free Complete Growth Kit		RocketCell™ NSC Xeno-Free Growth Medium
	RC01-CGK1	RC01-CGK2	RC01-GM
Kit Contents:	Quantity and Size		Quantity and Size
VitroGel® NEURON	1 x 2 mL	1 x 10 mL	N/A
RocketCell™ NSC Xeno-Free Basal Medium	1 x 500 mL	1 x 500 mL	1 x 500 mL
RocketCell™ NSC Xeno-Free Supplement (50X)	1 x 10 mL	1 x 10 mL	1 x 10 mL
CytoGrow™ EGF Growth Factor	1 x 10 µg	1 x 10 µg	1 x 10 µg
CytoGrow™ FGF Growth Factor	1 x 10 µg	1 x 10 µg	1 x 10 µg

Related products



CytoGrow™ Growth Factors

Premium quality growth factors with research-friendly price for advanced 3D/2D cell culture and beyond.



VitroPrime™ Spread-Attach Plate

Supports exceptional 2D and 3D neuron growth. No PDL-coated plates required.



Plates Available: 6-well, 12-well, 24-well, 48-well, 96-well



VitroGel® Organoid Recovery Solution

Non-enzymatic cell harvesting solution to recover cells or organoids from hydrogel or an animal-based ECM within 15 minutes.



Cyto3D® Live-Dead Assay Kit

Versatile, live/dead cell viability analysis for 3D and 2D cell culture.



RocketCell™ NSC Xeno-Free Growth Medium (MEDIUM KIT ONLY)



Learn more about
RocketCell™ NSC Xeno-Free Complete Growth Kit
thewellbio.com/rocketcell-nsc-xeno-free-complete-growth-kit/

