

RocketCell™ 3D iPSC Complete Growth Kit, AOF



An all-in-one animal origin-free kit with optimized matrix, medium, and reagents for 3D iPSC expansion.



All-in-One Complete System

Fully defined, animal origin-free combining 3D hydrogel and growth medium for seamless pluripotent stem cell culture.



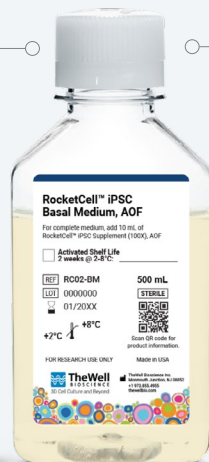
Weekend-Free Workflow

Alternate-day feeding schedule minimizes handling and supports consistent, long-term culture.



High-Density 3D Culture Capability

3D hydrogel matrix supports up to 10x higher cell density than 2D culture, maximizing expansion efficiency.



Improves Cell Survival & Growth

Supports both single-cell and small-colony seeding, maintaining high post-passaging viability and consistent colony formation.



Animal Origin-Free and Chemically-Defined Composition

Ensures high reproducibility, stability, and regulatory compliance for advanced research and translational use.



Ready-to-Use and Room Temperature Stable

Operates without pre-coating or thawing steps, simplifying setup and improving ease of use.



The RocketCell™ 3D iPSC Complete Growth Kit, AOF is an all-in-one, fully defined, animal-component-free system optimized to support the 3D expansion of pluripotent stem cells (iPSCs and hESCs) in VitroGel® STEM hydrogel.

This innovative 3D culture system **supports both single-cell and small-colony seeding** while maintaining **excellent post-passaging viability**. It enables alternate-day feedings and a **weekend-free schedule**, providing flexibility for diverse research schedules.

Formulated with animal origin-free, **chemically defined components**, the growth medium ensures high stability and potency for consistent, long-term performance. The kit has been rigorously validated with multiple pluripotent stem cell lines, producing **uniform 3D colonies** that retain key pluripotency markers, including Lin28, Oct4, Nanog, and Tra-1-60.

Unlike traditional 2D culture systems, this ready-to-use 3D culture kit operates at room temperature with **no pre-coating required**. The 3D hydrogel matrix supports up to **10x higher cell seeding density** compared to 2D culture, enabling **ultra-high expansion capacity** while dramatically **reducing medium consumption** and culture vessel requirements.

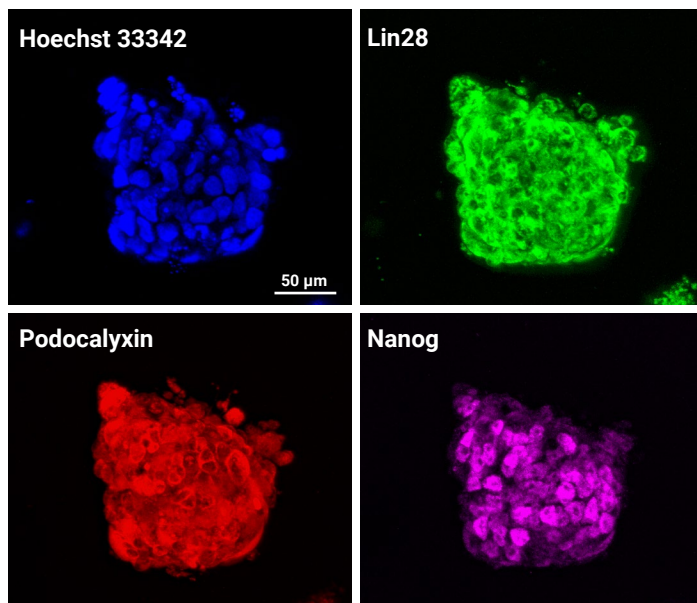


Figure 1: Direct Immunofluorescence Staining of iPSCs (HFF-1VL, TheWell Bioscience) Grown in RocketCell™ 3D iPSC Complete Growth Kit, AOF. iPSCs (100k/well) were grown for 7 days in 24-well VitroPrime™ 3D Imaging Plates (Catalog #: VP-3D96W) before fixation and staining with directly labeled pluripotency markers Lin28 (Alexa 488), Podocalyxin (Alexa 594), and Nanog (Alexa 647).

RocketCell™ 3D iPSC Complete Growth Kit, AOF	RC02-CGK
Kit Contents:	Quantity and Size
• VitroGel® STEM	1 x 10 mL
• RocketCell™ 3D iPSC Suspension Medium, AOF	1 x 5 mL
• RocketCell™ Cell Viability Enhancer (1000X)	1 x 50 µL
• RocketCell™ iPSC Basal Medium, AOF	1 x 500 mL
• RocketCell™ iPSC Supplement (100X), AOF	1 x 5 mL

Learn more about
RocketCell™ 3D iPSC Complete Growth Kit, AOF

thewellbio.com/product/rocketcell-3d-ipsc-complete-growth-kit-aof/



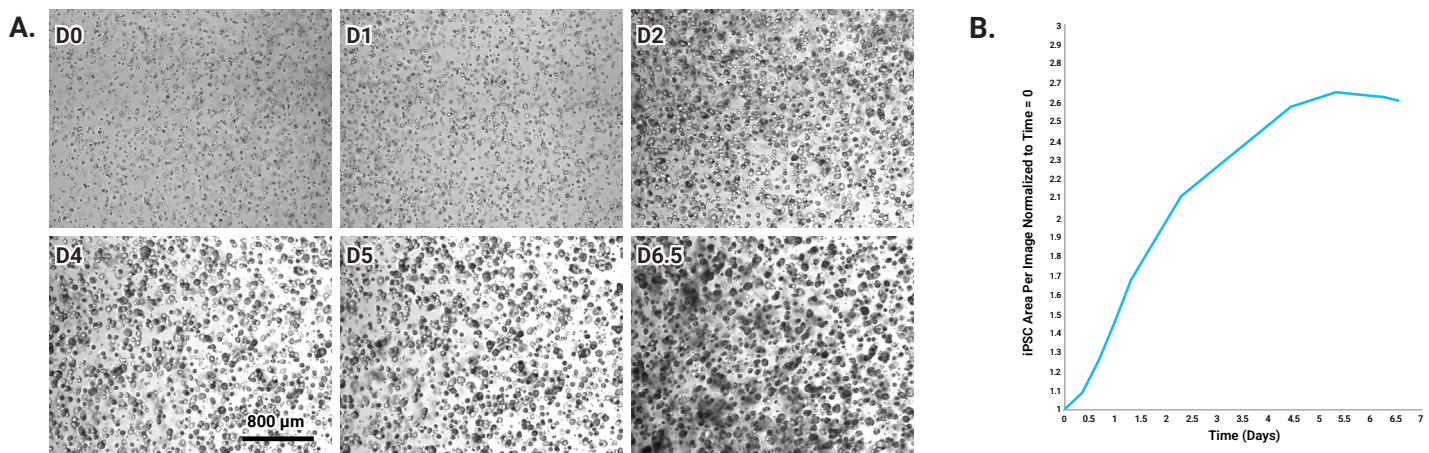


Figure 2: 3D Expansion of Human iPSCs in RocketCell™ 3D iPSC Complete Growth Kit, AOF. **A:** Time-lapse micrographs show human iPSCs transitioning from single cells and small aggregates into uniform 3D spheroids within the VitroGel® STEM hydrogel (seeded cells from a 2D source on Day 0). Spheroids exhibit consistent morphology and reach diameters of approximately 85–100 µm after several days in culture. **B:** Quantitative analysis of spheroid growth demonstrates a steady increase in total spheroid area over time, reaching an average of nearly 300% expansion after 6.5 days, confirming robust and reproducible 3D proliferation under xeno-free culture conditions.

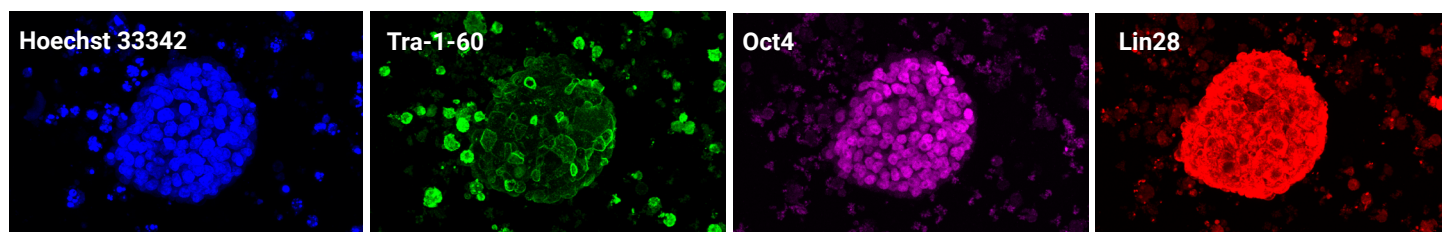


Figure 3: Indirect Immunofluorescence of Pluripotency Marker on iPSCs Grown RocketCell™ 3D iPSC Complete Growth Kit, AOF. iPSCs (100k/well) were grown for 7 days in 24-well VitroPrime™ 3D Imaging Plates (Catalog #: VP-3D96W), fixed, and stained with pluripotency markers Tra-1-60, Lin28, and Oct4 using Alexa Fluor 488, 594, and 647 secondary antibodies. Images were captured using a Leica MICA confocal microscope. Results confirm that the RocketCell™ 3D iPSC Growth Kit provides a supportive 3D microenvironment for maintaining pluripotency.

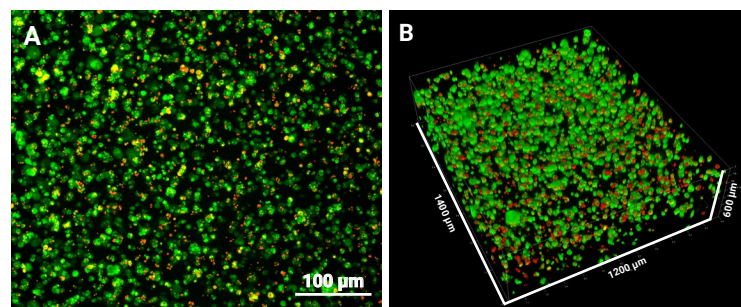


Figure 4: Cyto3D® Live-Dead Assay Kit for Monitoring the Health of IPSC (HFF-1VL, TheWell Bioscience) Grown in RocketCell™ 3D iPSC Complete Growth Kit, AOF. iPSCs (100k/well) from 2D sources were plated in 24-well VitroPrime™ 3D Imaging Plates (Catalog #:VP-3D96W). After 7 days, the medium was removed and replaced with media containing 1:50 diluted Cyto3D® Live-Dead Assay solution. **(A) Maximum Intensity projection of the 600 micron Z-depth.** The same image is rendered in 3D **(B)** and in contrast to the 2D image, clearly shows the separation of the live IPSCs colonies from the dead ones. These findings demonstrate that Cyto3D® protocol does not require any wash steps, and the need for proper 3D imaging techniques to analyze 3D cultures.

Related products



CytoGrow™ Growth Factors

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



VitroGel® Organoid Recovery Solution

Chemically defined, non-enzymatic cell harvesting solution to recover cells/organoids from hydrogel or an animal-based ECM within 15 minutes.



VitroPrime™ 3D Culture and Imaging Plate

Premium cover-glass bottom plate for zero disruption 3D cell culture workflow.



Cyto3D® Live-Dead Assay Kit

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



RocketCell™ iPSC Growth Medium, AOF (MEDIUM ONLY KIT)



Explore our End-to-End Animal Origin-Free Platform for 3D Cell Culture

VitroGel® Chemically Defined Hydrogels	RocketCell™ Culture Media & Supplements	CytoGrow™ Premium Growth Factors	VitroPrime™ Culture Vessels	VitroGel® Recovery Solution	Cyto3D® Reagent for 3D Cell Analysis
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