

RocketCell™ Apical-Out Intestinal Organoid Kit, AOF



All-in-one, animal origin-free kit for growth, expansion, and passaging of apical-out intestinal organoids



Apical-Out Intestinal Organoid Generation

Designed to generate apical-out organoids, enabling direct access to the apical surface while maintaining stability.



Animal Origin-Free and Chemically Defined System

No animal-derived components and reduces batch-to-batch variability.



Long-term Maintenance of Apical-Out Polarity

Supports long-term intestinal organoid culture while maintaining apical-out polarity.



All-in-One Complete System

Includes matrix, medium, and enhancer. Simplifies complex organoid workflows.



Improves Organoid Survival and Growth

Supports initial intestinal organoid survival, maintains high post-passaging viability and consistent culture renewal.



High Quality Imaging and Protein Assay

Pure synthetic VitroGel® supports high-quality imaging and protein assays of organoids.



RocketCell™ Apical-Out Intestinal Organoid Growth Kit, AOF is a complete solution for generating mature apical-out intestinal organoids in a fully animal origin-free (AOF) environment.

RocketCell™ Apical-Out Intestinal Organoid Growth Kit, AOF supports every stage of organoid culture, including recovery, expansion, passaging, and long-term maintenance. Optimized for establishing and maintaining apical-out organoid banks, this kit is compatible with a wide range of organoid models, including patient-derived organoids, PSC-derived organoids, co-culture systems, mouse organoids, and PDX-derived organoids.

Learn more about

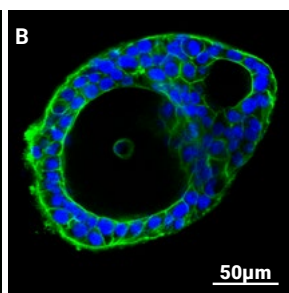
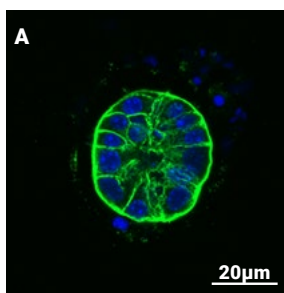
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thewellbio.com/product/rocketcell-apical-out-intestinal-organoid-xeno-free-growth-kit/

Data and References

APICAL-OUT | VitroGel®



APICAL-IN | Matrigel®

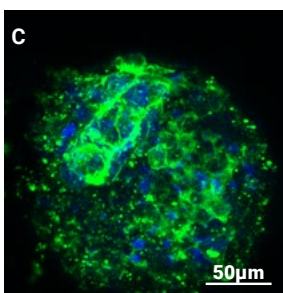


Figure 1. RocketCell™ Apical-Out Intestinal Organoid Growth Kit, AOF supports apical-out polarity in intestinal organoids, in contrast to the apical-in polarity observed in animal-based hydrogels. (A) A young intestinal organoid cultured in VitroGel® ORGANOID with apical-out polarity. **(B)** A mature intestinal organoid cultured in VitroGel® ORGANOID demonstrates complex lumen structures while maintaining apical-out polarity. **(C)** An organoid with apical-in polarity cultured in Matrigel with RocketCell™ Apical-Out Intestinal Organoid Growth Medium, AOF. Green represents Phalloidin staining and blue represents DAPI nuclei staining.

Product:	Cat. No.
RocketCell™ Apical-Out Intestinal Organoid Growth Kit, AOF Contents: • 1 x 10 mL, VitroGel® ORGANOID-5 • 1 x 5 mL, RocketCell™ Intestinal Organoid Cell Suspension Medium, AOF • 1 x 100 mL, RocketCell™ Intestinal Organoid Growth Medium, AOF • 1 x 50 µL, RocketCell™ Cell Viability Enhancer • 100 µL, RocketCell™ Phenol Red (1000X)	RC03-GK
RocketCell™ Apical-Out Intestinal Organoid Growth Medium, AOF Contents: • 1 x 100 mL, RocketCell™ Intestinal Organoid Growth Medium, AOF • 1 x 50 µL, RocketCell™ Cell Viability Enhancer	RC03-GM

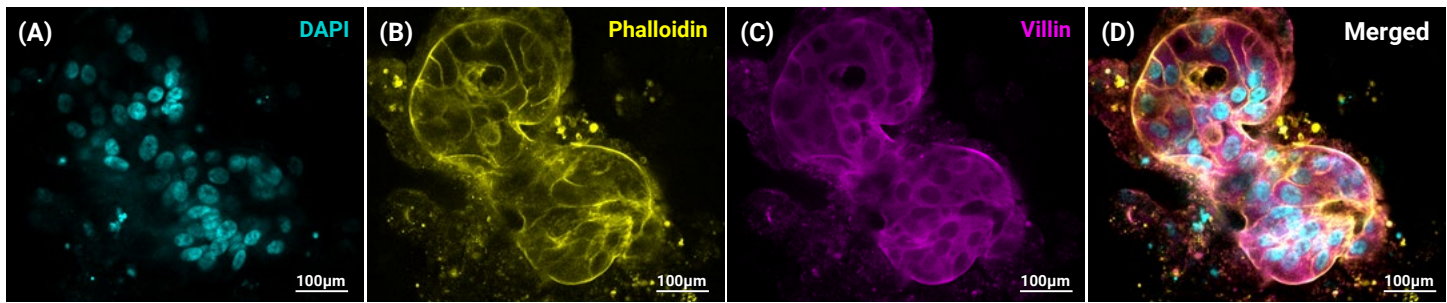


Figure 2. Use of VitroGel® hydrogels to generate an iPSC-derived intestinal organoid with apical-out polarity.

Representative images showing intestinal organoids cultured in VitroGel® ORGANOID. iPSC cells were cultured in VitroGel® STEM to generate spheroids. Spheroids were then differentiated to intestinal organoids using CytoGrow™ Growth Factors. (A) Blue staining (DAPI) represents cell nuclei; (B) Yellow fluorescence: Phalloidin; (C) Magenta: Villin protein; (D) Merged image of the iPSC-derived intestinal organoid.

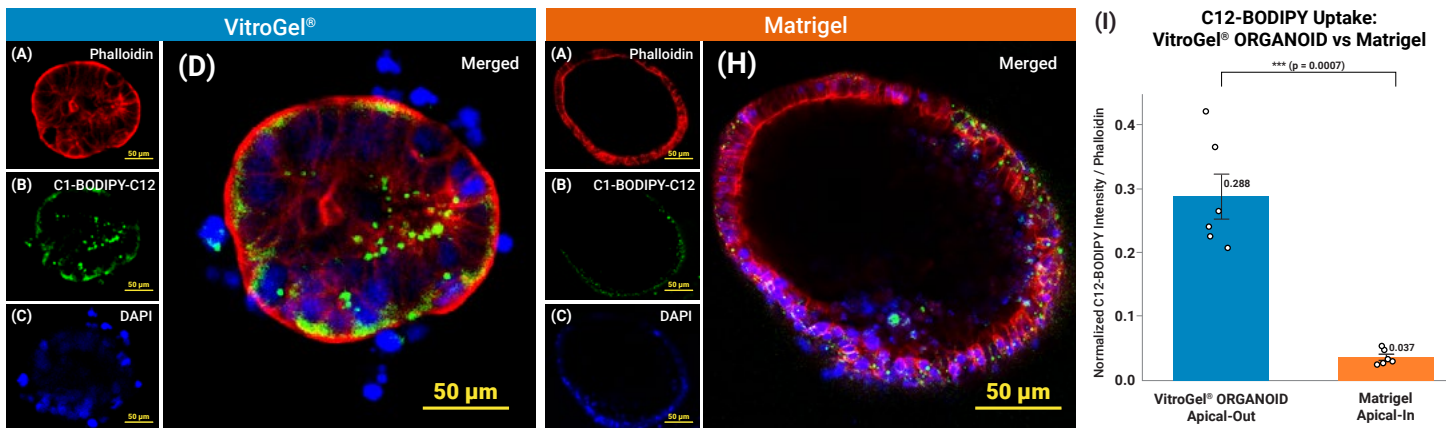


Figure 3: Apical Absorption of Fatty Acids in Intestinal Organoids. (A, B, C, D) Apical-out organoids cultured in VitroGel® take up fluorescent fatty acid analog C1-BODIPY-C12 added to the extracellular media. (E, F, G, H) Significantly reduced or no uptake of C1-BODIPY-C12 in basal-out organoids cultured in Matrigel. Nuclei in blue and actin in Red are shown. Scale bars are 100 μm. (I) Quantification of fatty acid analog (FA) uptake in apical-out and basal-out Intestinal Organoids. Data represented are mean ± Error; n = 3 organoids; p < 0.05.

Related products



VitroGel® ORGANOID (1-5)

Chemically defined hydrogels that support the growth of patient-derived organoids or organoids developed from pluripotent stem cells (PSCs), co-culture, and PDX model.



VitrePrime™ 3D Culture and Imaging Plate

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



RocketCell™ Organoid Essential-Core Medium, AOF

Advanced animal origin-free (AOF) core medium for organoid development.



VitroGel® Organoid Recovery Solution

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



CytoGrow™ Growth Factors

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



Cyto3D® Live-Dead Assay Kit

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



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	VitrePrime™ Culture Vessels	VitroGel® Recovery Solution	Cyto3D® Reagent for 3D Cell Analysis
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