

# REDEFINE INTESTINAL ORGANOID CULTURE

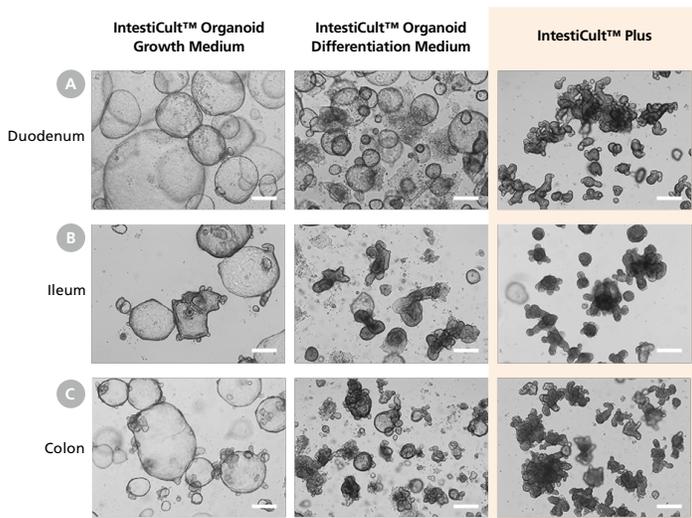
## IntestiCult™ Plus Organoid Growth Medium



Most commonly used intestinal organoids lack key differentiated cells, which can skew experimental results and limit research translatability. IntestiCult™ Plus Organoid Growth Medium (IntestiCult™ Plus) redefines intestinal organoid culture by enabling the growth of organoids that contain both proliferative stem cells and mature, functionally diverse intestinal cell types. By supporting a physiologically balanced cellular composition, IntestiCult™ Plus gives you greater confidence in your experimental readouts—whether you're modeling disease, evaluating drugs, or assessing toxicity.

## Organoid Morphology That Reflects Intestinal Structure

With IntestiCult™ Plus, organoids consistently develop region-specific budding and crypt-like structures—providing a more accurate *in vitro* model of intestinal epithelial architecture than first-generation systems such as IntestiCult™ Organoid Growth Medium and IntestiCult™ Organoid Differentiation Medium.



**Figure 1.** Organoids Cultured Using IntestiCult™ Plus Demonstrate Increased Budding and Crypt-Like Structures

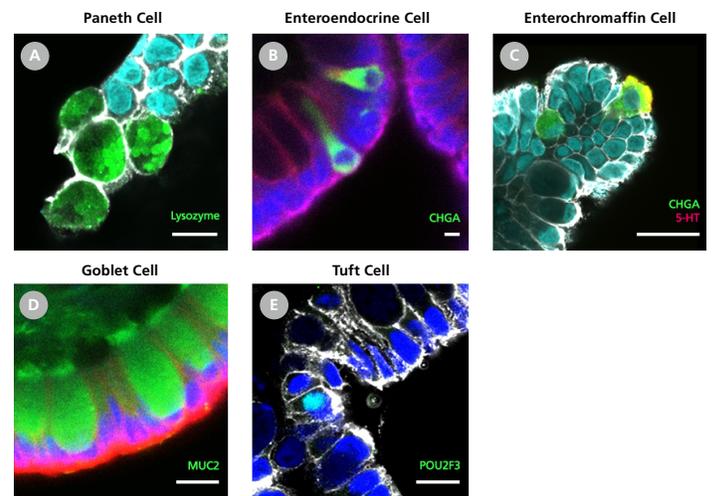
Images of organoid cultures from (A) duodenal, (B) ileal, and (C) colonic tissues. When expanded with IntestiCult™ Organoid Growth Medium, organoids exhibit a thin-walled cystic morphology that darkens and thickens when differentiated in IntestiCult™ Organoid Differentiation Medium. However, organoids expanded with IntestiCult™ Plus exhibit a complex budded morphology, with subtle yet consistent morphological differences between intestinal regions. Scale bar = 250 µm.

## Why Use IntestiCult™ Plus?

- Support diverse cell types and achieve greater physiological relevance with organoids that model the full crypt-villus axis.
- Accelerate organoid production by simultaneously expanding and differentiating cultures, delivering assay-ready organoids sooner.
- Ensure reproducible results with a serum-free, conditioned medium-free formulation that minimizes variability.
- Skip the labor-intensive process of optimizing and making media based on published formulations.

## Generate Mature and Diverse Cells in Your Organoids

Rare and functionally important intestinal cell types arise reliably in organoids grown with IntestiCult™ Plus, improving the accuracy of your intestinal organoid model.

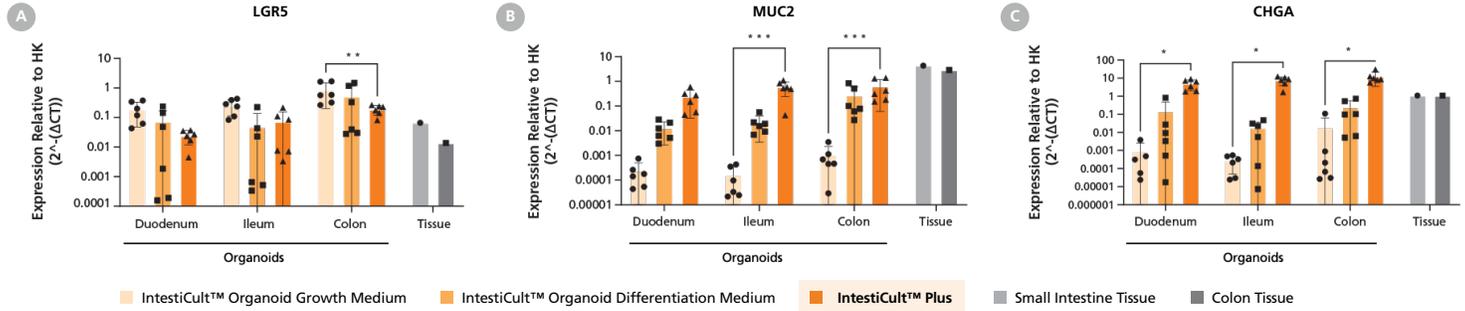


**Figure 2.** IntestiCult™ Plus Supports the Differentiation of Intestinal Stem Cells into Specialized Cell Types

Confocal immunofluorescent images of (A) antimicrobial-secreting paneth cells (lysozyme), (B) hormone-secreting enteroendocrine cells (CHGA), (C) serotonin-secreting enterochromaffin cells (CHGA, 5-HT), (D) mucus-secreting goblet cells (MUC2), and (E) rare, chemosensory tuft cells (POU2F3). Epithelial cells are stained for EPCAM (red or white). Nuclei are stained with DAPI (blue or teal). Scale bar = 10 µm.

## Strengthen the Biological Fidelity of Your Model

Culture organoids with IntestiCult™ Plus to encourage gene expression patterns that closely resemble the human intestine in vivo and ensure the presence of key differentiated cell types.

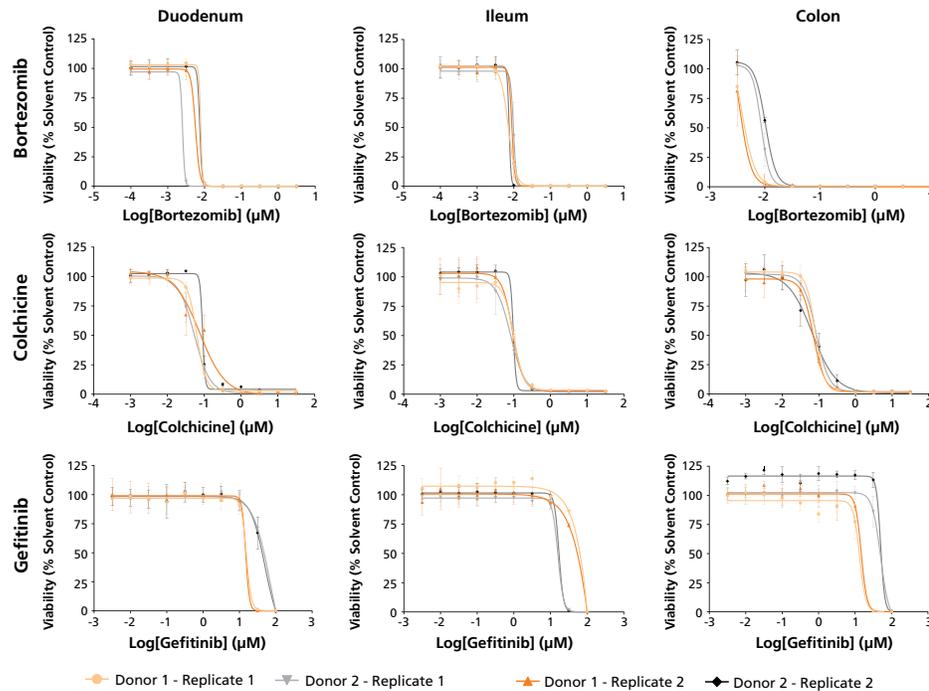


**Figure 3. IntestiCult™ Plus Increases the Expression of Key Markers Associated with Diverse Cell Types in Intestinal Organoids**

Relative gene expression of (A) LGR5+ (intestinal stem cells), (B) MUC2 (goblet cells), and (C) CHGA (enteroendocrine cells) in organoids grown in IntestiCult™ Organoid Growth Medium, IntestiCult™ Organoid Differentiation Medium, or IntestiCult™ Plus. Gene expression levels were compared against those in commercially available RNA from the human small intestine or colon. Compared to organoids cultured in both IntestiCult™ Organoid Growth Medium and IntestiCult™ Organoid Differentiation Medium, organoids expanded in IntestiCult™ Plus exhibited slightly decreased expression of markers for stem cell populations and significantly increased differentiated cell marker expression. HK = housekeeping gene, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001, \*\*\*\* p < 0.0001, n = 3 donors, 2 experimental replicates.

## Achieve Reliable Outcomes Across Donors and Experiments

Organoids cultured with IntestiCult™ Plus are representative and reproducible—ensuring you can make confident decisions based on your disease modeling, toxicity, or other functional experimental outcomes.



**Figure 4. Organoids Cultured in IntestiCult™ Plus Respond to Common Drugs in an Expected Dose-Dependent Manner**

Intestinal organoids from the duodenum, ileum, and colon (2 donors each) were expanded for 4 days with IntestiCult™ Plus, and then treated with the indicated drugs at the indicated concentrations for the final three days (media and treatment refreshed daily). Each biological replicate was an independent culture, with n = 3 technical replicates per condition on the same plate. Organoid viability was assessed using CellTiter-Glo® 3D (Promega). The cultures demonstrated strong consistency across replicates and between donors. This reproducibility enabled the detection of donor-specific differences in drug response, such as those observed with gefitinib.



### Product Information

Learn More About IntestiCult™ Plus  
[stemcell.com/intesticultplus](http://stemcell.com/intesticultplus)



### Try IntestiCult™ Plus

Get Your Introductory Offer  
[stemcell.com/try-intesticult](http://stemcell.com/try-intesticult)

Copyright © 2025 by STEMCELL Technologies Inc. All rights reserved including graphics and images. STEMCELL Technologies & Design, STEMCELL Shield Design, Scientists Helping Scientists, and IntestiCult are trademarks of STEMCELL Technologies Canada Inc. CellTiter-Glo is a registered trademark of Promega Corporation. IncuCyte is registered trademark of Sartorius Bioanalytical Instruments, Inc. All other trademarks are the property of their respective holders.

UNLESS OTHERWISE STATED, PRODUCTS ARE FOR RESEARCH USE ONLY AND NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES. FOR PRODUCT-SPECIFIC COMPLIANCE AND INTENDED USE INFORMATION, REFER TO THE PRODUCT INFORMATION SHEET. GENERAL INFORMATION ON QUALITY AT STEMCELL MAY BE FOUND AT [WWW.STEMCELL.COM/COMPLIANCE](http://WWW.STEMCELL.COM/COMPLIANCE).