STEMdiff™ Gastric Organoid Differentiation Kit

Culture medium kit for differentiation of human gastric organoids

Catalog #100-0475 1 Kit
Catalog #100-0490 1 Kit

STEMCELL™ TECHNOLOGIES
Scientists Helping Scientists™ | WWW.STEMCELL.COM
TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713
INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM
FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

Product Description

STEMdiff™ Gastric Organoid Differentiation Kit (Catalog #100-0475) is a serum-free cell culture medium system that enables robust and efficient generation of human pluripotent stem cell (hPSC)-derived gastric organoids in a simple, four-stage protocol. Using this kit, hPSCs are directed through induction of definitive endoderm, posterior foregut spheroids, stomach patterning and generation of gastric organoids. Gastric organoids can be then fully differentiated or maintained long-term through passaging or cryopreservation. The organoids exhibit a cellular composition and organization that models the developing gastric epithelium and associated mesenchyme, making them a convenient model system with direct relevance to the developing stomach.

STEMdiff™ Gastric Organoid Differentiation Kit consists of two workflows: generation and differentiation of the gastric organoids directly from hPSCs (based on the formulation published by McCracken et al.) as well as long-term expansion and cryopreservation of gastric organoids (based on the formulation published by Bartfeld et al.). The kit has been optimized to increase efficiency and reproducibility of organoid formation and expansion across hPSC lines. Human gastric organoids can be used as a model system for studying gastric development and cell biology, gastric inflammation and other pathologies, gastric regeneration, microbial interaction, disease modeling, drug discovery, and compound screening. The kit is optimized for differentiation of cells maintained in mTeSR™1 (Catalog #85850) or mTeSR™ Plus (Catalog #100-0276). For extended culture and passaging, the kit components required for organoid maintenance can be purchased as STEMdiff™ Gastric Organoid Expansion Medium (Catalog #100-0490).

Product Information

All components listed below are sold as part of a kit (Catalog #100-0475 or 100-0490) and are not available for individual sale.

NAME	COMPONENT #	SIZE	STORAGE	SHELF LIFE
STEMdiff™ Gastric Organoid Differentiation Kit (Catalog #100-0475)				
STEMdiff™ Endoderm Basal Medium	05111	100 mL	Store at -20°C.	Stable until expiry date (EXP) on label.
STEMdiff™ Definitive Endoderm Supplement CJ (100X)	05113	1.1 mL	Store at -20°C.	Stable until expiry date (EXP) on label.
STEMdiff™ Gastrointestinal Supplement PK	05141	0.64 mL	Store at -20°C.	Stable until expiry date (EXP) on label.
STEMdiff™ Posterior Foregut Supplement	100-0477	0.64 mL	Store at -20°C.	Stable until expiry date (EXP) on label.
STEMdiff™ Gastric Organoid Medium*	100-0478	100 mL	Store at 2 - 8°C.	Stable until expiry date (EXP) on label.
STEMdiff™ Gastric Organoid Expansion Supplement	100-0479	1.1 mL	Store at -20°C.	Stable until expiry date (EXP) on label.
STEMdiff™ Gastric Organoid Expansion Medium (Catalog #100-0490)				
STEMdiff™ Gastric Organoid Medium*	100-0478	100 mL	Store at 2 - 8°C.	Stable until expiry date (EXP) on label.
STEMdiff™ Gastric Organoid Expansion Supplement	100-0479	1.1 mL	Store at -20°C.	Stable until expiry date (EXP) on label.

*This component contains material derived from human plasma. Donors have been tested and found negative for HIV-1 and -2, hepatitis B, and hepatitis C prior to donation. However, this product should be considered potentially infectious and treated in accordance with universal handling precautions.

Directions for Use

For complete instructions, refer to the Technical Manual: Generation of Human Gastric Organoids Using STEMdiff™ Gastric Organoid Differentiation Kit (Document #10000008938), available at www.stemcell.com or contact us to request a copy.

Related Products

For related products, including specialized cell culture and storage media, supplements, antibodies, cytokines, and small molecules, visit www.stemcell.com or contact us at techsupport@stemcell.com.

References

Bartfeld S et al. (2015) In vitro expansion of human gastric epithelial stem cells and their responses to bacterial infection. Gastroenterology 148(1): 126–36.

McCracken KW et al. (2014) Modeling human development and disease in pluripotent stem cell-derived gastric organoids. Nature 516(7531): 400–4.

PRODUCTS ARE FOR RESEARCH USE ONLY AND NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES UNLESS OTHERWISE STATED. FOR ADDITIONAL INFORMATION ON QUALITY AT STEMCELL, REFER TO WWW.STEMCELL.COM/COMPLIANCE.

Copyright © 2020 by STEMCELL Technologies Inc. All rights reserved including graphics and images. STEMCELL Technologies & Design, STEMCELL Shield Design, Scientists Helping Scientists, and STEMdiff are trademarks of STEMCELL Technologies Canada Inc. mTeSR is a trademark of WARF. All other trademarks are the property of their respective holders. While STEMCELL has made all reasonable efforts to ensure that the information provided by STEMCELL and its suppliers is correct, it makes no warranties or representations as to the accuracy or completeness of such information.