bioGenous™ OrganoidpleX Medium

Catalog: CO1233

Product Description

bioGenous™ OrganoidpleX Medium is a well-formulated reduced-serum culture medium intended for the ex vivo coculture and maintenance of patient-derived organoids and human immune cells, under reduced serum conditions. The OrganoidpleX medium contains essential nutrients that closely mimic the tumour microenvironment and hence supports the short-term ex vivo maintenance of complex coculture models that involve patient-derived tumour organoids and immune cells such as human peripheral blood mononuclear cells (PBMCs), tumour-infiltrating lymphocytes (TILs), CAR-T, or natural killer cells (NK) during drug testing. It is suitable for short-term coculture of immune cells and organoids such as colorectal, gastric, lung cancer, among others.

Product Information

Component	Component Cat#	Volume	Storage & Stability
bioGenous™ OrganoidpleX Basal Medium A	CO1233-A100/A500	100 mL/500 mL	2-8°C，12 months
bioGenous™ OrganoidpleX Supplement B (50X)	CO1233-B100/B500	2 mL/10 mL	-20°C, avoid repeated freeze-thaw cycles, 12 months
bioGenous™ OrganoidpleX Supplement C (250X)	CO1233-C100/C500	0.4 mL/2 mL	-20°C, avoid repeated freeze-thaw cycles, 12 months

Materials & Reagents Required But Not Included

The following extended materials and reagents required for organoid maintenance can be purchased from www.biogenous.cn.

Vender	Materials	Catalog#
bioGenous™	Organoid Cryopreservation Medium（Serum Free）	E238023
bioGenous™	Cancer Organoid Basal Medium	B213152
bioGenous™	Anti-Adherence Rinsing Solution	E238002
bioGenous™	Organoid Dissociation Solution	E238001
	Fetal Bovine Serum (FBS)	
	DPBS (1X), liquid, contains no calcium or magnesium	

Safety Precautions

Always follow standard laboratory safety procedures when handling biological materials. Wear appropriate personal protective equipment (PPE), including gloves, lab coat, and eye protection. Dispose of waste materials according to local regulations.

Preparation Before Use

Before initiating the protocol, ensure that all components and equipment are properly prepared:

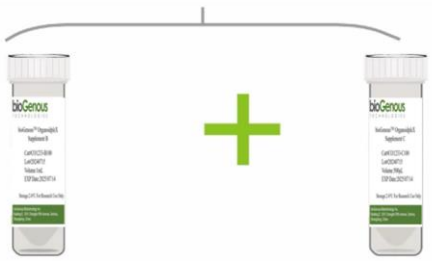
1. Verify that all components are stored according to the guidelines provided in the manual. Avoid repeated freeze-thaw cycles for sensitive reagents. Thaw all necessary media and reagents according to the instructions. Keep on ice or at the recommended temperature until ready to use.
2. Ensure that all equipment, such as incubators, pipettes, and centrifuges, are calibrated and functioning correctly.

Preparation of Endometrial Cancer Organoid Complete Medium

To prepare the OrganoidpleX medium, it is important to work in an aseptic condition. Depending on the experimental requirement, the protocol may be optimized accordingly. The following example outlines the preparation of a 10mL complete medium.

bioGenous™ OrganoidpleX Medium

⚠ Once thawed, use immediately. Do not refreeze.



A: 9.76 mL bioGenous™ OrganoidpleX Basal Medium A

B: 200 µL bioGenous™ OrganoidpleX Basal Medium B (50X)

C: 40 µL bioGenous™ OrganoidpleX Basal Medium C (250X)

⚠ If not used immediately, store the complete OrganoidpleX medium at 2-8°C for over 2 weeks.

bioGenous™ OrganoidpleX Medium:

1. Thaw the OrganoidpleX Supplement B (CO1233-B) and C (CO1233-C) on ice. Mix thoroughly.
2. Add 200µL of OrganoidpleX Supplement B (CO1233-B) and 40µL of OrganoidpleX Supplement C (CO1233-C) to 9.76mL of OrganoidpleX and supplement with 1% FBS. Mix thoroughly.

Organoid-Immune Cell Coculture (Using PDO-PBMC as an example)

⚠ Studies involving primary human tissue materials must follow all relevant institutional and government regulations. Informed consent must be obtained from all subjects before collecting primary human tissue material.

1. Gently dissociate organoids into single cells, perform live cell count, and resuspend in OrganoidpleX medium while adjusting cell concentration.
2. Use conventional methods to isolate PBMCs from fresh blood or thaw PBMCs from frozen stocks, perform live cell counting, resuspend in OrganoidpleX medium, and adjust cell concentration accordingly;

NOTE: For suspension coculture models over 24 hr, it is recommended to supplement the medium with 1% ECM or Matrigel and mix thoroughly before use.

3. Mix the suspensions of both cell types based on the desired effector-to-target ratio as per experimental requirements and seed into appropriate culture plates or dishes;
4. Incubate in a 37°C, 5% CO_2 humidified incubator, and monitor cell morphology daily;
5. Assess immune cytotoxicity through various methods according to experimental need (e.g., ELISA, Confocal Microscopy, High-content imaging among others)

NOTE: bioGenous™ OrganoidpleX is for short-term coculture of tumour organoids and immune cells during drug evaluation. It is not intended for long-term cultures beyond 5 days.

Related Products

Vender	Materials	Catalog#
bioGenous™	T Cell Expansion Medium	SFM-T001
bioGenous™	NK Cell Expansion Medium	SFM-NK001

Quality Control

All components are negative for bacterial and fungal contamination. Certificates of authenticity (COAs) for all other products are available upon request.

Safety information

Read the Safety Data Sheets (SDSs) and follow the manufacture's instruction.

Disclaimer

To the fullest extent permitted by applicable law, bioGenous BIOTECH, Inc. and/or its affiliates shall not be liable for any special, incidental, indirect, punitive, multiple, or consequential damages arising from or related to this document or your use thereof.

Contact and Support

For questions, suggestions, and technical supports, please contact us at E-mail: info@biogenous.cn.

References

1. Magré L, Verstegen MMA, Buschow S, van der Laan LJW, Peppelenbosch M, Desai J. Emerging organoid-immune co-culture models for cancer research: from oncoimmunology to personalized immunotherapies. J Immunother Cancer. 2023;11(5): e006290. doi: 10.1136/jitc-2022-006290.
2. Dijkstra KK, Cattaneo CM, Weeber F, Chalabi M, van de Haar J, Fanchi LF, et al. Generation of Tumor-Reactive T Cells by Co-culture of Peripheral Blood Lymphocytes and Tumor Organoids. Cell. 2018;174(6): 1586-1598.e12. doi: 10.1016/j.cell.2018.07.009.
3. Cattaneo CM, Dijkstra KK, Fanchi LF, Kelderman S, Kaing S, van Rooij N, van den Brink S, Schumacher TN, Voest EE. Tumor organoid-T-cell coculture systems. Nat Protoc. 2020;15(1): 15-39. doi: 10.1038/s41596-019-0232-9.

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