

bioGenous™ Tissue Digestion Solution Plus

Catalog: K601010

Product Description

bioGenous™ Tissue Digestion Solution Plus is designed for gently and rapidly digestion of normal tissue and tumor tissue samples into cell suspensions or cell clumps, facilitating the subsequent development of tumor organoids. This digestion solution is broadly applicable to solid tumors (such as colorectal cancer, lung cancer, breast cancer, endometrial cancer, etc.) as well as normal tissue specimens for in vitro primary culture and digestion.

Product Information

Component	Catalog#	Volume	Storage& Stability
bioGenous™ Tissue Digestion Solution Plus Basal Medium	K601010-A100/A500	100 mL/500 mL	2-8°C, 24 months
bioGenous™ Tissue Digestion Solution Plus Supplement B(20X)	K601010-B100/B500	5 mL/25 mL	-20°C, 24months
bioGenous™ Tissue Digestion Solution Plus Supplement C(Fetal Bovine Serum, FBS)	K601010-C100/C500	5 mL/25 mL	-20°C, 24months

Materials & Reagents Required But Not Included

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

Manufacturer	Reagents	Catalog#
bioGenous™	Cancer Organoid Basal Medium	B213152
bioGenous™	Epithelial Organoid Basal Medium	B213151

Preparation of Tissue Digestion Solution Plus

Prepare the Tissue Digestion Solution Plus under sterile conditions. Below is an example for preparing 10 mL of the complete Tissue Digestion Solution Plus. Adjust quantities as needed for other volumes.

1. Thaw bioGenous™ Tissue Digestion Solution Plus (Supplement B 20X) at 4°C. Mix thoroughly.
Note: After thawing, it is recommended to aliquot bioGenous™ Tissue Digestion Solution Plus (Supplement B 20X) and store it to avoid repeated freeze-thaw cycles.
2. Add 500 µL of bioGenous™ Tissue Digestion Solution Plus (Supplement B 20X) to 9.5 mL of bioGenous™ Tissue Digestion Solution Plus (Basal Medium). Mix thoroughly.
Note: The prepared complete Tissue Digestion Solution Plus can be stored at 2-8°C and is recommended for use within 24 hours, or it can be stored at -20°C for up to one month.

Directions for Use

1. Before digestion, use surgical scissors or a scalpel to cut the tissue into fragments approximately 1-3 mm³ in size.
2. Add an appropriate volume of complete Tissue Digestion Solution Plus, equivalent to 5-30 times the volume of the original tissue, based on the size of the tissue block. Place the mixture in a 37°C incubator or shaking incubator for tissue digestion. The digestion time may vary depending on tissue type, source, tumor subtype, and individual differences, generally ranging from 5 to 30 min.
***Note:** For normal tissues such as mouse liver, lung, and kidney, the recommended digestion time is 5-10 minutes, not exceeding 20 minutes. For squamous cell carcinomas such as lung squamous cell carcinoma, esophageal squamous cell carcinoma, and head and neck squamous cell carcinoma, the recommended digestion time is 20-30 minutes. For adenocarcinomas such as lung adenocarcinoma, cardia cancer, and gastric cancer, the recommended digestion time is 10-15 minutes.*
***Note:** During this process, it is crucial to carefully monitor the digestion to avoid over-digestion, which can significantly reduce organoid formation efficiency. Microscopic examination of the digestion suspension can be performed during the process, and digestion should be considered complete when a substantial number of single cells or cell clusters smaller than 70 µm are observed.*
3. After confirming that the tissue digestion is complete, add bioGenous™ Tissue Digestion Solution Plus Supplement C (Fetal Bovine Serum, FBS) to the digested tissue dissociation suspension to a final concentration of 5% to terminate digestion, and mix thoroughly by pipetting to terminate the digestion.
4. The digestion suspension obtained from the previous step can be directly used for cell separation procedures such as centrifugation or filtration through a mesh. Before using the separated cells, wash the sample by centrifugation at least twice using Cancer Organoid Basal Medium or Epithelial Organoid Basal Medium (Basal Medium should correspond to tissue types, recommended centrifugation speed: 200-300 x g, 3 min).

Quality Control

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

Safety Information

For research use only, not for use in diagnostic procedures. 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.

Last updated on 10th May, 2025

Attached Table—Recommended Parameter Table for bioGenous™ Tissue Digestion Solution Plus Used with SmartOrgan™ Dissociator

Recommended Operation Programs for Digesting and Dissociating Different Tissues							
Class	Tissue Type	Step 1 90 rpm Time/s	Step 2 30 rpm Time/s	Step 3 60 rpm Time/s	Step 4 90 rpm Time/s	Step 5 0 rpm Time/s	Cycles
Class I - Single cell	Oral Squamous Cell Carcinoma	2	10	20	20	8	20-30
	Esophageal Squamous Cell Carcinoma	2	10	20	20	8	20-30
	Cervical Squamous Cell Carcinoma	2	10	20	20	8	20-30
	Lung Squamous Cell Carcinoma	2	10	20	20	8	20-30
	Airway	2	10	20	20	8	10-15
Class I - Cell Cluster	Oral Squamous Cell Carcinoma	2	30	10	10	8	20-30
	Esophageal Squamous Cell Carcinoma	2	30	10	10	8	20-30
	Cervical Squamous Cell Carcinoma	2	30	10	10	8	20-30
	Lung Squamous Cell Carcinoma	2	30	10	10	8	20-30
	Airway	2	30	10	10	8	8-10
Class II - Single cell	Salivary Gland Cancer	2	10	15	25	8	15-20
	Esophageal Adenocarcinoma	2	10	15	25	8	15-20
	Cervical Adenocarcinoma	2	10	15	25	8	15-20
	Lung Adenocarcinoma	2	10	15	25	8	15-20
	Gastric Cancer	2	10	15	25	8	15-20
	Colorectal Cancer	2	10	15	25	8	15-20
	Endometrial Cancer	2	10	15	25	8	15-20

Recommended Operation Programs for Digesting and Dissociating Different Tissues							
Class	Tissue Type	Step 1 90 rpm 时长/s	Step 2 30 rpm 时长/s	Step 3 60 rpm 时长/s	Step 4 90 rpm 时长/s	Step 5 0 rpm 时长/s	Cycles
Class II - Cell Cluster	Salivary Gland Cancer	2	20	15	15	8	15-20
	Esophageal Adenocarcinoma	2	20	15	15	8	15-20
	Cervical Adenocarcinoma	2	20	15	15	8	15-20
	Lung Adenocarcinoma	2	20	15	15	8	15-20
	Gastric Cancer	2	20	15	15	8	15-20
	Colorectal Cancer	2	20	15	15	8	15-20
	Endometrial Cancer	2	20	15	15	8	15-20
Class III - Single cell	Ovarian Cancer	2	10	15	25	8	10-20
	Breast Cancer	2	10	15	25	8	10-20
	Prostate Cancer	2	10	15	25	8	10-20
	Renal Cell Carcinoma	2	10	15	25	8	10-20
	Renal Tubule	2	10	15	25	8	10-15
	Liver Bile Duct	2	10	15	25	8	10-15
Class III - Cell Cluster	Ovarian Cancer	2	20	15	15	8	10-20
	Breast Cancer	2	20	15	15	8	10-20
	Prostate Cancer	2	20	15	15	8	10-20
	Renal Cell Carcinoma	2	20	15	15	8	10-20
	Renal Tubule	2	20	15	15	8	8-10
	Liver Bile Duct	2	20	15	15	8	8-10
Class IV - Single cell	Biopsy Tissue	2	10	20	20	8	5-10
Class IV - Cell Cluster	Biopsy Tissue	2	30	10	10	8	5-10