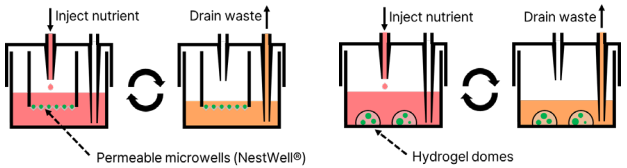
Pipette-free media exchange

Maintains optimal culture environment

Frequent media exchange (every 6 hours)

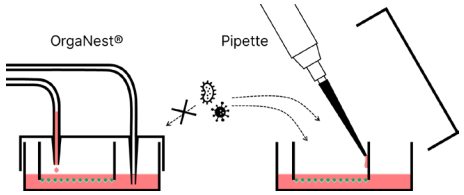
Low flowrate injection and drainage
(low shear stress, less organoid loss)

Applicable to both NestWell® and hydrogel dome culture!



Reduces contamination risk

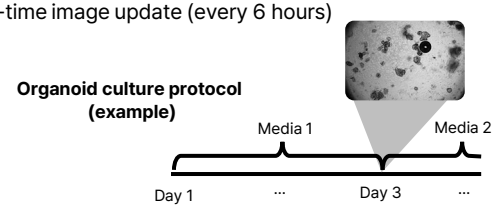
Media exchange without opening the culture chamber



Real-time optical monitoring

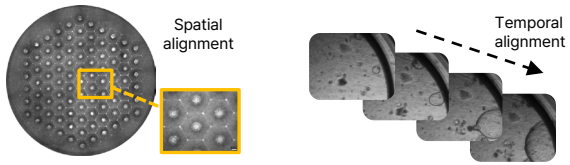
Assists in optimize organoid culture protocol

Real-time image update (every 6 hours)



Provides full history of organoid development

Motorized microscope captures images of target
from a consistent field of view (up to 36 targets)



General Specifications	• Supply module size (mm): 643 x 500 x 416 • Perfusion module size (mm): 310 x 270 x 131 • Vision module size (mm): 310 x 300 x 115
Operating Environment & Requirements	• Power supply: 200~240V • Maximum power consumption: 300W • Operating temperature: 20 ~ 35°C • Operating humidity - Perfusion and Vision: < RH 99% (non-condensing) - Supply module: < RH 80%
Technical Specifications	• Automatic media supply and drainage in up to 6 chambers (each of the 6 chambers can be managed independently) • Automatic switching between up to 4 types of media (with optional washout process for complete replacement) • Media storage temperature: 2 ~ 8°C • Bright-field motorized microscopy for real-time monitoring (3 axis, x4, white LED light sources)
User Interface	• 1TB data storage for operation logs and collected images • USB 3.1 port for data access • 10-inch android tablet • Graphical user interface application

Celloid

OrgaNest Basic Plus

Automated Organoid Culture System

with pipette-free media exchange
& integrated real-time monitoring



Celloid

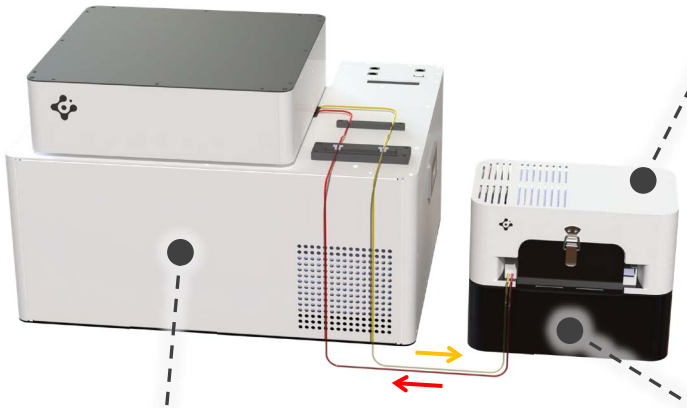
[Head Office]
CHANGeUp GROUND 626, 87, Cheongam-ro, Nam-gu, Pohang-si,
Gyeongsangbuk-do, Republic of Korea
Tel: +82-54-274-1287

[R&D Center]
Seongeui hall 1308, Seongeui campus, The Catholic University of Korea, 222,
Banpo-daero, Seocho-gu, Seoul, Republic of Korea
Tel: +82-2-532-1999 / Fax: +82-2-532-1996

System Overview

The **OrgaNest® Basic Plus** system is composed of three core modules:

SUPPLY, **PERFUSION**, and **VISION**

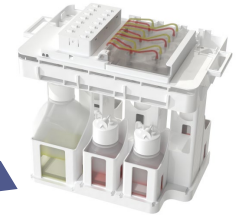


PERFUSION module



Automatic media exchange for long-term culture

The **PERFUSION** module incorporates a set of **programmable valves** that selectively deliver and remove media to and from multiple culture chambers. It operates **within a standard CO_2 incubator** to maintain proper cell culture conditions.



OrgaNest® Cartridge

Disposable cartridge with organoid culture chambers, media transfer tubings, and media storages

Both the PERFUSION and SUPPLY modules interface with **a fully sterilized and replaceable OrgaNest® Cartridge**. The OrgaNest® Cartridge is composed of two separate units that are installed and functionally integrated within the PERFUSION and SUPPLY modules. These units are **connected by long transfer tubes**, enabling bidirectional flow of culture media between the storage reservoirs and the culture chambers.

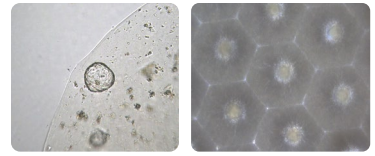
SUPPLY module

Automatic media selection (max. 4)

Low temp. storage

The **SUPPLY** module is equipped with a **built-in pump** and **refrigerated storage** for up to four types of culture media. It enables both the supply and retrieval of media through automated selection and fluid control.

VISION module



Real-time bright-field optical monitoring

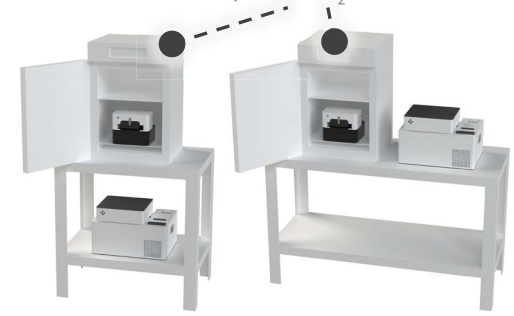
The **VISION** module features a **motorized microscope** for real-time optical monitoring of the culture process (bright-field, x4). Like the PERFUSION module, it operates **within the CO_2 incubator** to ensure consistent environmental conditions during observation.

Flexible Configuration

The modular system can be flexibly configured to suit various installation environments.

(CO_2 incubator is not included)

CO_2 incubators





To scale up culture capacity, multiple PERFUSION modules can be configured in place of the VISION module (optional)

Easy Preparation

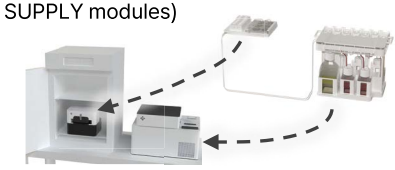
1. Unpack the OrgaNest® Cartridge
(Cartridge is sterilized and vacuum-sealed)



2. Seed cells and fill media
(within BSC or clean bench)



3. Install the OrgaNest® Cartridge
(into PERFUSION and SUPPLY modules)



4. Setup your protocol and start automatic organoid culture!