

# Enhancing Organoids with Small Molecules

**TOCRIS**  
a biotechne brand

Organoids are organ models derived from stem cells and other supporting co-cultured cells, such as epithelial cells. When cultivated appropriately, cells have the ability to self-organize into organ-like tissue and exhibit some organ function.

Small molecules are increasingly being used to grow and maintain organoids, due to their ease of use, controllable production methods and quality. In addition, they are chemically defined with low lot-to-lot variability and high purity.



Organoid Product Table

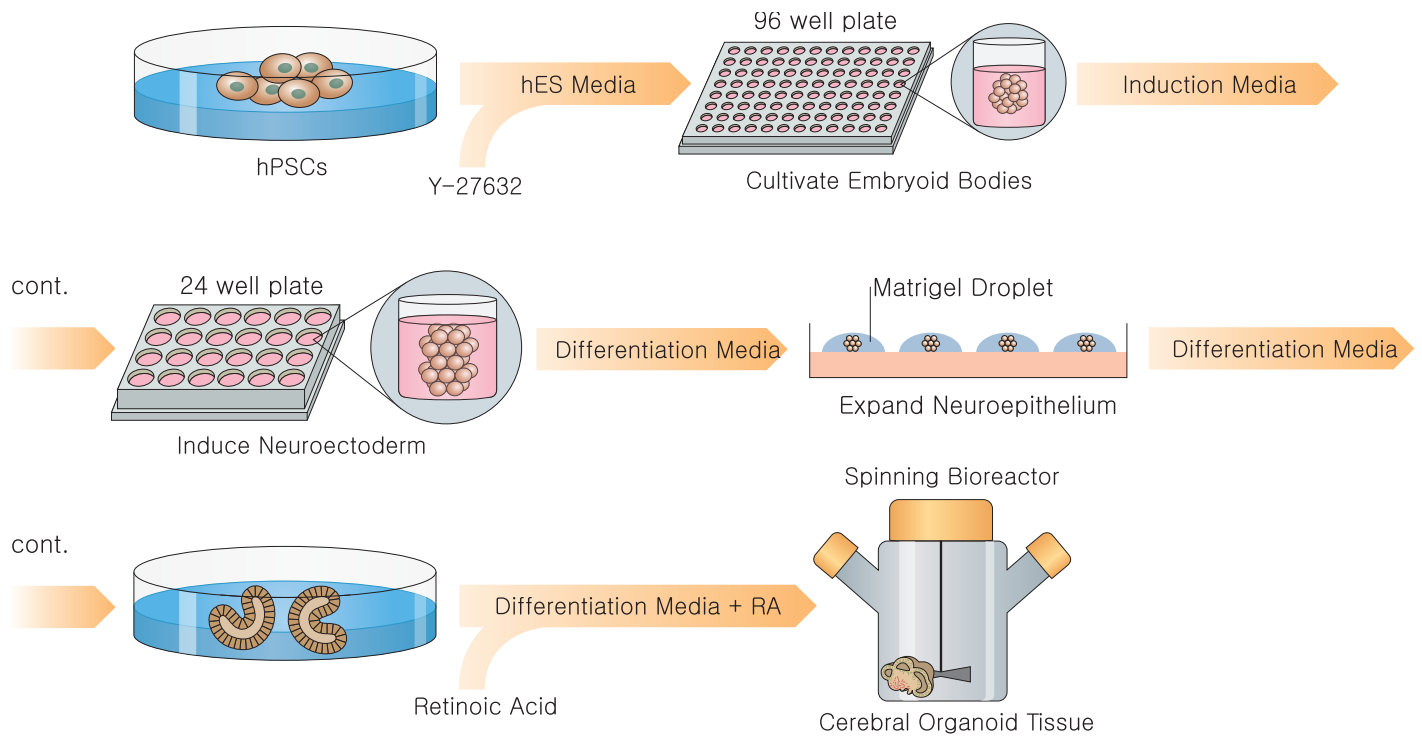
Product Name	Cat. No.	Organoid Type	Used In/As
A 83-01	2939	Liver, Ear, Small Intestine, Colon	3D Growth matrix components
		Stomach, Small Intestine, Colon	Additive for long-term growth
CHIR 99021*	4423	Stomach	Component of culture media for subculturing gastric organoids
		Ear	Component of base media
		Blood Vessel	Component of mesoderm induction
		Heart	Component of differentiation media
		Kidney, Lung	3D Growth matrix components
DAPT*	2634	Liver, Pancreas, Prostate	3D Growth matrix components
		Brain	Component of differentiation media
Forskolin	1099	Liver	3D Growth matrix components
Gastrin	3006	Stomach	Component of media for subculturing gastric organoids
		Pancreas	3D Growth matrix components
IWP 2	3533	Heart	Component of differentiation media
IWP 4	5214	Heart	Component of differentiation media
IWR1e	3532	Brain	Neocortex differentiation medium component
LDN 193189	6053	Brain	Component of differentiation media
Nicotinamide	4106	Liver, Pancreas, Prostate	3D Growth matrix components
		Small Intestine	Additive for long-term growth
		Stomach, Colon	Additive for long-term growth
PD 0325901	4192	Ear	Component of base media
Prostaglandin E2	2296	Liver, Prostate	3D Growth matrix components
Retinoic Acid	0695	Brain	Differentiation media
		Kidney	3D Growth matrix components

Table continued overleaf

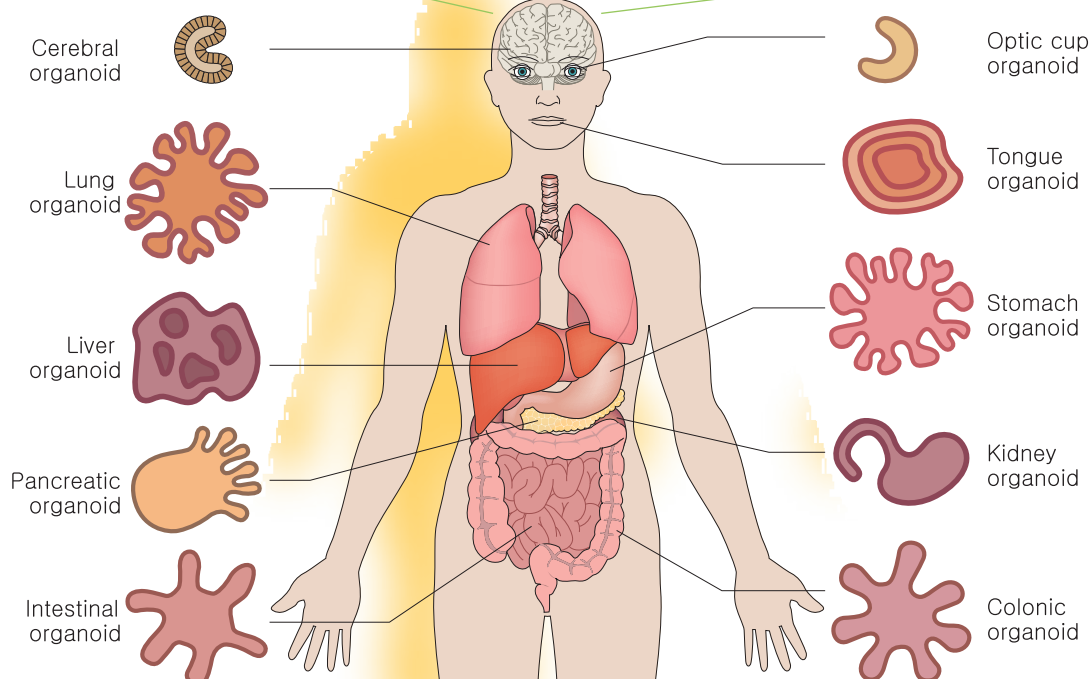
SB 202190	1264	Stomach, Small Intestine, Colon	Additives for long-term growth
		Stomach	Component of culture media for subculturing gastric organoids
		Prostate, Small Intestine, Colon	3D Growth matrix components
SB 431542*	1614	Brain	Neocortex differentiation medium component
		Blood Vessel	Induce vascular lineage differentiation
		Lung, Ear	3D Growth matrix components
Y-27632*	1254	Blood Vessel	Component of media to generate cell aggregates
		Stomach, Small Intestine, Colon, Kidney	3D Growth matrix components
		Brain	3D Growth matrix components, cortex NE differentiation medium component

\*GMP small molecules available – visit [tocris.com/gmp](https://www.tocris.com/gmp)

### Example: Cerebral Organoids Workflow



[tocris.com/protocols/organoids](https://www.tocris.com/protocols/organoids)



Visit: [www.rndsystems.com/organoid-recipes](https://www.rndsystems.com/organoid-recipes) for an extensive list of:

- Organoid Recipes including
  - Base Media Components
  - 3D Growth Matrix Components
  - Additives for long-term growth
  - Recommended Markers
  - Full references
- Webinars and videos
- Protocols
- Product highlights
- Literature