

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

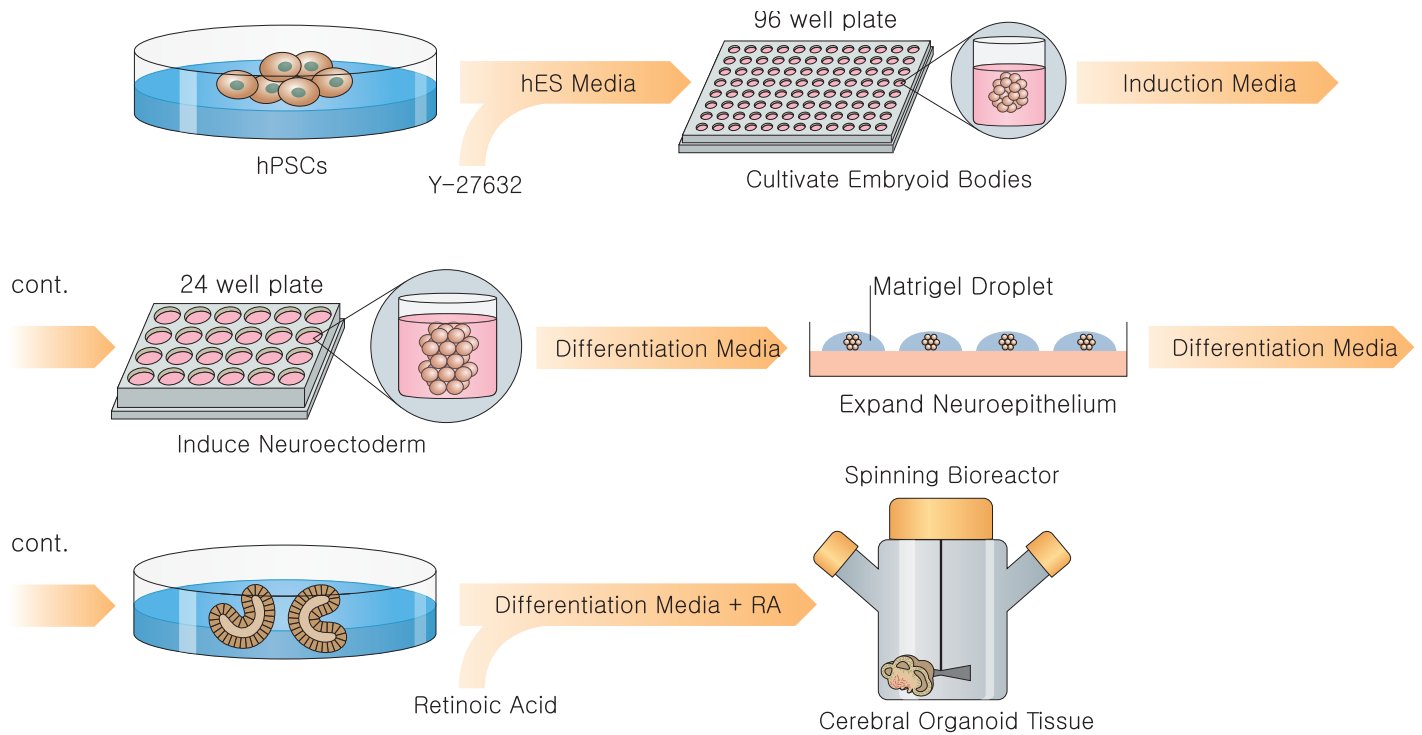
Product Name	Cat. No.	Organoid Type	Used In/As
A 83-01	2939	Liver, Ear, Small Intestine, Colon Stomach, Small Intestine, Colon	3D Growth matrix components Additive for long-term growth
Ala-Gln (Stable form of L-glutamine)	5823	Liver, Stomach, Small Intestine, Stomach, Colon, Pancreas, Prostate, Lung, Kidney, Ear	Base media component
CHIR 99021*	4423	Stomach Ear Blood Vessel Heart Kidney, Lung	Component of culture media for subculturing gastric organoids Component of base media Component of mesoderm induction Component of differentiation media 3D Growth matrix components
DAPT*	2634	Liver, Pancreas, Prostate Brain	3D Growth matrix components Component of differentiation media
Forskolin	1099	Liver	3D Growth matrix components
Gastrin	3006	Stomach Pancreas	Component of media for subculturing gastric organoids 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 Small Intestine Stomach, Colon	3D Growth matrix components Additive for long-term growth 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 Kidney	Differentiation media 3D Growth matrix components

Table continued overleaf

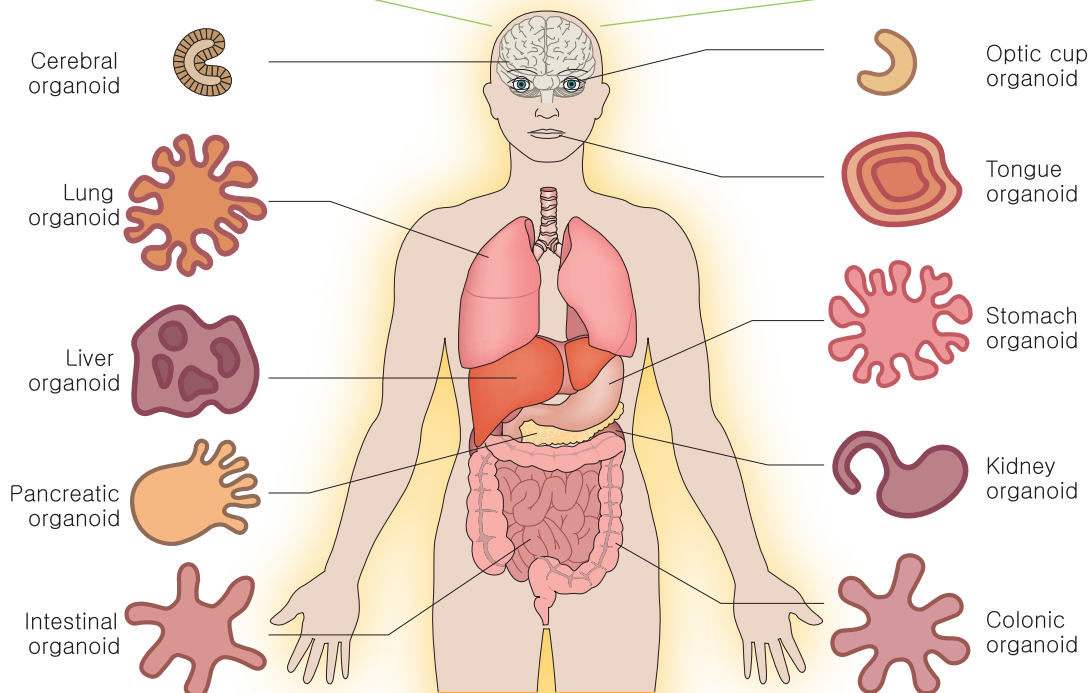
SB 202190	1264	Stomach, Small Intestine, Colon Stomach	Additives for long-term growth Component of culture media for subculturing gastric organoids
		Prostate, Small Intestine, Colon	3D Growth matrix components
SB 431542*	1614	Brain	Neocortex differentiation medium component
		Blood Vessel	Induce vascular lineage differentiation
		Lung, Ear	3D Growth matrix components
Testosterone	2822	Prostate	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

Example: Cerebral Organoids Workflow



tocris.com/protocols/organoids



Visit: 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