

Wide Applications: Guarantee Your Success in Different Organoid Models.



24/7 Technical Support on Organoid Culture



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# **Top Selling Products**

Basement Membrane Matrix 25%

Cat. No.	Product Name	Application			
HY-K6001	Basement Membrane Matrix (Phenol Red)	In vitro angiogenesis, tumor cell migration or invasion			
HY-K6002	Basement Membrane Matrix	In vitro angiogenesis, tumor cell migration or invasion			
HY-K6003	Basement Membrane Matrix GFR (Phenol Red)	Organoid culture, in vitro angiogenesis			
HY-K6004	Basement Membrane Matrix GFR	Organoid culture, in vitro angiogenesis			
HY-K6005	Basement Membrane Matrix HC (Phenol Red)	Transplantation/induction of tumorigenic models such as PDX, CDX			
HY-K6006	Basement Membrane Matrix IPSC-qualified	Stem cell expansion and differentiation			
HY-K6007	Basement Membrane Matrix for Organoid Culture	Organoid culture			

## Organoid Culture Kits 25%

		Cat. No.	Product Name	Cat. No.	Product Name
0		HY-K6101	Human Breast Cancer Organoid Kit	HY-K6107	Human Cervical Cancer Organoid Kit
		HY-K6102	Human Lung Adenocarcinoma Organoid Kit	HY-K6108	Human Esophageal Cancer Organoid Kit
	Tumor	HY-K6103	Human Small Cell Lung Cancer Organoid Kit	HY-K6109	Human Endometrial Cancer Organoid Kit
	Organoid Medium	HY-K6104	Human Colorectal Cancer Organoid Kit	HY-K6110	Human Pancreatic Cancer Organoid Kit
		HY-K6105	Human Gastric Cancer Organoid Kit	HY-K6111	Human Head and Neck Squamous Cell Carcinoma Organoid Kit
		HY-K6106	Human Cholangiocarcinoma Organoid Kit		
0		HY-K6112	Human Colonic Organoid Kit	HY-K6117	Human Liver Ductal Organoid (expansion) Kit
	Normal Tissue Organoid	HY-K6113	Human Intestinal Organoid Kit	HY-K6118	Mouse Liver Ductal Organoid (expansion) Kit
	Culture Medium	HY-K6114	Human Gastric Epithelial Organoid Kit	HY-K6119	Mouse Intestinal Organoid Kit
		HY-K6115	Human Pancreatic Organoid Kit	HY-K6120	Mouse Colonic Organoid Kit
		HY-K6116	Human Kidney Tubular Organoid Kit		

Recombinant	Proteins	<b>25</b> %

Proteins Category	Function	Product Name	Cat. No.
Wnt	An essential niche component for maintaining the proliferation of Lgr5-positive stem cells in various organoids, such as the intestinal, gastric, pancreatic and liver organoids	Human Wnt3a Surrogate Human Wnt3a	HY-P70453B
EGF	A growth factor for epithelial tissues; binding to EGF receptors, induces hyperplasic changes. Used for the generation of intestinal, liver, thyroid, and brain organoids	Human EGF Mouse EGF	HY-P7109
Noggin	An inhibitor of bone morphogenetic proteins that modulates cellular differentiation, proliferation, and apoptosis	Human Noggin Mouse Noggin	HY-P7051A HY-P7086
R-spondin	The ligand of Lgr5 and a niche factor that is required for the self-renewal of stem cells and activates Wnt signaling. An essential additive of the organoid culture system	Human R-spondin-1 Mouse R-spondin-1	HY-P7114 HY-P76012
FGF	FGFs play crucial roles in a wide variety of cellular functions, including cell proliferation, survival, metabolism, morphogenesis, and differentiation, as well as in tissue repair and regeneration. In a 3D extracellular matrix, FGF-2, FGF-7, FGF-9, and FGF-10 promote lung organoid formation	Human FGF-4 Human FGF-7 Human FGF-9 Human FGF-19 Human FGF-basic/ FGF-2	HY-P7014 HY-P7047A HY-P7177 HY-P7172 HY-P7004
ВМР	BMPs play crucial roles in embryogenesis and development, and also in maintenance of adult tissue homeostasis. BMP-2 and BMP-4 are widely used in in vitro generation of hepatic cells from iPSCs and ESCs	Human BMP-4 Human BMP-7 Human/Mouse/ Rat BMP-2	HY-P7007 HY-P7008 HY-P7006
VEGF	VEGF-A is required during embryogenesis to regulate the proliferation, migration, and survival of endothelial cells. It is used in the generation of vascular organoids	Human VEGF-A Mouse VEGF-A	HY-P7420 HY-P7312
PDGF	PDGF-BB induces vascular smooth muscle cells (VSMC) specification and cell differentiation in the vascular	Mouse PDGF-BB	HY-P70699
HGF	A known hepatocyte mitogen that can be used for the liver organoid culture	Human HGF	HY-P7121
Activin A	A cytokine with multiple roles in development and homeostasis. In the case of intestinal organoids, it activates TGF- $\beta$ signaling in PSCs to trigger endodermal differentiation	Human/Mouse/ Rat Activin A	HY-P70311
DKK	A canonical WNT inhibitor that can induce retinal progenitors for self-organization	Human DKK-1	HY-P7155A
IGF-I	IGF-I/IGF-1 coordinate proliferation, differentiation, and maturtion of neuroepithelial precursor cells. IGF-1 facilitates the generation of retinal organoids that display the typical laminated structure and photoreceptor maturation	Human IGF-I/IGF-1 Mouse IGF-I/IGF-1	HY-P7018 HY-P7070

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# GMP-grade Inhibitors/Agonists 25%

Product Name Cat. No. Function Laduviglusib HY-10182G A selective GSK3 inhibitor that can be used for the generation of organoid A ROCK inhibitor; used to increase the proliferation and reduce apoptosis of progenitor cells Y-27632 HY-10583G A 83-01 HY-10432G An inhibitor of TGF-β type I receptor ALK5, the Activin/Nodal receptor ALK4 and ALK7 A selective TGF-β type I Receptor inhibitor; the addition of SB431542 in the culture medium HY-10431G SB-431542 prevents spontaneous differentiation of mouse embryonic stem cells

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## **Experiment Validation**

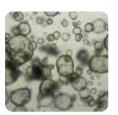
HY-K6001 Basement Membrane Matrix (Phenol Red) (Left) HY-K6002 Basement Membrane Matrix (Right) Angiogenesis in HUVEC cells 4 h



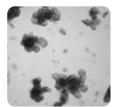


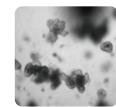
HY-K6004 Basement Membrane Matrix GFR (Left) HY-K6007 Basement Membrane Matrix for Organoid Culture (Right) Culture of human gastric cancer organoid Day 9





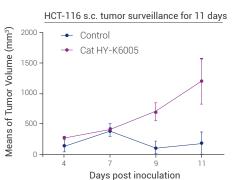
HY-K6004 Basement Membrane Matrix GFR (Left) HY-K6007 Basement Membrane Matrix for Organoid Culture (Right) Culture of mouse intestinal organoid Day 6





HY-K6005 Basement Membrane Matrix HC (Phenol Red)

Subcutaneous tumor formation in 4-5 week old BALB/c-nu mice Day 11

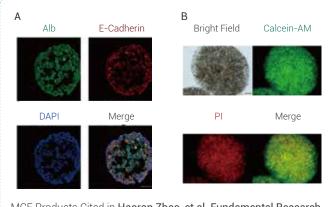


## Example — Generation of Reproducible Kidney Organoids

#### Experimental Details

Droplet-engineered organoids (DEOs) were derived from mouse liver tissues and human liver tumors. The organoids were cultured in the corresponding culture medium.

For mouse liver DEOs: Basal medium DMEM/F12 supplemented with 20% FBS (HY-T1000), 1% Penicillin-Streptomycin, Noggin (HY-P7086), R-spondin 1 (HY-P76012), EGF, SB431542 (HY-10431), CHIR99021, FGF4 (HY-P72649), FGF-basic (HY-P7066), Y-27632, etc. For human liver tumor DEOs: basal medium DMEM/F12 supplemented with 20% FBS, 1% Penicillin-Streptomycin, Noggin (HY-P70558), R-spondin 1 (HY-P72784), EGF, FGF-basic (HY-P7004), Y-27632, etc.



MCE Products Cited in Haoran Zhao, et al. Fundamental Research. [m5GeSdc;June 8, 2022;12:37]

#### References:

[1] Exp Hematol Oncol. 2018 Dec 5;7:30.

[2] Nat Rev Mol Cell Biol. 2020 Oct;21(10):571-584.

[3] Development. 2020 Dec 24;147(24):dev189746.

[4] Haoran Zhao, et al. Fundamental Research. [m5GeSdc;June 8, 2022;12:37]



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