



# **Cytokines & Culture Media**

# **Validated for Organoid Culture**



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#### **About Novoprotein**

Novoprotein Scientific Inc. (SSE: 688137) is a high-tech manufacturer with more than 10 years of extensive experience focusing on recombinant protein technology & industry, and advanced in R&D, production, sales, and application solutions to raw materials and techniques for biopharmaceuticals, *in vitro* diagnosis, mRNA vaccines, and basic life science research. Our principal products include target antigens and cytokines, recombinant antibodies, molecular enzymes and reagents, as well as providing related technical services. Novoprotein possesses R&D and manufacturing bases in Shanghai, Suzhou, and Heze.

We have developed more than ten thousand recombinant proteins and have independently researched and developed 7 comprehensive technology platforms and 23 core technologies, including protein design and modification, protein production and quality control, and protein application and evaluation. Novoprotein provides customers with one-stop CRO services from product development to technological innovation on the basis of a comprehensive technology system and our own innovative raw materials.







# Featured Organoid Validation Platform

The professional R&D team of Novoprotein dedicatedly builds organoid validation platforms and is committed to providing validated, highly bio-active, and reliable organoid culture products to organoid customers. Novoprotein provides more than 30 kinds of independently developed and produced organoid culture-related cytokines as well as a series of organoid culture media, which have been validated and specially developed for organoid culture. The products are highly applicable and have been widely used in enterprises and scientific research institutions to accelerate the research progress.





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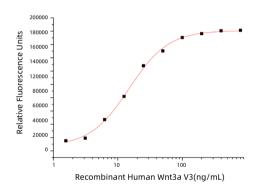
CliniSciences Group



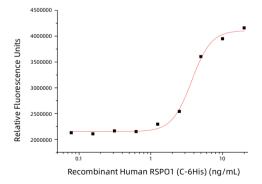
# **Cytokines Validated for Organoid Culture**

- · High activity
- Low endotoxin (< 10 EU/mg)</li>
- · High lot-to-lot consistency
- · ISO 9001 Certified
- · Auditable GMP Grade Production

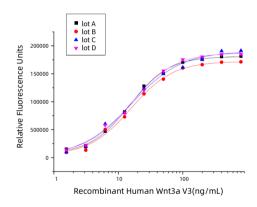
# Product Data



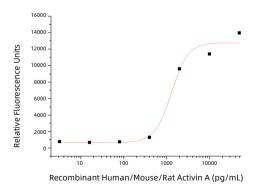
Recombinant Human Wnt3a V3. Measured by its ability to induce Topflash reporter activity in HEK293T human embryonic kidney cells. The ED50 for this effect is 15.31 ng/mL.



Recombinant Human RSPO1. Measured by its ability to induce Topflash reporter activity in HEK293T human embryonic kidney cells. The ED50 for this effect is 4.06 ng/mL.



Four independent lots were tested for activity and plotted on the same graph to show lot-to-lot consistency of **Wnt3a V3 (Cat#C22R).** 



Recombinant Human Activin A. Measured by its ability to induce SMAD signaling in 293-Activin A Res cells(Cat#XCC11). The ED50 for this effect is 1.3 ng/mL.

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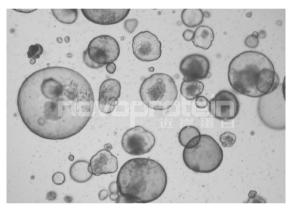
# Product Data



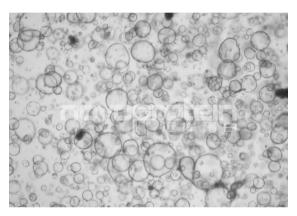
<u>Mouse intestinal organoids</u> were cultured with EGF (Cat#C029), Wnt3a (Cat#C22R), Noggin (Cat#C028) and R-spondin 1 (Cat#CX83).



Mouse Colon organoids were cultured with EGF (Cat#C029), Wnt3a (Cat#C22R), Noggin (Cat#C028), and R-spondin 1 (Cat#CX83).



Mouse Gastric organoids were cultured with EGF (Cat#C029), Wnt3a (Cat#C22R), Noggin (Cat#C028), R-spondin 1 (Cat#CX83) and FGF-10 (Cat#CR11).



<u>Mouse bile duct organoids</u> were cultured with EGF (Cat#C029), R-spondin 1 (Cat#CX83), FGF-10 (Cat#CR11) and HGF (Cat#CJ72).



Human intestinal organoids (ipsc-derived) were cultured with Activin A(Cat#C687), BMP-4(sample), EGF (Cat#C029), Wnt3a (Cat#C22R), Noggin (Cat#C028), R-spondin 1 (Cat#CX83) and FGF-4 (Cat#CR08).







# Validated Organoid Culture Media

Novoprotein provides organoid culture media for a series of normal tissues or tumor tissues, which greatly ease your work, helping you to carry out organoid experiments efficiently and conveniently.

# Product Advantages

Efficient High success rate, normally completed in 4-7 days

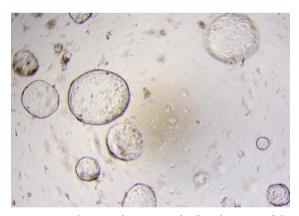
Stable Serum-free media, improves the stability and repeatability

Easy to operate Simple and convenient, for directly use

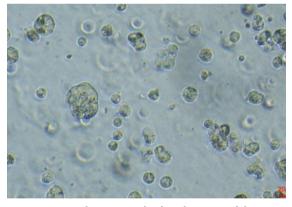
High physiological relevance Effectively maintains the genetic characteristics and heterogeneity of the original tissues

Extensive product range Multiple media for tumor & normal tissue organoids

## Product Data



Human Colorectal cancer-derived organoids were cultured with Intestinal Cancer Organoid Culture Medium(Cat#OCMHC01). The organoids showed good morphology. (Data were kindly provided by Novoprotein's customer)



<u>Human renal cancer-derived organoids</u> were cultured with Renal Cancer Organoid Culture Medium(Cat#OCMHC02). The organoids showed good morphology. (Data were kindly provided by KOUSAI, Co., Ltd.)

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# **Featured Products**

# Cytokines

Product Name	Cat. No.	Product Name	Cat. No.
Recombinant Human/Mouse/Rat Activin A	C687	Recombinant Human IL-22	CH50
Recombinant Human/Mouse/Rat BDNF	C076	Recombinant Mouse IL-22	C047
Recombinant Human/Mouse/Rat BMP-2	C012	Recombinant Human LIF	C017
Recombinant Human DKK1(N-8His)	C688	Recombinant Mouse LIF	C690
Recombinant Human EGF	C029	Recombinant Human Noggin	CB89
Recombinant Mouse EGF(C-6His)	CH28	Recombinant Mouse Noggin (C-6His)	C028
Recombinant Human FGF basic	C046	Recombinant Human NRG1-beta 1	C753
Recombinant Human FGF basic	C779	Recombinant Human NT-3	C079
Recombinant Mouse FGF basic	C044	Recombinant Human OSM (N-6His)	C099
Recombinant Human FGF-4	CR08	Recombinant Human Prolactin/PRL	C736
Recombinant Mouse FGF-4	CR66	Recombinant Human R-Spondin 1(C-6His)	CX83
Recombinant Human FGF-7/KGF	CH73	Recombinant Human R-Spondin 3 (C-6His)	C18C
Recombinant Human FGF-9	C198	Recombinant Human Shh	C100
Recombinant Mouse FGF-9(N-6His)	CR12	Recombinant Human Shh (C24II)	C089
Recombinant Human FGF-10	CR11	Recombinant Mouse Shh	CH69
Recombinant Human FGF-19(N-6His)	CG74	Recombinant Mouse Shh (C25II)	CH66
Recombinant Human GDNF	C226	Recombinant Human TGF-beta 1	CA59
Recombinant Human HGF(C-6His)	CJ72	Recombinant Human VEGF165	C083
Recombinant Mouse HGF(C-6His)	CC13	Recombinant Human Wnt3a V3	C22R

## **Culture Media**

Product Name	Cat. No.	Product Name	Cat. No.
Intestinal Cancer Organoid Culture Medium	OCMHC01	Lung Cancer Organoid Culture Medium	OCMHC05
Renal Cancer Organoid Culture Medium	OCMHC02	Breast Cancer Organoid Culture Medium	ОСМНС06
Brain Glioma Organoid Culture Medium	ОСМНС03	Animal Intestinal Organoid Culture Medium	OCMAN01
Liver Cancer Organoid Culture Medium	OCMHC04	Gastric Cancer Organoid Culture Medium	OCMHC07

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# Product Citations

- [1] Famsin, a novel gut-secreted hormone, contributes to metabolic adaptations to fasting via binding to its receptor OLFR796[J]. Cell Research. 2023 (R-Spondin1: CX83; Noggin: C028; EGF: CH28)
- [2] Wang HM, et al. Using patient-derived organoids to predict locally advanced or metastatic lung cancer tumor response: A real-world study[J]. Cell Reports Medicine. 2023 (R-Spondin1: CX83; Noggin: CB89; Wnt3a: C06D)
- [3] Xue Y, et al. Patient-derived organoids potentiate precision medicine in advanced clear cell renal cell carcinoma[J]. Precision Clinical Medicine. 2022 (IL-2: GMP-CD66)
- [4] Xie C, et al. High-efficient engineering of osteo-callus organoids for rapid bone regeneration within one month[J]. Biomaterials. 2022 (TGF-β3: CJ44)
- [5] Zhao L, et al. Mesenchymal-epithelial interaction regulates gastrointestinal tract development in mouse embryos[J]. Cell Reports. 2022 (R-Spondin1: CX83; Noggin: C028; FGF10: CR11; DLK1: C463; POSTN: CJ39; SEMA5A: C499; NCAM1: CP45; SHH: CH66; KITL/SCF: CB57)
- [6] Pei R, et al. Host metabolism dysregulation and cell tropism identification in human airway and alveolar organoids upon SARS-CoV-2 infection[J]. Protein Cell. 2021 (KGF: CM88)
- [7] Li L, et al. SOX9 inactivation affects the proliferation and differentiation of human lung organoids[J]. Stem Cell Research & Therapy. 2021 (KGF: CM88)
- [8] Breunig M, et al. Modeling plasticity and dysplasia of pancreatic ductal organoids derived from human pluripotent stem cells[J]. Cell Stem Cell. 2021 (FGF2: C046)
- [9] Zou F, et al. The CD39+ HBV surface protein-targeted CAR-T and personalized tumor-reactive CD8+ T cells exhibit potent anti-HCC activity[J]. Molecular Therapy. 2021 (R-Spondin1: CX83)
- [10] Hohwieler M, et al. Human pluripotent stem cell-derived acinar/ductal organoids generate human pancreas upon orthotopic transplantation and allow disease modelling[J]. Gut. 2017 (EGF: GMP-C029)

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