JSBio Product Guide—
Cell and Gene Therapy (CGT)

About

JS Biosciences Co., Ltd. (JSBio) is a leading high-tech enterprise specializing in cell culture technology, product research and development, production, and sales. Our premium cell culture media are extensively utilized in various sectors including biopharmaceuticals, biological reagents, human vaccines, and veterinary vaccines. With three state-of-the-art manufacturing facilities located in Lanzhou, Nantong, and Busan, South Korea, all compliant with cGMP standards, we boast a collective annual production capacity of thousands of tons.

Adhering to the highest international standards within the cell culture medium industry, we have obtained prestigious quality system certifications such as ISO13485 and ISO9001, and have successfully completed the registration of Class 1 medical devices. Our rigorous raw material management practices encompass a meticulous screening process for both materials and suppliers, ensuring that the stringent quality requirements for end product production are consistently met. For instance, the culture media utilized in the production of human biological products adhere to the standards set forth by the Chinese Pharmacopoeia, the US Pharmacopoeia, and the European Pharmacopoeia.

Strengths

- TSE/BSE Declaration Available
- Compliant with cGMP Manufacturing Standards
- Consistent Batch-to-Batch Performance
- Versatile Packaging Options
- Marked Enhancement in Product Yield
- Three Global Manufacturing Facilities
- Ensuring Swift and Reliable Supply
- Customizable Catalog Culture Media Components

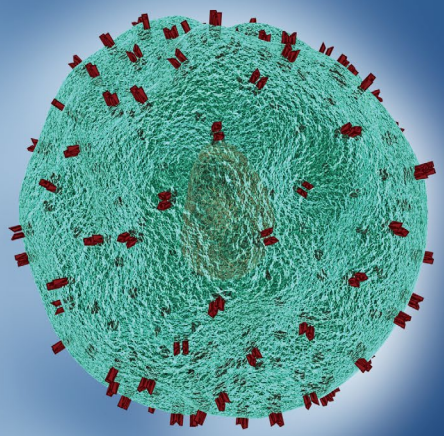
This guide is used to select cell culture media from JSBio for the production of cell and gene therapy products, including T and NK cell culture media, stem cell culture media, HEK-293 cell culture media, and insect cell culture media. They have all been used by customers and their excellent product performance has been validated, supporting the growth of cells with high density and high viability.

Packaging specifications

For your personalized needs, we offer the following regular packaging options for each product:

Form	Package materials	Package
Dry powder	Aluminum foil bag, PP bucket	2 L, 10 L, 50 L, 100 L, Customized
Liquid	PET Bottle	250 mL, 500 mL, 100 mL

Content



T and NK Cell Culture Media

Serum Free

T cells and NK cells have significant research and clinical application value. T Cell 01 is a universal serum-free culture medium that can cultivate both T cells and NK cells. Except for human serum albumin, this culture medium does not contain any animal derived components. T Cell 01 culture medium is produced under cGMP conditions to ensure compliance with the quality requirements of cell therapy products for the culture medium.

Product Catalog

Product	Catalog No.	Form	Package	Description
T Cell 01	11902-1533	Dry powder	2 L, 10 L, 50 L, 100 L, Customized	The base medium is used for culture and amplification of T and NK cells.
	11902-23064	Liquid	500 mL,1000 mL	

* We can provide liquid bag sizes of 1-100L according to customer needs.

Cases

T Cell 01 medium can support the large-scale expansion of T cells, with fold expansion exceeding 1000, while maintaining high viability (>90%) and high positive rate (>70%).

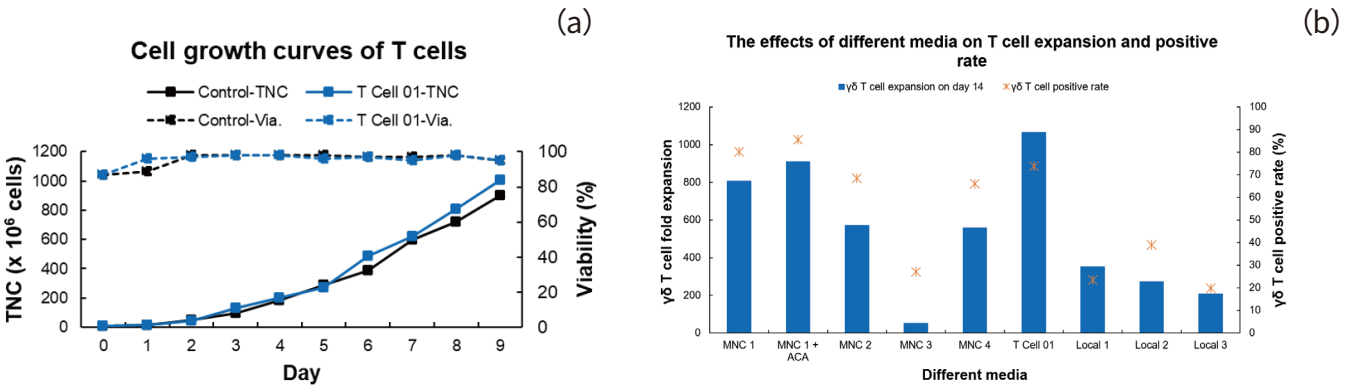


Figure 1. （a）T cells from peripheral blood were respectively cultured using T Cell 01 and control medium, and the total number of nucleated cells (TNC) and cell viability were measured daily.（b）T cells were cultured using different cell culture media, and the effects of these media on T cell expansion and positive rate were measured. The culture time is 14 days. MNC: the media were purchased from international corporations. Local: the media were purchased from local corporations.

Stem Cell Culture Media

Chemically Defined, Animal Component Free

Stem cells are a type of cells with self-proliferation and multi-directional differentiation potential. Under certain conditions, they can differentiate into various functional cells. Mesenchymal stem cells (MSCs) do not exhibit rejection during allogeneic transplantation and are widely used in basic medical research and drug development. The stem cell culture medium of JSBio is produced under cGMP conditions, meeting the quality requirements of the culture medium for stem cell production. It can support the efficient expansion of MSCs in vitro and maintain their pluripotency.

Product Catalog

Product	Catalog No.	Form	Package	Description
Stem Cell 1	11901-1492	Dry powder	2 L, 10 L, 50 L, 100 L, Customized	The base medium is used for stem cell culture and multi potential preservation
	11901-23049	Liquid	500 mL、1000 mL	

* We can provide liquid bag sizes of 1-100L according to customer needs.

Cases

1. Cell morphology

◆ Stem Cell 1 not only promotes rapid proliferation of MSCs, but also maintains their morphological stability.

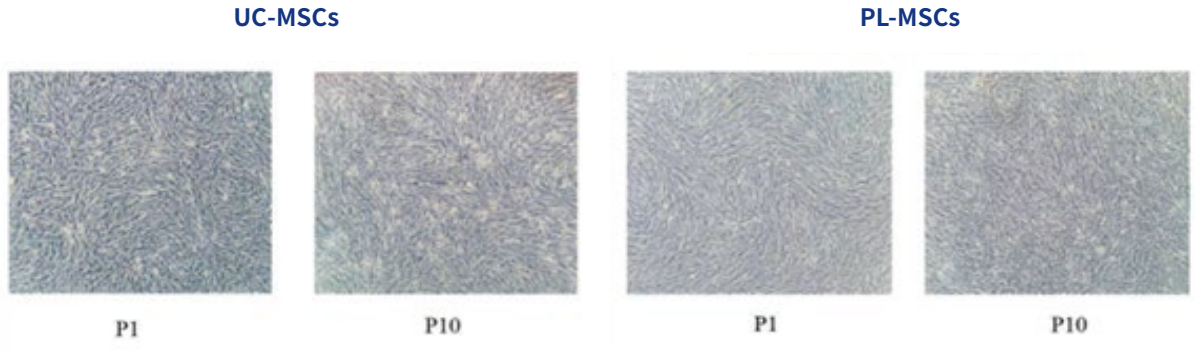


Figure 2. Umbilical cord mesenchymal stem cells (UC MSCs, left) and placental mesenchymal stem cells (PL MSCs, right) were cultured using Stem Cell 1 medium, and the morphology of the cells is recorded using an inverted microscope.

2. Detection of cell surface markers

- After expansion in Stem Cell 1, MSCs still maintained high purity.

Cells	$CD34^+$	$CD45^+$	$CD73^+$	$CD90^+$	$CD105^+$
UC-MSC_S, P5	< 0.2%	< 0.2%	99.8%	99.5%	98.1%
PL-MSC_S, P5	< 0.2%	< 0.2%	99.6%	99.1%	98.4%

Table 1. The surface markers of 5th generation of MSCs cultured in Stem Cell 1 was detect by a flow cytometer.

3. Multi-directional Differentiation Potency

- MSCs cultured up to the 5th generation (P5) still have good potential for multi-directional differentiation.

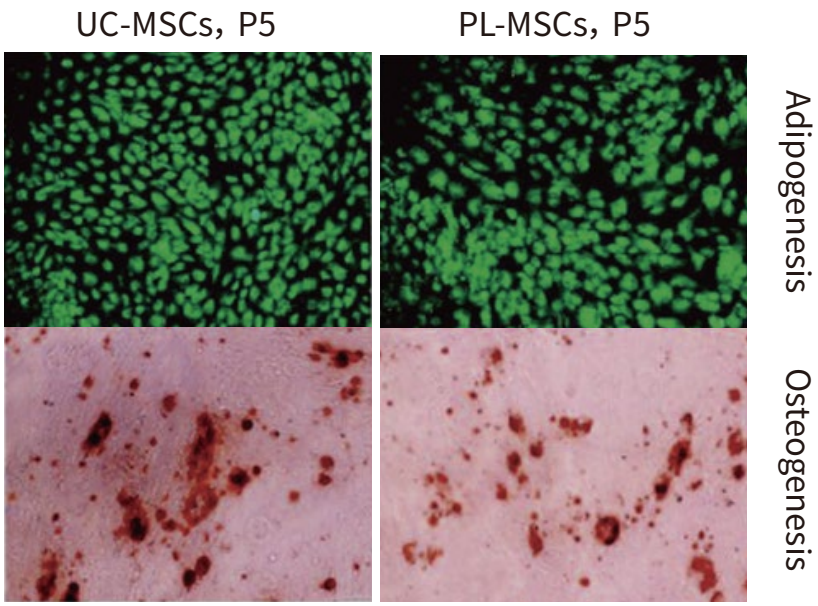


Figure 3. Adipogenic and osteogenic induction experiments were performed using UC MSCs and PL MSCs of P5, respectively. Adipose cells were stained with neutral lipid dye (green), osteoblasts were stained with Alizarin Red (red).。

HEK-293 Cell Culture Media

Chemically defined, Animal Component Free

HEK-293 cells are human embryonic kidney cells that can be used for the production of viral vectors such as adeno-associated viruses (AAV), adenoviruses (AdV), and lentiviruses (LV). The CD 293 series of products are produced under cGMP conditions and are a type of chemically defined culture media without animal derived components. They are used to support high-density growth and efficient transfection and expression of various HEK-293 cells.

In addition, HEK-293 cells are also used for the production of recombinant proteins. For details of related products, please visit the official website: www. Jianshunbio.com.

Product Catalog

Product	Catalog No.	Form	Package	Description
CD 293 01	11203-1238	Dry powder	2 L, 10 L, 50 L, 100 L, Customized	Base medium
	11203-22052	Liquid	500 mL, 1000 mL	
CD 293 02	11204-1239	Dry powder	2 L, 10 L, 50 L, 100 L, Customized	Base medium
	11204-22053	Liquid	500 mL, 1000 mL	
CD 293 03	11205-1240	Dry powder	2 L, 10 L, 50 L, 100 L, Customized	Base medium
	11205-22054	Liquid	500 mL, 1000 mL	
CD 293 FA	99151-1524	Dry powder	2 L, 10 L, 50 L, 100 L, Customized	The feed is used in combination with base media
	99151-23060	Liquid	500 mL, 1000 mL	
CD 293 FB	99035-1242	Dry powder	2 L, 10 L, 50 L, 100 L, Customized	The feed is used in combination with base media and CD 293 FA
	99035-23004	Liquid	250 mL, 500 mL, 1000 mL	
ALLY Feed 100 New	99182-1597	Dry powder	2 L, 10 L, 50 L, 100 L, Customized	The feed is used in combination with base media
	99182-24005	Liquid	500 mL, 1000 mL	

Cases

1. HEK-293 cell growth related cases

- The CD 293 01, 02, and 03 media can achieve stable growth of HEK-293 cells, with a doubling time of about 21-24 hours and a cell viability above 90%. In batch culture, the highest cell density can reach 16.0 × 10^6 cells/mL.

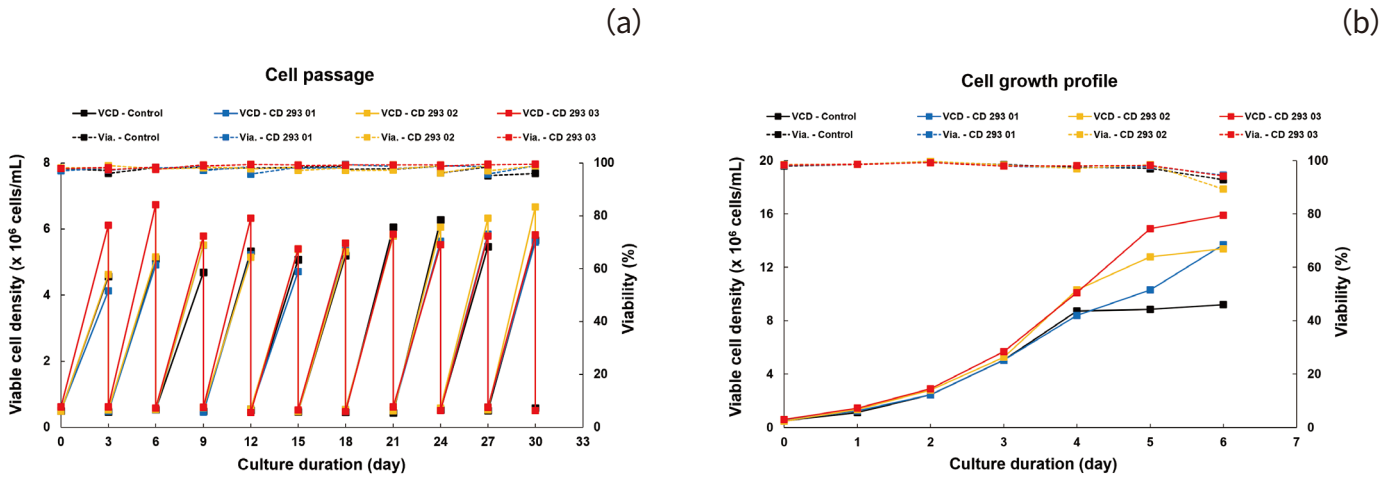


Figure 4. (a) HEK-293 cells were cultured in different media with a seeding density of 0.5 × 10^6 cells/mL and passaged every 3 days. (b) HEK-293 cells were cultured in batch culture using different media, with a seeding density of 0.5 × 10^6 cells/mL.

2. Related cases of virus vector production

- CD 293 03 medium can significantly increase the production of viral vectors. The yield of AAV can reach 10^{11} vg/mL, AdV can reach 10^{10} vg/mL, and LV can reach 10^7 TU/mL.

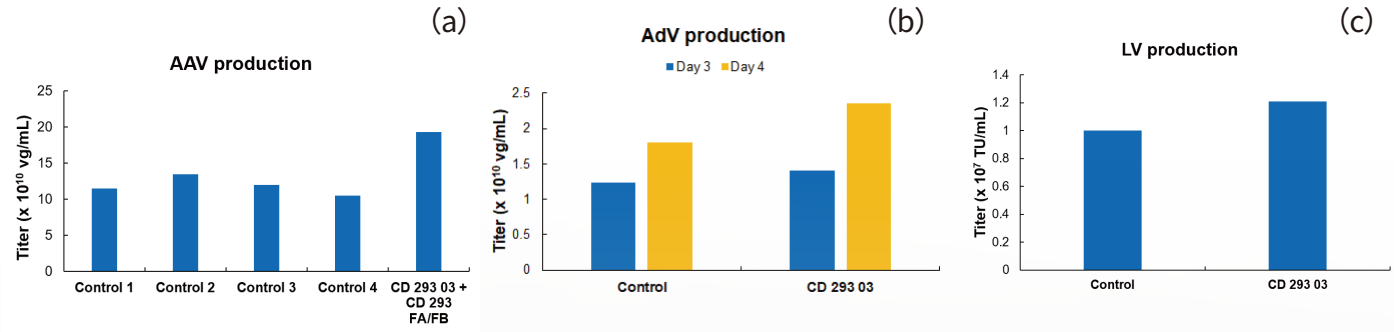


Figure 5. Viral vectors were prepared using HEK-293 cells with different media. (a) AAV, (b) AdV, (c) LV.

Insect Cell Culture Medium

Serum Free, Animal Component Free

With the advantages of expressing proteins in large quantities, high-density suspension culture in large-scale, and the non-pathogenic nature of baculovirus to vertebrates, the insect cell baculovirus system has become one of the main technologies for large-scale production of adeno-associated virus vectors (AAV). Our insect cell culture medium is produced under cGMP conditions and is a serum-free medium without animal-derived components, supporting high-density growth and high productivity of insect cells such as Sf9 and Sf21.

Product Catalog

Product	Catalog No.	Form	Package	Description
IT SFM 03	11009 - 1353	Dry powder	2 L、10 L、50 L、100 L、Customized	Base medium
	11009 - 23027	Liquid	500 mL、1000 mL	
TE030	99156 - 1329	Dry powder	2 L、10 L、50 L、100 L、Customized	The feed is used in combination with IT SFM 03
	99156 - 23015	Liquid	500 mL、1000 mL	

Cases

1、Cell growth related cases

- IT SFM 03 medium can maintain high viability and high cell density for Sf9 cell growth, with a maximum cell density of 15.0 × 106 cells/mL in batch culture.

(a) (b)

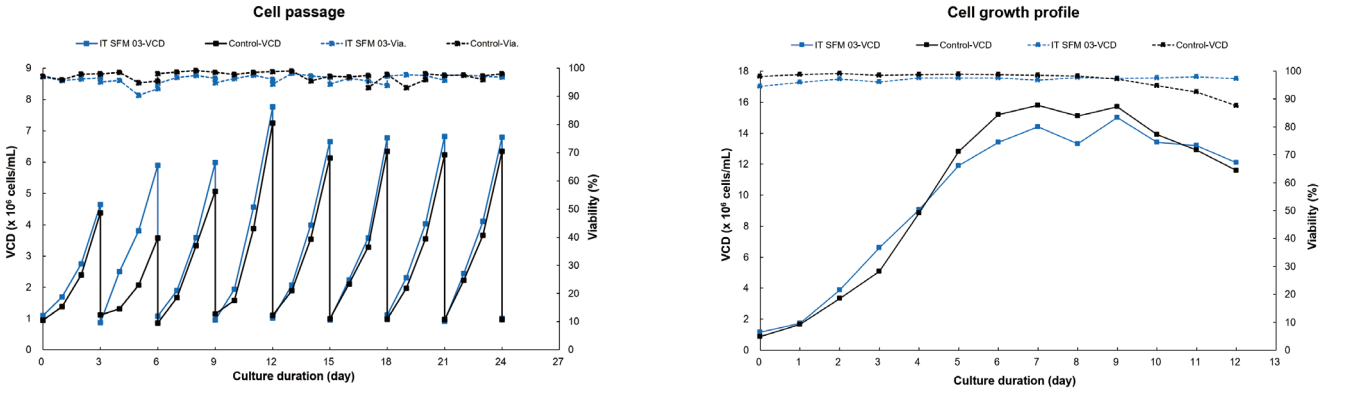


Figure 6. (a) Sf9 cells were cultured using IT SFM 03 and control medium, and passaged every 3 day, with a seeding density of 1.0 × 10^6 cells/mL; (b) Sf9 cells were cultured in batch culture using IT SFM 03 and control medium, with a seeding density of 1.0 × 10^6 cells/mL.

2、Product expression related cases

- IT SFM 03 can improve the efficiency of virus seed preparation and has certain advantages compared to the control medium.

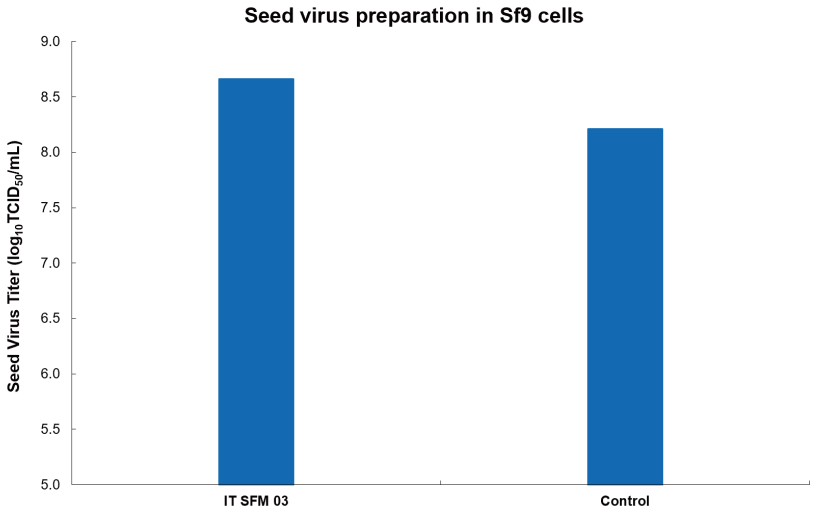


Figure 7. Virus seed was prepared using Sf9 cells in IT SFM 03 and control medium, respectively.

Together,
We Culture Growth

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