CELLiST™

Cell culture media

For better lives

CELLiST™ HEK293 AAV Production Medium

Shortcut to Official Channel

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Overview

CELLiST™ HEK293 AAV Production Medium is a high-yield solution for gene therapy manufacturing, designed to maximize AAV productivity in HEK293 suspension cultures. Leveraging Ajinomoto Group's extensive AminoScience expertise, CELLiST™ HEK293 AAV Production Medium is tailored to enhance genome titer and increase the ratio of full capsids, which is critical for successful gene therapy applications. It focuses on refining key ingredients to improve cellular energy metabolism and promote robust cell proliferation, thereby maximizing AAV production and ensuring high ratios of full capsids. This medium is completely chemically-defined, free of animal components, and produced in a GMP-compliant facility, ensuring high-quality, consistent batches and reduced risk of contamination, supporting effective and reliable gene therapy production.

Features	Benefits
Enriched with amino acids for enhanced cell growth.	Rapid cell proliferation, achieving higher cell densities faster.
Optimized for high performance AAV production	Optimized composition for maximizing cellular energy production to enhance AAV productivity, utilizing Ajinomoto Group's proprietary AminoScience technology
Versatile application	Versatility across cell culture processes and scales, enabling easy substitution of any currently-used media platform.
Chemically defined, protein-free, animal component-free	Reduces risk of viral contamination and ensures batch-to-batch consistency.
Supplied in fine powder form.	Easy to dissolve and allows for prolonged shelf life and ease of transportation.
Available in both test samples and bulk sizes.	Flexibility according to usage requirements.

Product Lists

Product	Catalog No.	Specifications	Amount	Packaging Information
CELLiST™ HEK293 AAV Production Medium	-	Contains poloxamer Contains 7.5 g/L D-Glucose Contains 4mM L-Alanyl-L-Glutamine **Does not** contain thymidine and hypoxanthine **Does not** contain sodium bicarbonate	19.6 g/L	1L / 50L

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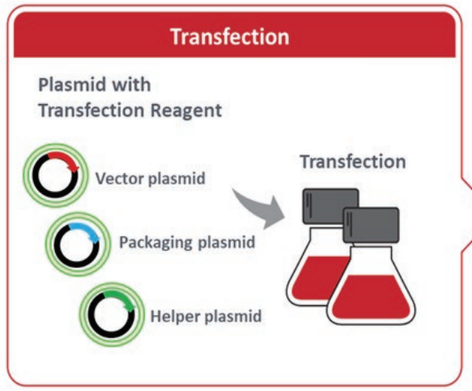
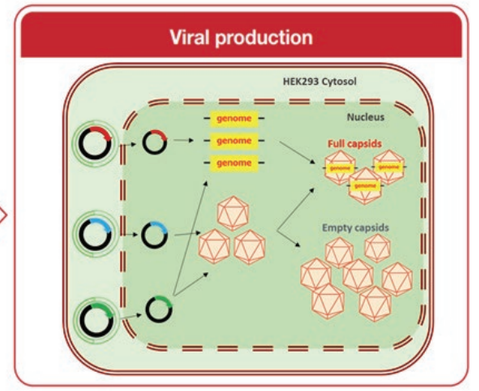
Background Information

Gene therapy is a cutting-edge therapeutic approach aimed at treating or preventing diseases by manipulating genes. It operates by directly altering the genetic material to address the root cause of a disease or alleviate its symptoms. It encompasses two main strategies: (1) *in vivo* genetic therapy, which involves introducing a normal gene to make the required protein for patients who do not produce disease-related proteins, and (2) *ex vivo* genetic therapy, such as CAR-T cell therapy, where cells are engineered outside the body, incorporating disease-treating functions. Viruses are commonly employed to deliver genes into cell nuclei due to their inherent properties. Among these, Adeno-associated viruses (AAV) are extensively utilized in *in vivo* gene therapy. AAVs offer a relatively safer profile as they cannot replicate independently and integrate directly into the host genome. With over 100 serotypes, AAVs boast diverse tissue tropism, facilitating targeted therapy.

In general, HEK293 cells are commonly employed in AAV manufacturing due to their well-established characteristics and capacity for growth in serum-free media, making them suitable for large-scale production. To produce AAVs, HEK293 cells are transfected with (1) vector plasmid carrying therapeutic genes, (2) packaging plasmid containing genes encoding AAV capsid proteins, and (3) helper plasmid harboring genes essential for AAV replication and assembly. This results in the production of target gene-carrying AAV capsids.

CELLiST™ HEK293 AAV Production Medium has been specifically developed to optimize the production of full capsids, drawing on the Ajinomoto Group's decades of accumulated expertise in amino science. This medium is designed to enhance the efficiency of your HEK293-based gene therapy production.





Cell Culture Performance

CELLiST™ HEK293 AAV Production Medium demonstrates superior genome productivity in comparative studies. In a viral production process using a HEK293 cell line, our media consistently outperforms competitor media in both AAV productivity and full capsid ratio.

Productivity and Full Capsid Ratio in AAV Production Using HEK293 Cell Line

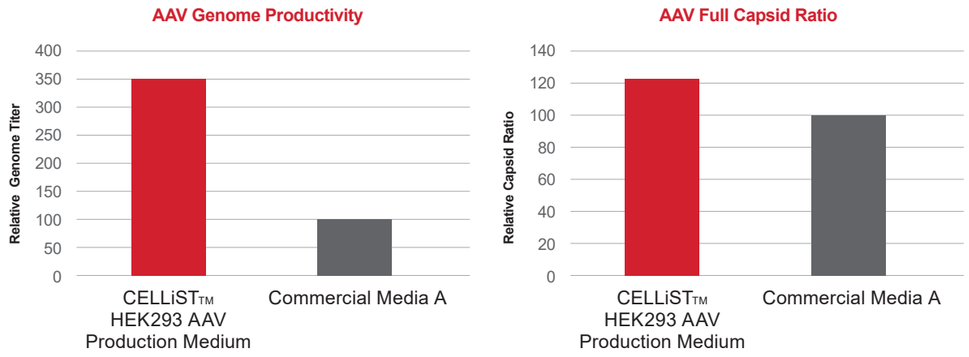


Figure 1. AAV production was carried out using HEK293 cells adapted to CELLiST and competitor media over five passages prior to transfection. AAV genome titers were measured by qPCR, and the full capsid ratio was calculated from the number of AAV particles (vp/mL) measured by ELISA and AAV genome titer (vg/mL) following transfection. Results are shown as relative values, with competitor media set to 100.

Related Products

Product	Type	Features
CELLiST™ HEK293 Vaccine Medium	Basal medium	Stand-alone medium for viral vaccine production at any scale
CELLiST™ HEK293 Vaccine Supplement	Basal medium supplement	Designed to be added for any other HEK293 medium, for enhancing viral production at any scale

Related Technical Documents

CELLiST™

Sales Support

For quoting, ordering, product sample request

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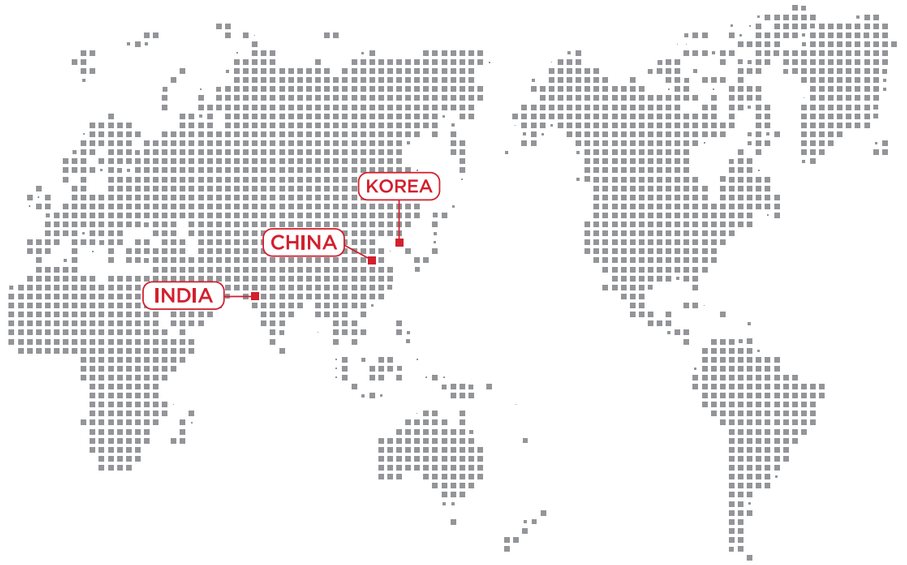
Global CELLiST Solution Centers



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