

# CELL | ST™

Cell culture media  
**For better lives**

CELLiST™ HEK293 Vaccine Media  
for Viral Vaccine Production

Shortcut to  
Official Channel



# CELLiST™ HEK293 Vaccine Media for Viral Vaccine Production

## Overview

CELLiST™ product line offers a high-productivity solution for your HEK293-based viral vector vaccine manufacturing. To overcome the challenges of enhancing both cell growth and viral productivity in HEK293-based vaccine production, CELLiST™ HEK293 Vaccine Media is specifically formulated for optimal process productivity. CELLiST™ HEK293 Vaccine Media is completely chemically-defined and free from animal-origin components. In addition, a HEK293 Vaccine Supplement was developed to boost viral production when combined with any other commercially available vaccine production media. This specially formulated supplement can dramatically improve productivity of any existing process, used in combination with any HEK293 media.

CELLiST™ HEK293 Vaccine Media and Supplement integrate Ajinomoto Group's expertise in AminoScience, accumulated over 70 years of extensive research and development, ensuring a refined and expertly formulated medium for optimal viral vaccine production.



## Properties

| CELLiST™ HEK293 Vaccine Media   | CELLiST™ HEK293 Vaccine Supplement  |
|---|---|
| Stand-alone medium for viral vaccine production at any scale.   | Designed to be added to any other HEK293 medium, for enhancing viral production at any scale. |
| <ul style="list-style-type: none"><li>· Chemically-defined, protein-free medium without animal-derived components, hydrolysates, extracts or any other undefined components.</li><li>· High performance for optimal viral vaccine production.</li><li>· Based on Ajinomoto Group's proprietary AminoScience technology.</li><li>· Test samples as well as bulk size orders are available.</li><li>· Flexible application allowing easy substitution of any current media platform.</li><li>· Manufactured in a cGMP-complied factory.</li></ul> |   |

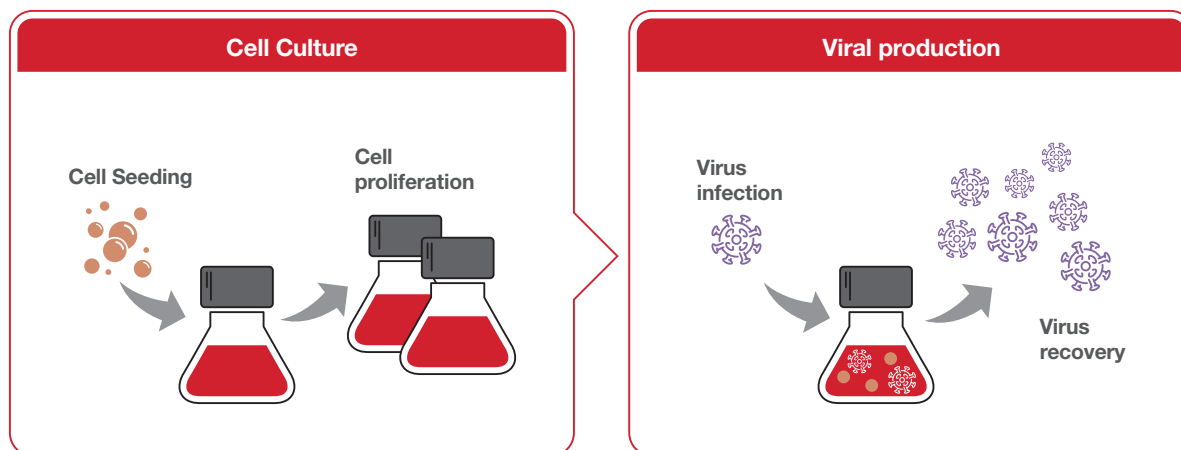


## Background

Viral vector vaccines are widely utilized for a range of diseases, and with the increasing demand for vaccine production, enhancing manufacturing efficiency has become a significant priority for vaccine manufacturers. Viral vaccines utilize their immunization modality by administering either attenuated viruses, inactivated viruses, or virus-like particles, into the body. The typical process for producing viral vaccines begins with the use of cell culture, for obtaining sufficient amount of cell biomass. Subsequently, the cells are transfected with the virus particles, to initiate the production of the virus or virus-like particle by the cells. Finally, virus recovery process is carried out by harvesting the produced virus or virus-like particles (see image below).

HEK293 cells are commonly employed in viral vector vaccine manufacturing due to their well-established characteristics and capacity for growth in serum-free media, making them suitable for large-scale production. Consequently, there is a growing need for advanced vaccine media that can guarantee elevated levels of cell growth and high virus productivity. CELLiST™ HEK293 Vaccine Media and Supplement have been developed in this context based on Ajinomoto Group's extensive knowledge and technical expertise in amino science accumulated for over 70 years.

CELLiST™ HEK293 Vaccine Media supports high cell growth and productivity for vaccine production using any type of HEK293 cells. For customers who do not wish to change their base vaccine medium, we offer an alternative solution by using a specially-formulated vaccine medium supplement, which greatly improves productivity when used together any other commercially available vaccine media.



## Media Performance

### Performance of CELLiST™ HEK293 Vaccine Media

Below figures are viable cell density and virus production results for CELLiST™ HEK293 Vaccine Media compared with several other commercially available media. This performance data was obtained using HEK293.2sus cell line infected with Human adenovirus 32. Cells were cultured for 3 days on petri dish and cultured for additional 2 days after virus infection. Virus production was measured following Plaque-forming assay.

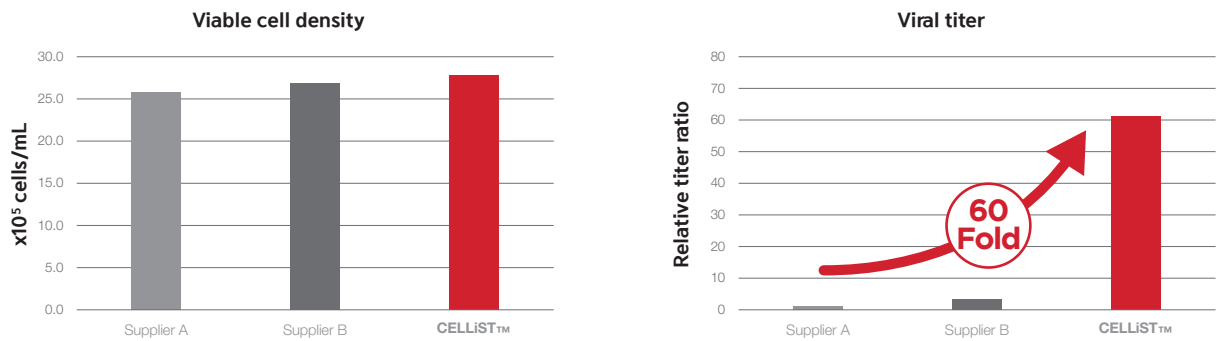
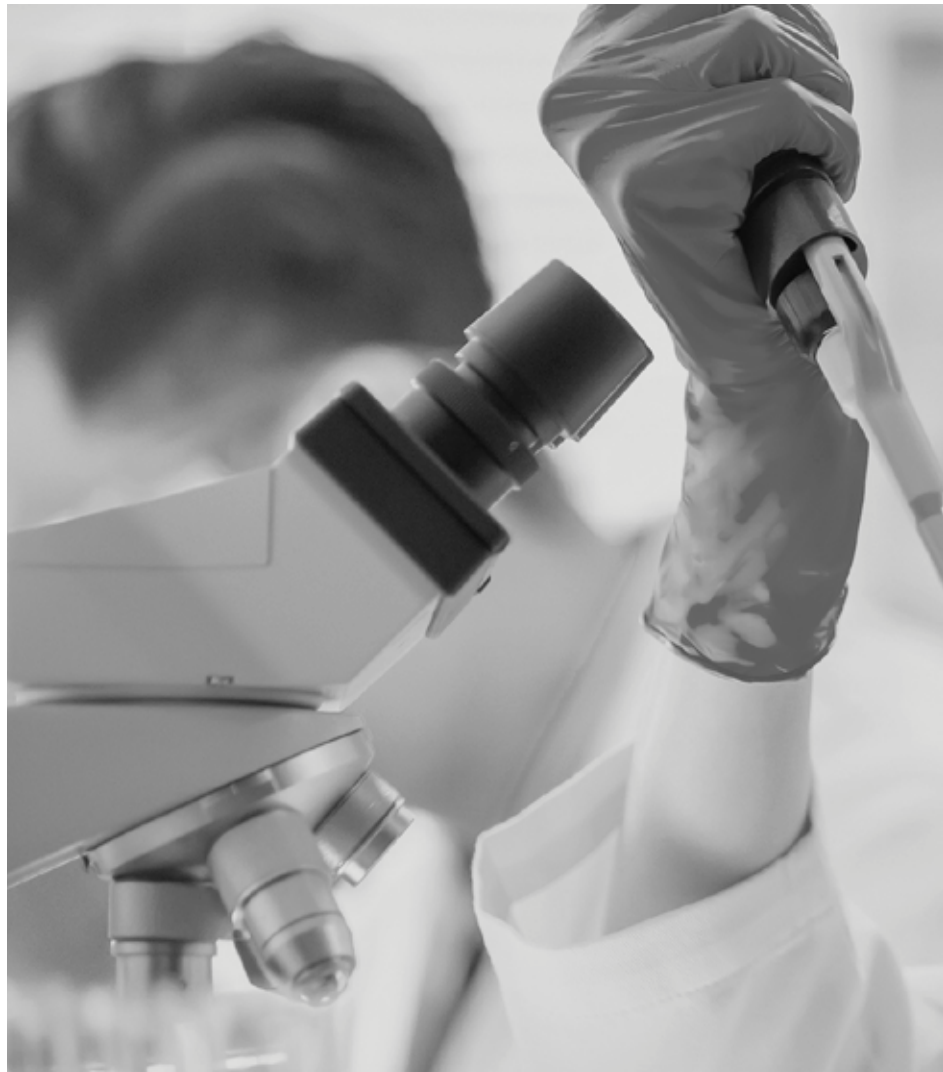


Figure 1. Performance of CELLiST™ compared with two other commercially available HEK293 vaccine media. Viable cell density was measured on day 3 and virus production (Plaque-forming units, PFU) was evaluated 2 days after transfection. Measured PFU values were normalized relative to Supplier A.



### Performance of CELLiST™ HEK293 Vaccine Supplement

CELLiST™ HEK293 Vaccine Supplement was developed for customers who do not wish to replace their existing base vaccine medium but want to improve their process productivity. Addition of this supplement to any commercially available vaccine medium will dramatically improve productivity, as shown below.

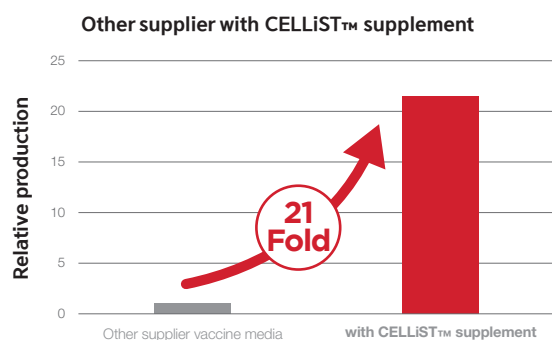
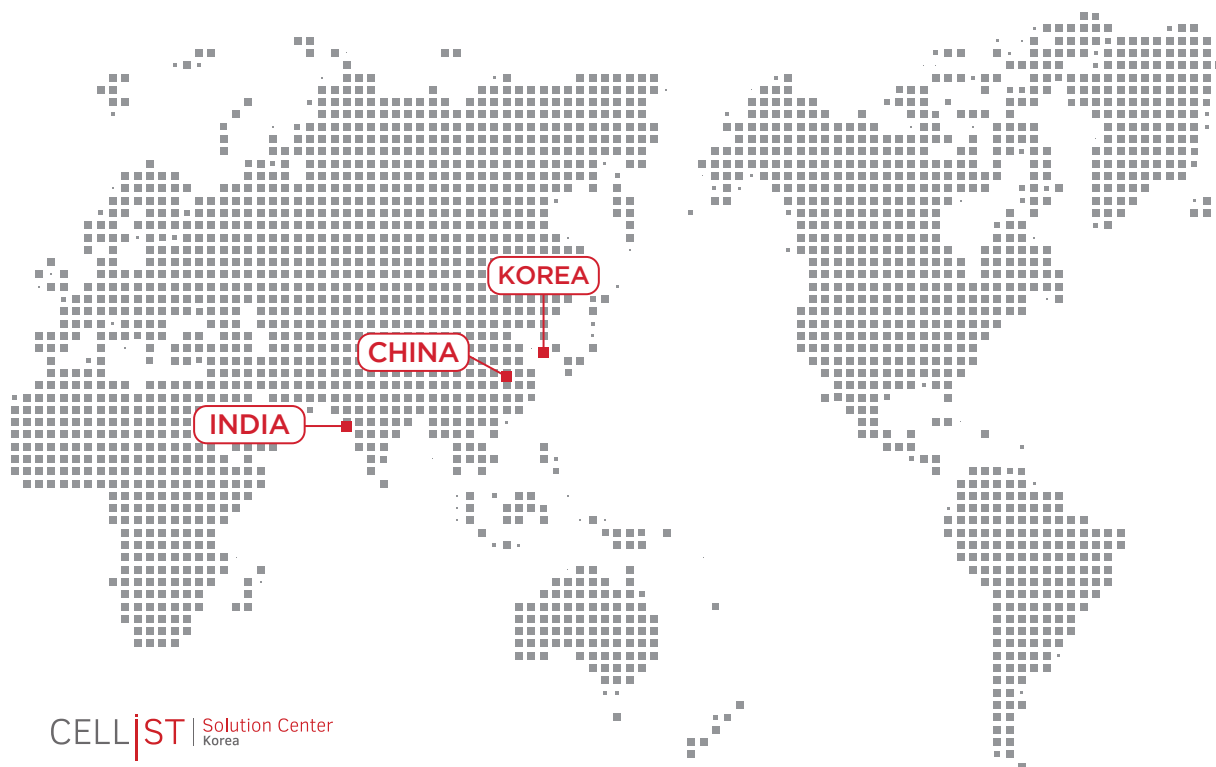


Figure 2. Relative virus production of CELLiST™ HEK293 Vaccine Supplement with another supplier's commercially available vaccine media. Measured PFU values were normalized relative to vaccine medium without the supplement.





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