

# Cell culture media for viral vector applications



# Maximize performance with media for viral vectors applications

Achieving high performance of **viral vector production** requires careful selection of cell culture media. To help you maximize cell culture performance in your manufacturing process, Cytiva offers a comprehensive range of off-the-shelf **HyClone™ cell culture media** for various applications, including adeno-associated virus, lentivirus, and adenovirus production. Our products take you from transfection, screening, and development to large-scale manufacturing.

## The right media for every need

HEK293 cell lines are the most widely used cell lines for transient adeno-associated virus (AAV) and lentivirus (LV) production in gene therapy. To achieve high performance and high titers of viral vectors with HEK293 cells, Cytiva offers animal-derived component-free (ADCF) and chemically defined (CD) **HyClone peak expression and prime expression media**.

These specialized media support efficient cell growth and high viral titers and are compatible with both cell growth and viral vector production processes. HyClone prime expression medium is a line-extension to HyClone peak expression medium. It is specifically formulated to help reduce aggregation for aggregation-prone HEK293 cell lines.

For adenovirus production, Cytiva offers **CDM4HEK293**, which is a chemically defined medium designed to support high viable cell density and adenovirus infection and production in HEK293 cells.

Although the industry is shifting towards serum-free processes, there are still many processes using serum for viral vector production. For such processes, Cytiva offers high quality **fetal bovine serum** and a range of classical media solutions, such as **RPMI, DMEM, and MEM**.

Finally, for customers using insect cell-based processes, Cytiva also provides **SFM4Insect** and **SFX-Insect media**. These media support virus production by offering excellent cell growth with minimal adaptation and both are fully compatible with the baculovirus expression vector system (BEVS).



# Cell culture media for viral vector production: specification

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Media	Cells	AAV	Lenti	Ad	ADCF	CD	Protein-free	Growth factors (peptides)	Hydrolysates	Lipids/ cholesterol	Poloxamer 188	Product code powder	Product code liquid
<u>Peak expression media</u>	HEK293 (suspension)	•	•		•	•		•		•	Powder and liquid	SH31192	SH31193
<u>Prime expression media</u>	HEK293 (suspension)	•	•		•	•		•		•	Powder and liquid	SH31198	SH31199
<u>CDM4HEK293</u>	HEK293 (suspension)			•	•	•	•	•			Liquid	SH30859	SH30858
<u>SFM4Insect</u>	Sf9, Sf21, High Five™	•	•		•				•	•	Powder and liquid	SH30912	SH30913
<u>SFX-Insect</u>	Sf9, Sf21, High Five (T.ni) and D.Mel-2	•	•						•	•	Liquid	SH30350	SH30278

# The HyClone™ media brand

## A legacy of excellence

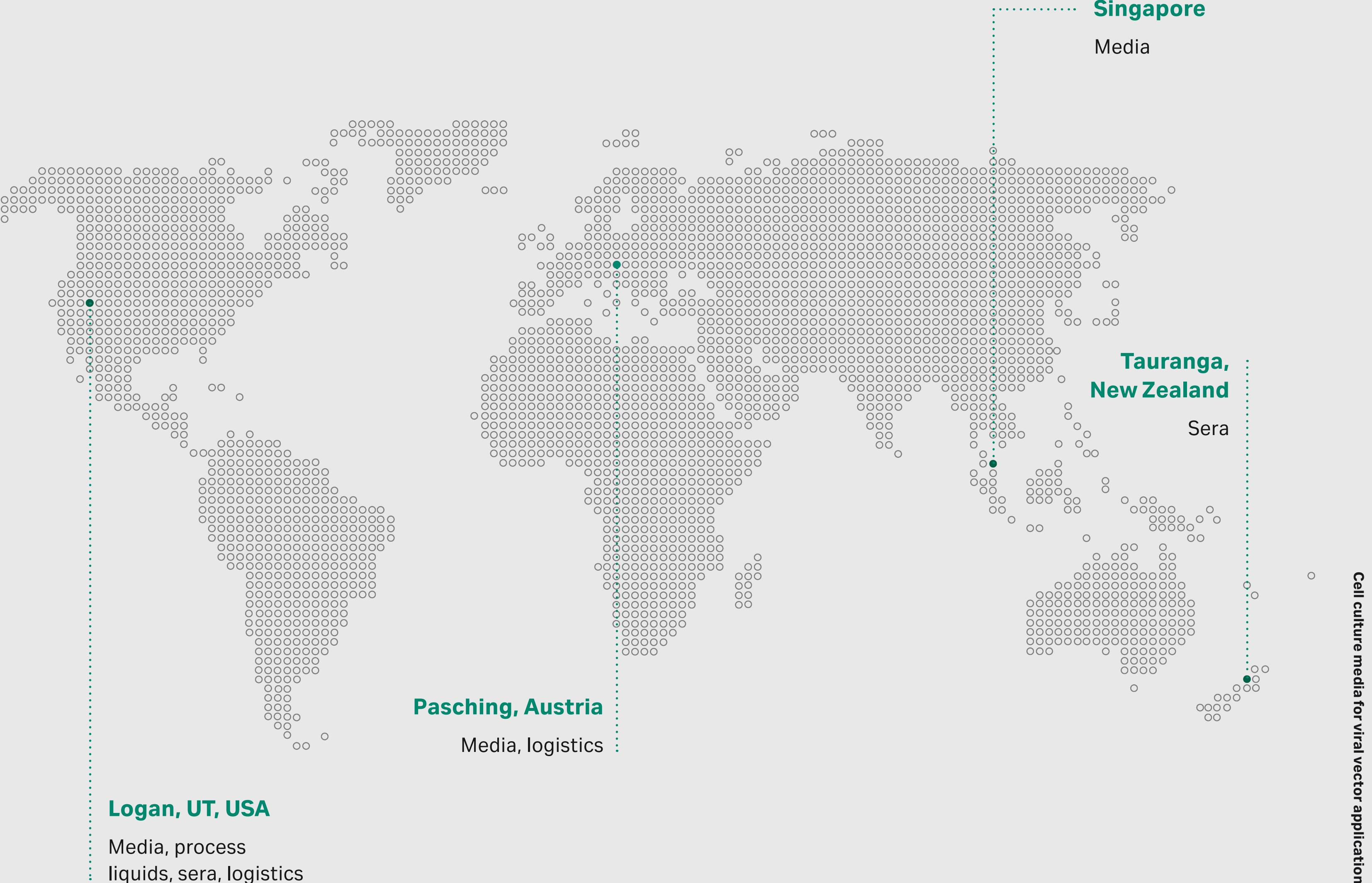
When it comes to viral vector production, the HyClone™ media family delivers all cell culture media and serum product needs. With over 45 years of experience, Cytiva is committed to providing innovative solutions that meet the evolving needs of the biopharmaceutical industry. From R&D to large-scale manufacturing, Cytiva delivers reliable and flexible products, including cell culture media, feed supplements, serum, and process liquids – all with exceptional quality and comprehensive support.

Cytiva offers a wide range of flexible formats and configurations, including liquid and powder options, as well as various containment solutions such as barrels and prefilled, single-use bags. These products are suitable for a variety of bioprocessing modes, including single-use, batch, fed-batch, and continuous processes.

### Quick HyClone media facts

- Backed by more than 45 years of experience manufacturing of cell culture products.
- Facilitated the advancement and manufacturing of over 200 commercialized biologics.
- Global manufacturing footprints in Logan (USA), Pasching (AUT), and Singapore.

[More information on serum.](#)



## Commitment to quality

At Cytiva, quality is engrained into who we are. Every aspect of HyClone cell culture production, from the design to manufacturing, meets stringent quality requirements and raw material control. In addition to component traceability and regulatory-friendly characteristics, our manufacturing is also ISO 13485-certified. This attention to detail enables us to achieve superior and consistent performance across all our global manufacturing sites.

Cytiva ensures product quality through a rigorous three-step approach:

- **Quality by design (QbD):**  
Rigorous design and manufacturing processes
- **Process control:**  
Consistent and improving processes
- **Key attribute testing:**  
Quality checks at every stage

## Rapid response production

We understand speed to market is critical. To accelerate your process development, Cytiva offers rapid response production that can provide you with custom prototype formulations for process development purposes in a short-turnaround time. Once a formulation is confirmed with desired performance, the prototype formulation can be transferred to a custom-made media aimed for use in GMP environment.



# Cell culture media development service

## Intensify cell culture performance by optimizing media and feeds

Just like people, each cell line is unique. We take the time to design a custom solution specifically for your cell line and media to reach your desired project outcomes. We can collaborate with you to provide:

- **Customized prototypes:** Based on your screening results with our off-the-shelf media or prototypes, you will obtain proprietary media variants customized for your cell line.
- **Consultation:** We will assist you with the study design, cell culture media, and analysis while you maintain your cell lines in-house.
- **Full service:** You will receive tailored media development solutions to meet your cell culture objectives at our state-of-the-art facilities.

## Analytical and stability testing

### Gain insightful data to further improve your process performance

Cytiva can help you understand the nutritional requirements of your cell culture and optimize cell culture process to improve productivity and product quality.

All analytical methods are harmonized with current ICH standards. Choose from:

- **Spent media analysis:** Identify key growth and production component levels such as trace elements, amino acids, and vitamins to optimize feed strategy.
- **Stability testing** in a cGMP laboratory and storage facility for your custom formulation.

[More information on cell culture media development and services.](#)



# Supporting your process workflow

## Media preparation

If you choose to hydrate dry powder media onsite, Cytiva can support you with high-quality water for injection (WFI)-grade water, mixers for hydration processes, and sterile filtration steps post-hydration.

Our single-use magnetic mixer systems are cost-effective and ideal equipment for solid-to-liquid applications that enable efficient and reproducible mixing. From 6 to 3000 L, our systems can support you from bench scale all the way to large-scale buffer and media preparation.

In addition, Cytiva offers a variety of filters for media filtration that are validated as efficient mycoplasma control- and/or sterile filters. Filter membranes are available in a variety of sizes and formats to support your engineering and scaling needs. We suggest performing filterability tests to define the optimal solution for your processes. If this is of interest, our technical teams can support trials at your facility.

[More information on filtration.](#)

## Buffers and process liquids

On-site buffer production is one of the most resource-intense activities in production and requires major capital investment. We can help you free up space and resources by providing just-in-time, high-quality custom and standard process liquids in containers and packaging sizes of your choice. Our buffer and process liquids can support your entire production workflow.

[More information on buffers and process liquids.](#)



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