

Media  
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Cell culture

# Gibco CHO media and feed panel evaluations

Accelerate your bioproduction success with diverse, ready-to-use formulations for simplified evaluation

# Diverse formulations. Simplified screenings. Accelerated optimization.

Identifying media and feed formulations that meet your cell line's nutritional requirements is a critical stage of process development.

Gibco™ CHO media and feed panel evaluations, part of Gibco™ Media by Design™ Services, consist of diverse, ready-to-use formulations, designed to help accelerate your screening process. A study plan is provided to help simplify your experimental design and you can rely on our experienced technical team to provide support throughout the evaluation.

Gibco™ products and support services have been empowering bioprocessing innovation for over 60 years. With a consistent track record of success, our innovative solutions and global team of bioproduction professionals can help you meet your project goals and accelerate your process to commercial manufacturing.



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# The importance of formulation diversity

A panel evaluation provides a significant advantage over a similar evaluation using catalog products due to the diversity of the formulations. Media and feed screenings completed using only catalog products often provide limited information about the formulations being tested, making it challenging to set up an evaluation that is truly diverse.

Testing a broad range of formulations increases the possibility that you will be able to determine a nutrient composition that best supports your clone's specific needs.

Gibco CHO media and feed panels have been designed with diversity in mind, providing you with chemically defined (CD) and animal origin-free (AOF) products that have distinct formulations. By assessing a wide range of media formulations, each with a distinct nutrient profile, it becomes easier to identify a lead formulation that can help drive increases in productivity and quality.

Table 1: CHO media panel formulations—key component heat map.

Components	Medium #1	Medium #2	Medium #3	Medium #4	Medium #5	Medium #6	Medium #9A	Medium #13	Medium #14
Amino acids	High	High	High	High	High	High	High	High	High
Vitamins	High	High	High	High	High	High	High	High	High
Lipids	High	High	High	High	High	High	High	High	High
Trace metals	High	High	High	High	High	High	High	High	High
Amines	High	High	High	High	High	High	High	High	High
Nucleosides	High	High	High	High	High	High	High	High	High
Organic acids	High	High	High	High	High	High	High	High	High

High level Low level

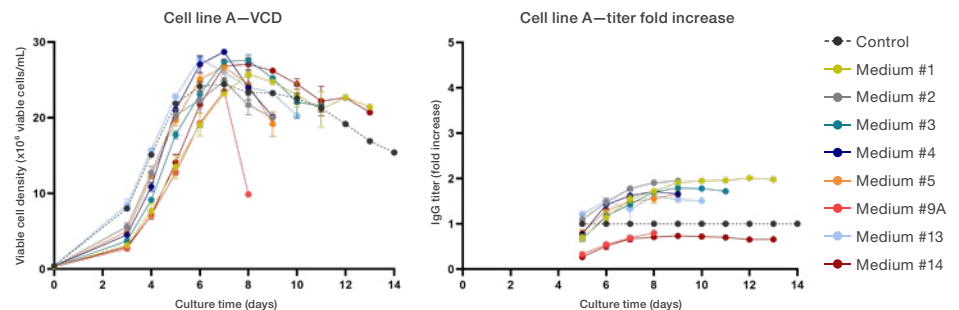
Table 2: CHO feed panel formulations—key component heat map.

Components	Feed #1	Feed #2	Feed #3	Feed #4	Feed #5
Amino acids	High	High	High	High	High
Vitamins	High	High	High	High	High
Lipids	High	High	High	High	High
Trace metals	High	High	High	High	High
Amines	High	High	High	High	High
Nucleosides	High	High	High	High	High
Organic acids	High	High	High	High	High

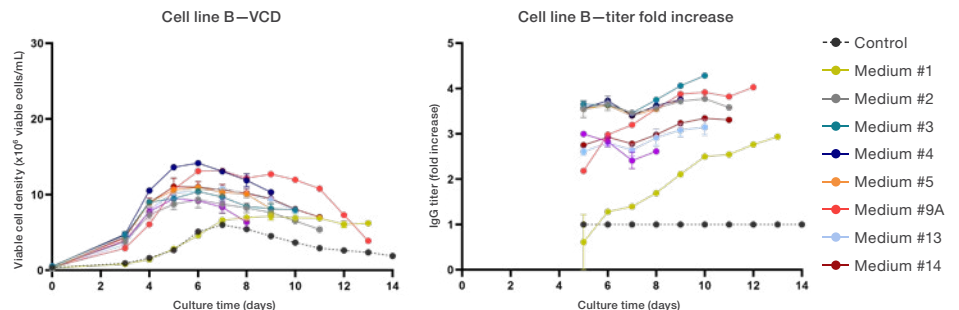
## Improved outcomes Gibco CHO media panel evaluation

Two diverse CHO cell lines with CHO-K1 and CHO-S lineages, each expressing a different molecule, were tested in microbioreactors to evaluate the CHO media panel.

The CHO media panel demonstrated diversity in cell growth and productivity for cell line A (Figure 1) and cell line B (Figure 2) in simple fed-batch (SFB) mode (glucose feed only).



**Figure 1. Cell growth and productivity of cell line A using the Gibco media panel.** Medium #4 showed the highest peak VCD over the control. Medium #1 showed a 2.0-fold increase in titer over the control. (n=2, error bars represent the standard error of the mean).

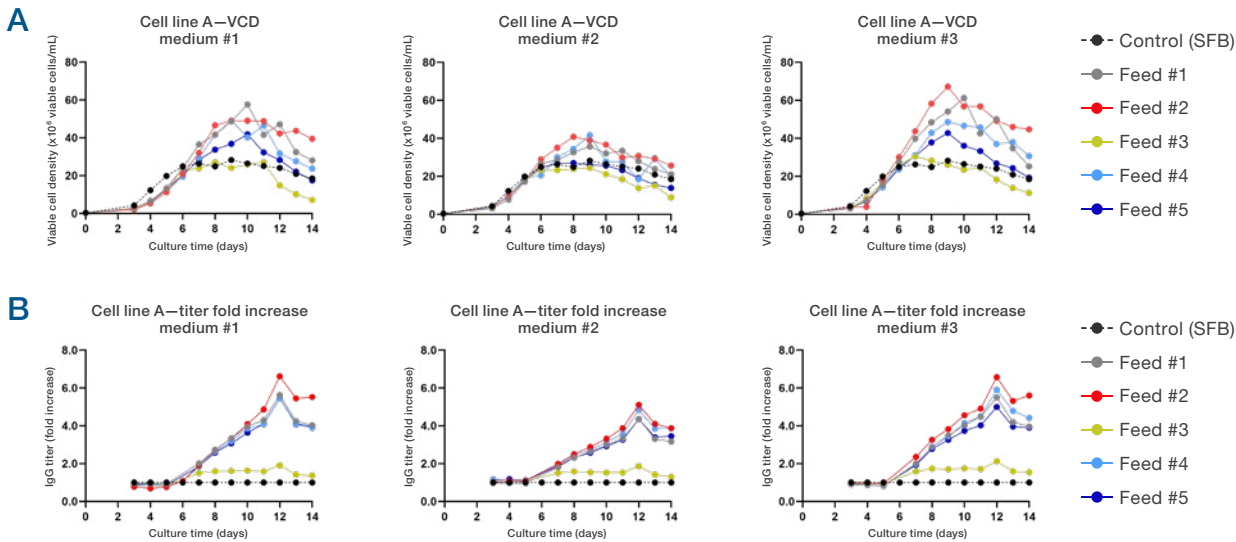


**Figure 2. Cell growth and productivity of cell line B using the Gibco media panel.** All media conditions showed increases in peak VCD over the control with medium #4 being the highest. Medium #3 showed a 4.2-fold increase in titer over the control. (n=2, error bars represent the standard error of the mean).

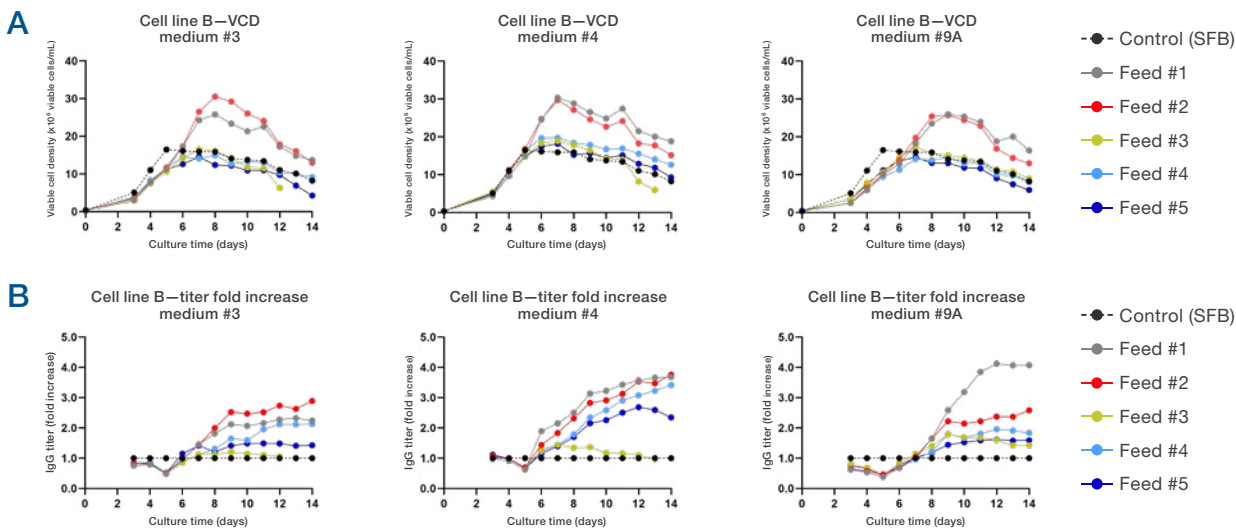
# Gibco CHO feed panel evaluation

Based on titer performance from the media panel experiment presented above, the three lead media panel formulations for each cell line were chosen.

Cell growth and productivity for cell lines A (Figure 3) and B (Figure 4) in these media were evaluated in combination with all five panel feeds.



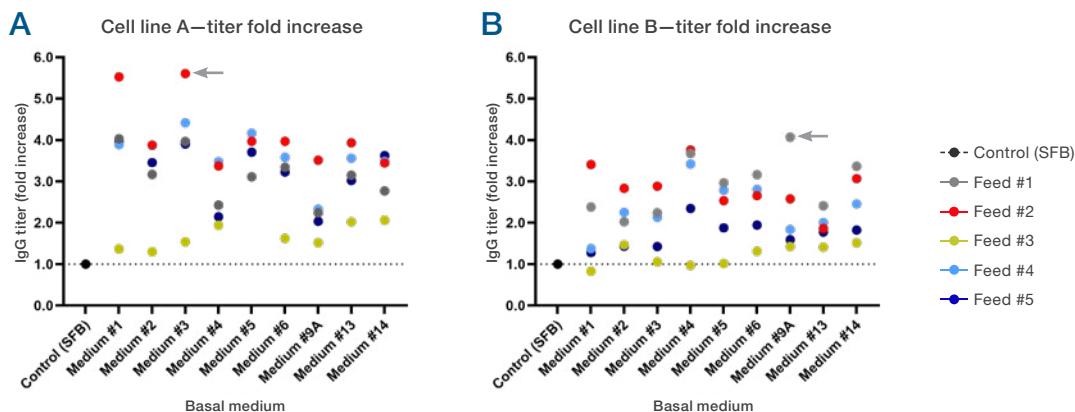
**Figure 3. Evaluation of cell line A using the Gibco media and feed panels.** Cell growth (A) and productivity (B) of cell line A. Medium #3 with feed #2 showed the highest peak VCD compared to other conditions. Feed #2 demonstrated the highest titer increase over the SFB control.



**Figure 4. Evaluation of cell line B using the Gibco media and feed panels.** Cell growth (A) and productivity (B) of cell line B. Feeds #1 and #2 had overall higher peak VCDs compared to the other feeds. Feeds #1 and #2 showed the highest titer increase over the SFB control with all media screened for this cell line.

# Gibco CHO media and feed panel evaluation: titer fold increase comparison

A wide range of responses from diverse formulations was demonstrated with the CHO media and feed panels across cell lines A and B (Figure 5).



**Figure 5. Titer fold increase using the Gibco media and feed panels.** As indicated by the arrows, the highest increases were observed using medium #3 with feed #2 for cell line A (A), and medium #9A with feed #1 for cell line B (B).

## Rapid customization, technical support, and consultation

Our panel evaluations offer rapid access to media and feed libraries and consultative technical support, helping you to efficiently test and compare multiple formulations.

### Utilizing our service, you can receive:

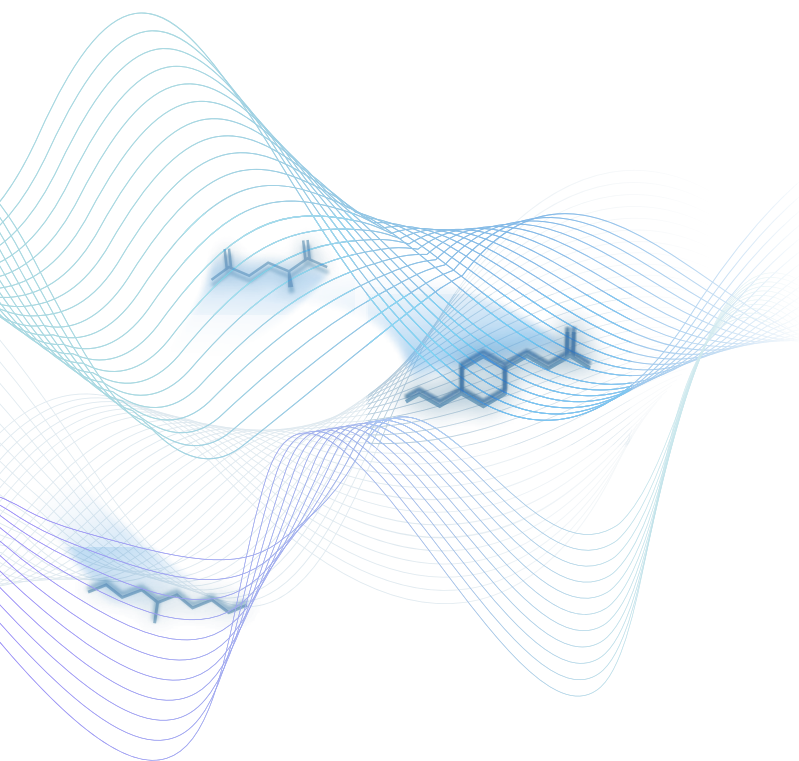
- Diverse, ready-to-use CHO media and feed formulations to help identify an optimal nutrient balance for your target clone
- Technical support throughout the process as an extension of your R&D team, providing consultation, data analysis, and summary reports
- An expedited route to further media optimization and CGMP manufacturing

### Upon completion of your experiment:

Your field application scientist (FAS) will review the data worksheets and determine the best path forward and potential next steps (Table 3).

**Table 3. Actions and potential next steps from an FAS consultation.**

Action	Potential next steps
Review growth, metabolites, titer, and product quality data (when applicable)	By analyzing growth and titer, we can suggest opportunities for further optimization or analysis
Determine if spent media analysis would be helpful to further understand the nutrient utilization profiles	Identifying modifications to the panel formulation or process to boost culture productivity
Identify if additional media development services could further improve outcomes	Engagement in a media optimization project or manufacturing of a custom formulation
An optimal formulation can be identified	Proceed to small-batch rapid prototyping or custom formulation manufacturing services



Find out more about our panel evaluations and discover how we can help you accelerate your media and feed development by completing our [online consultation form](#).

**Resources**



Watch our on-demand webinar [Rapid media and feed screening options for targeted CHO clones](#)



Read an article [Q&A: Using media and feed panels during media development](#)

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Media and feed panel evaluations are part of the comprehensive Media by Design Services portfolio.

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Find out more at [thermofisher.com/mediabydesign](https://thermofisher.com/mediabydesign)



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