

gibco



Gibco cell line development services

Custom programs to fit your unique needs

ThermoFisher
SCIENTIFIC

Cell line development process

Gibco™ BioProduction Services can partner with you to provide easily scalable, stable, and high-quality production cell lines for your product development.

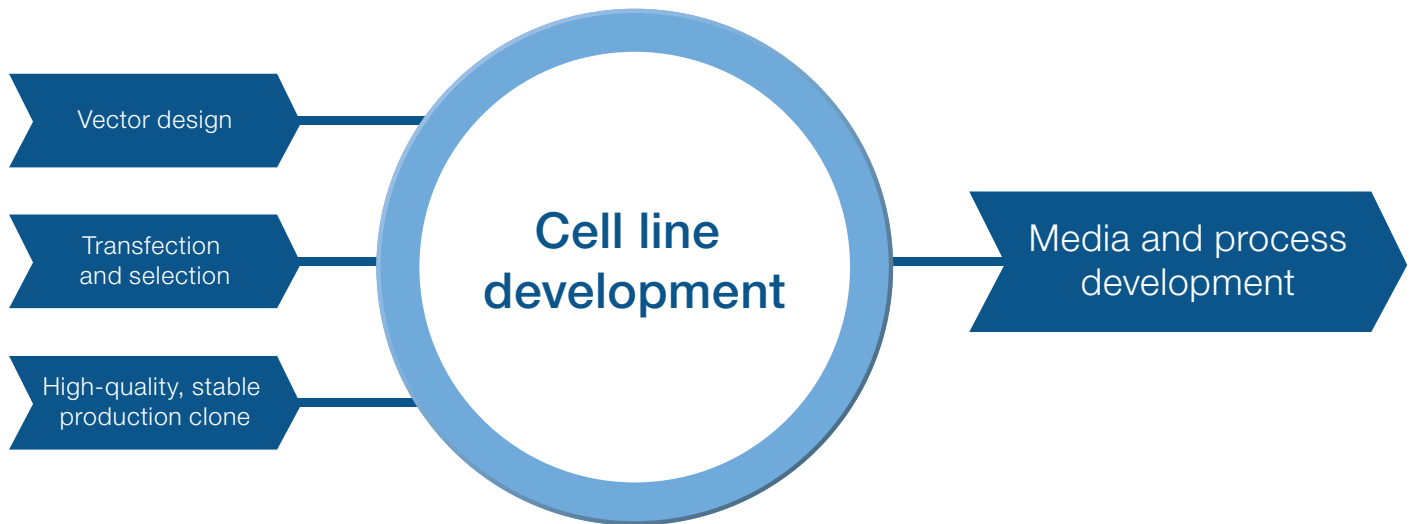


Figure 1. We can begin to assist you with your cell line development project at any step in the workflow, including vector construction, transfection and selection, single cell cloning and screening, stability, or cell banking.

Choose from our comprehensive portfolio of cell line development solutions ranging from vector construction through master cell banking. We can work with you to tailor a solution to fit your unique needs.

Benefits of using Gibco BioProduction Services include:

- **Speed to market**—short timelines, transfection to stable clone in 4 months
- **Seamless transfer into process optimization**—one animal origin-free (AOF) medium used throughout the entire workflow
- **Cost savings**—one-time licensing fee with no royalty payments
- **Easier and more cost-effective regulatory filing**—established, well-characterized parental CHO host cell lines banked under cGMP guidelines with complete lineage documentation packages

If desired, upon completion of your cell line development project, our experienced team of scientists can further assist you with media and feed optimization for your lead clone.



Parental cell lines offerings

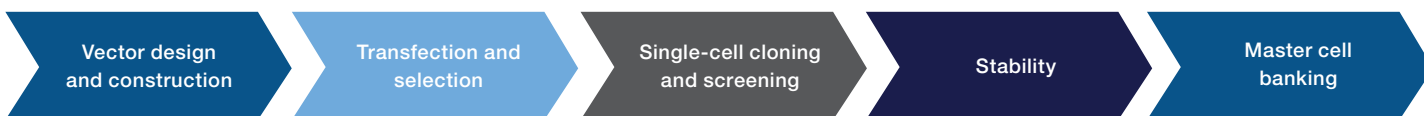
Our GMP- and regulatory-compliant Gibco™ CHO-S™ and CHO DG44 suspension host cell lines have been adapted into an AOF chemically defined medium.



Figure 2. Our CHO-S suspension host cell lines can take you from transfection to clone screening in 4 months and our DG44 suspension host cell lines can take you from transfection to clone screening in 5 months.



We provide cell development support throughout the workflow



Vector design and construction

Optimization of gene of interest within the vector construct can increase expression level of desired proteins. Each of our CHO cell line platforms is complemented with vectors designed for high-level expression.

Transfection and selection

Gibco BioProduction Services will transfect your vector construct into our CHO-S or CHO DG44 cell line using a lipid-based reagent. We then perform two rounds of dual selection followed by productivity assessments of the pools once the cells have recovered. Performing two rounds of dual selection provides a higher likelihood that only those cells producing high levels of the protein of interest move on to the next phase of the process.

Single cell cloning and screening

Our Gibco BioProduction Services team takes risk mitigation very seriously. As such, clones are screened in serum-free medium to ensure the absence of animal-origin material. Having an AOF clone can help provide you improved control over product development. In addition, we utilize ClonePix™ technology to perform a primary productivity screen of your clones. This high-throughput technology not only allows us to screen thousands of clones in just a few hours, it reduces contamination risks that manual methods may introduce. A secondary screening is then performed followed by screening of top-producing clones in ambr™ 15 (Sartorius) technology, a high-throughput microscale bioreactor system. The ambr 15 technology helps to facilitate process development and determine feed responsiveness of the clones.

Stability

Having a stable clone is crucial to maintaining production of your targeted protein over time. This is one of the most important criteria for the successful manufacture of your molecule. This is why our scientists follow standard protocols to assess cell growth rates and protein production stability over time, helping to identify stable clones.

Master cell banking

At Gibco BioProduction Services, we offer multiple outsourcing options for all GMP master and working cell banks ranging from cell bank creation to characterization.

Cell line development case study

Situation	Customer had a DG44 clone expressing a mAb of interest. Upon completion of medium optimization by another supplier, the titer increased from ~150 mg/L to 600 mg/L. Dissatisfied, the customer turned to Gibco BioProduction Services.
Our response	Using the Gibco™ Freedom™ CHO-S™ Kit, we developed stable clones expressing the client's mAb of interest.
Value delivered	The customer now has a lead CHO-S clone before media optimization with titer nearly double that of their DG44 clone after optimization with competitor's medium. Customer is continuing with media and feed optimization service in order to further increase titer for their lead clone.

To find out more, please go to thermofisher.com/gibcocelllinedevelopment

