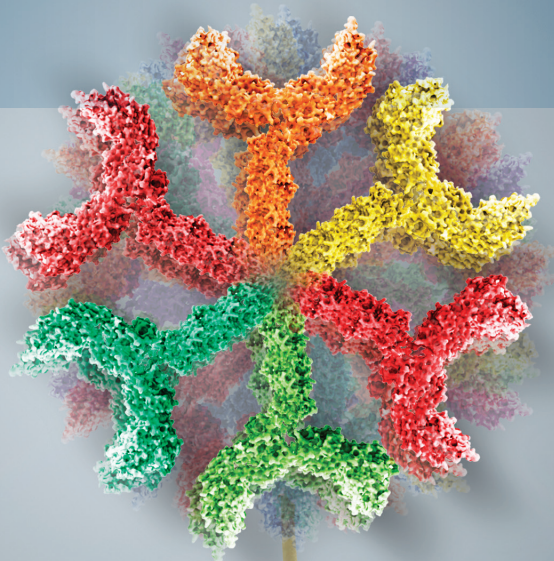


gibco



WELCOME TO THE FUTURE OF TRANSIENT EXPRESSION

Gibco Expi Expression Systems for biologics development



ThermoFisher
SCIENTIFIC



APPROXIMATE

200

150

100

The power of biologics

Biologics are pharmaceutical drugs derived from or manufactured in living systems. These innovative therapies have a profound impact on treating serious disease and improving the lives of patients worldwide.

Recombinant protein expression is one of the most powerful techniques used in biologics development. Harnessing the power of recombinant DNA within living cells enables development of lifesaving therapeutic proteins.

Gibco™ Expi™ Expression Systems help accelerate that process by bringing together specialized high-density cells, Gibco™ media, and Invitrogen™ molecular biology and Lipofectamine™ transfection technologies. That combination of advanced solutions streamlines development of protein-based drugs and vaccines, so researchers like you can develop life-changing biologics faster.

More protein, less volume, **less time.**



Gibco ExpiCHO Expression System

Maintain protein quality and function from research to bioproduction

Switching from 293 to CHO cells during drug development may cost you precious time and create uncertainty. Now there's a better way. The Gibco™ ExpiCHO™ Expression System provides the highest protein yields possible in a transient system. That means you can always work in CHO cells, starting from discovery.

Find out more at thermofisher.com/expicho

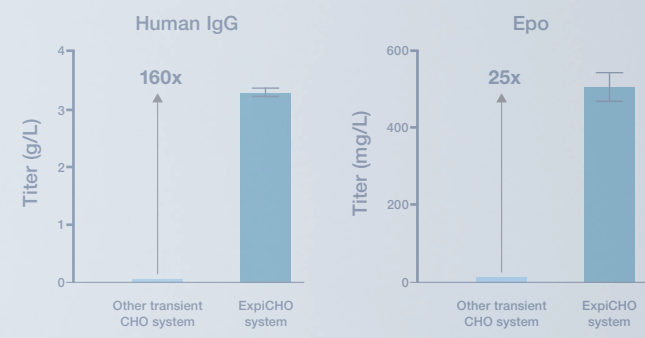


Included in the system:

- Two vials of frozen Gibco™ ExpiCHO-S™ Cells
- 1 L of Gibco™ ExpiCHO™ Expression Medium
- One Gibco™ ExpiFectamine™ CHO Transfection Kit, sufficient to transfect 1 L of culture
- Gibco™ OptiPRO™ Serum-Free Medium
- One vial of Gibco™ Antibody-Expressing Positive Control Vector





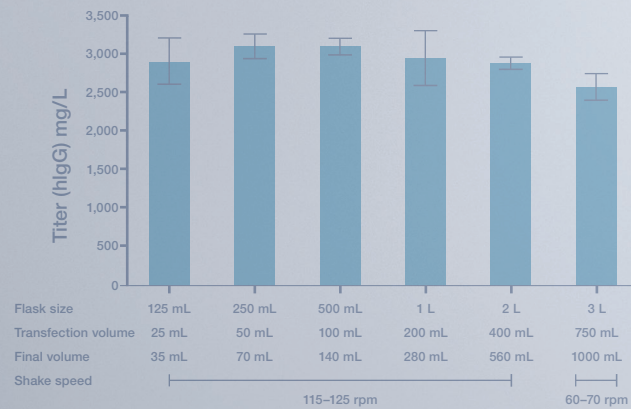


Get 20x more protein in less volume

The ExpiCHO Expression System delivers superior protein yields compared to alternative transient systems, saving you precious time, incubator space, and plasticware costs. Now you can express the same amount of protein in a single flask that other transient CHO systems express in 20 or more flasks.

Choose a system that flexes to fit every phase of your development process

The ExpiCHO Expression System provides multiple protocols to fit your workflow. The system can scale up or down based on your needs for greater throughput early in discovery or higher yields as you focus on selected proteins.





“The ExpiCHO system is so easy it takes less work than making proteins in *E. coli*. The scalability of the system is fantastic. I can express 30 different mAbs simultaneously, and then pick the ones I like and scale up to grams. The ExpiCHO system is a revolutionary lifesaver for us.”

– Arjen van den Berg, PhD, Senior Scientist, Cellular and Molecular Medicine,
University of California at San Diego

“The ExpiCHO system helps speed up our developmental timelines by eliminating the need to have different hosts for transient versus stable expression. This eliminates a key quality risk when we transition from research into development.”

– Neeraj Kohli, Associate Director at Merrimack Pharmaceuticals



APPROXIMATE VOLUME

200

150

100



APPROXIMATE VOL

200

150

100

Gibco Expi293 Expression System

Trust the industry standard for rapid, high-yield transient HEK 293 expression

Every minute counts when it comes to expressing drug candidates. That's why the Gibco™ Expi293™ Expression System is the tried-and-true choice for transient expression in 293 cells. This rapid, high-yield system allows you to access recombinant 293–derived proteins in just five to seven days, so you get what you need faster.

Find out more at thermofisher.com/exp293



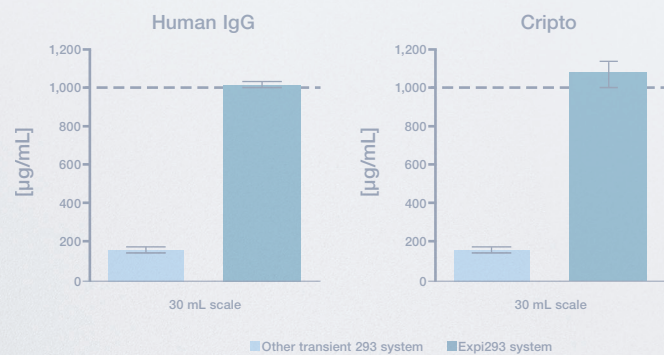
Included in the system:

- Two vials of frozen Gibco™ Expi293F™ Cells
- 1 L of Gibco™ Expi293™ Expression Medium
- One Gibco™ ExpiFectamine™ 293 Transfection Kit, sufficient to transfect 1 L of culture
- Gibco™ Opti-MEM™ I Reduced Serum Medium
- One vial of Antibody-Expressing Positive Control Vector



Get more protein while reducing hands-on time and waste

The Expi293 Expression System delivers up to 6x more protein production in just one week, compared with other transient 293 systems that can take two weeks or more. And it requires less plasticware, which means less waste and more incubator space.

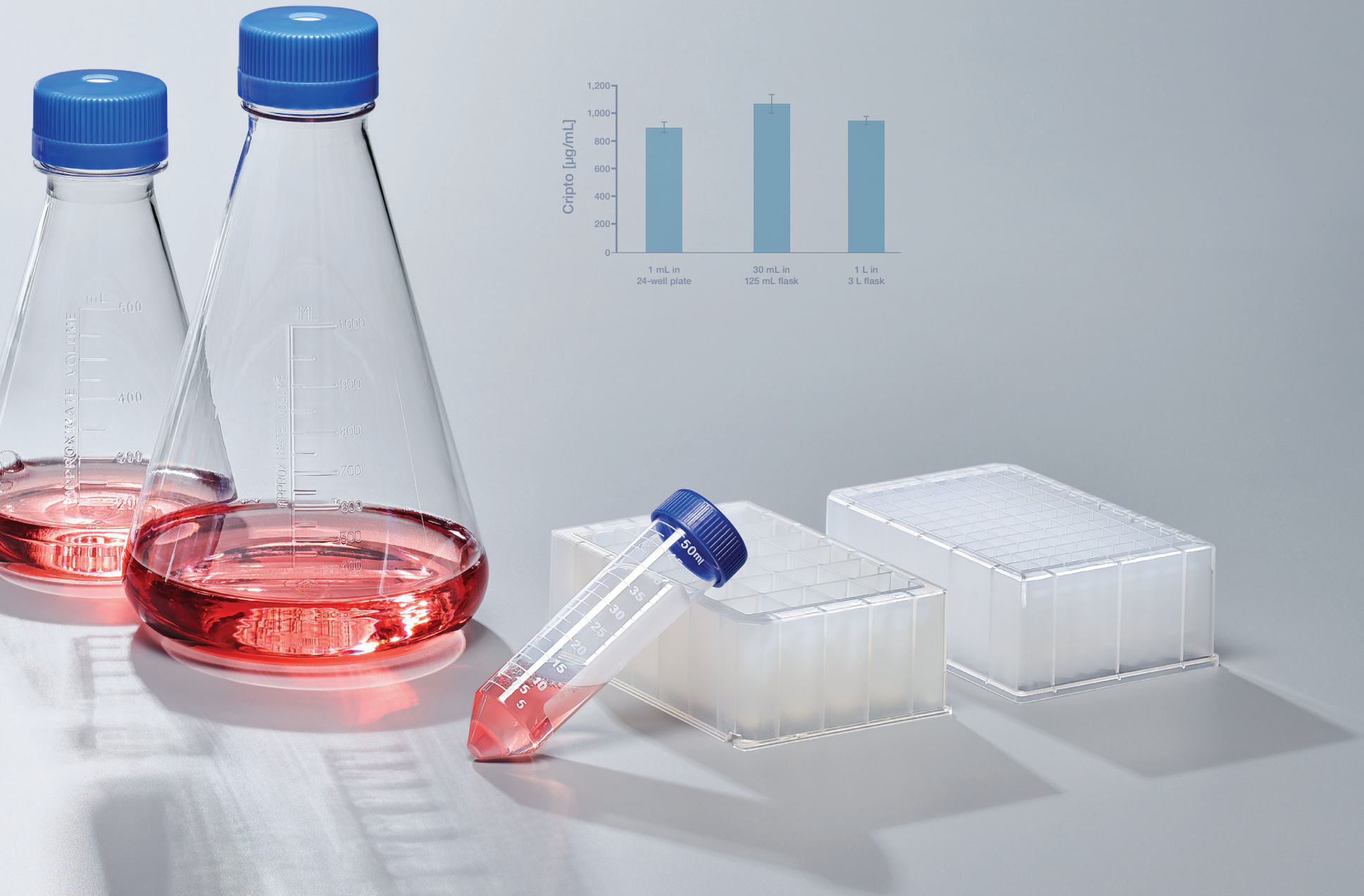
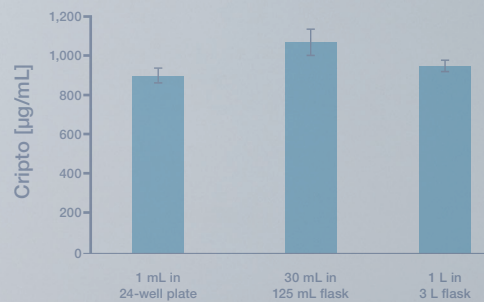






Use your preferred culture format without sacrificing yield

The Expi293 Expression System is designed to support robust protein production in a variety of culture vessels. In small- and large-scale formats—and everything in between—you can express the protein you need.



“In all my years working with transient expression systems the Expi293™ Expression System is the first one to achieve 2.3 grams per liter, beating every other HEK293 transient expression system.”

– **Jelte-Jan Reitsma, Research Associate**

“I can produce more protein in less volume and less time, that’s fantastic! It’s like enjoying the benefits of a stable cell line system, without going through the hassle of establishing one. Now we scale up and we can get what we need. It’s robust, it’s scalable, and it’s reproducible. It’s great.”

– Neeraj Kohli, Associate Director at Merrimack Pharmaceuticals

Achieve superior yields of difficult-to-express membrane proteins

More than 50% of drug targets are membrane proteins such as G protein-coupled receptors (GPCRs) due to their pivotal role in a wide variety of cellular processes. The Expi293 system delivers the high levels of these difficult-to-express proteins that researchers need.

Additionally, the Gibco™ Expi293™ MembranePro™ System delivers membrane proteins on virus-like particles (VLPs), and makes it easy to collect VLPs from the culture medium. This enables a workflow that is much less labor-intensive than preparation of traditional membrane fractions.

Find out more at thermofisher.com/exp293

Protein production services

Get fast, reliable protein production from mammalian cells

The Invitrogen™ GeneArt™ Gene-to-Protein service is a fast way to get correctly folded, native protein from mammalian cells. Starting with only the DNA sequence, we can provide purified protein typically within 30 business days. We clone your expression-optimized gene into one of our vectors, produce transfection-grade plasmid DNA, and then use one of our advanced Expi expression systems to obtain high-protein yields.

Find out more at thermofisher.com/g2pservice

Expi293F cGMP cell line licensing

Use one cell line from research to production

We offer a fully documented cGMP-banked cell line for clinical-grade manufacture of recombinant proteins and viruses delivering equivalent performance to the catalog version of our Expi293F cell.

For licensing information, contact us at outlicensing@thermofisher.com

Invitrogen PureLink Expi Endotoxin-Free Plasmid Purification Kits

Start with the highest-quality DNA

Impure DNA can dramatically influence both protein solubility and expression. Get better results by starting with high-quality DNA isolated using Invitrogen™ PureLink™ Expi Endotoxin-Free Plasmid Purification Kits. These kits have a quick and simple protocol, and have been validated with the ExpiCHO and Expi293 Expression Systems to maximize your expression.

Find out more at thermofisher.com/purelink

Thermo Scientific M-PER Mammalian Protein Extraction Reagent

Efficiently extract precious intracellular proteins

Set your precious intracellular proteins free with Thermo Scientific™ M-PER™ Protein Extraction Reagent. This highly efficient, gentle reagent requires little to no mixing and is compatible with your downstream biological applications and assays.

Find out more at thermofisher.com/mper

Thermo Scientific Nalgene Sterile Single-Use Erlenmeyer Flasks

Save time and avoid contamination risk

Sterile, single-use Thermo Scientific™ Nalgene™ flasks are made from light, break-resistant, crystal-clear PETG, so you can express with confidence. All sizes are available in vented or non-vented formats, and with plain or baffled bottoms for use on the benchtop or shaker table. See protocols for flasks validated with ExpiCHO and Expi293 Expression systems.

See all culture flasks at thermofisher.com/nalgene





Ordering information

Product	Size	Cat. No.
Protein Expression System Kit		
ExpiCHO Expression System Kit	1 kit	A29133
Expi293 Expression System Kit	1 kit	A14635
Reorder ExpiCHO System Kit components		
ExpiCHO Expression Medium	1,000 mL	A2910001
	6 x 1 L	A2910002
	10 L	A2910003
	20 L	A2910004
ExpiFectamine CHO Transfection Kit	For 1 L of culture	A29129
	For 10 L of culture	A29130
	For 50 L of culture	A29131
ExpiCHO-S Cells	1 mL	A29127
	6 x 1 mL	A29132
Gibco™ OptiPRO™ SFM	100 mL	12309050
Reorder Expi293 System Kit components		
Expi293 Expression Medium	1,000 mL	A1435101
	6 x 1 L	A1435102
	10 L	A1435103
	20 L	A1435104
ExpiFectamine 293 Transfection Kit	For 1 L of culture	A14524
	For 10 L of culture	A14525
	For 50 L of culture	A14526
Expi293F Cells	1 mL	A14527
	6 x 1 mL	A14528
Gibco™ Opti-MEM™ I Reduced Serum Medium	100 mL	31985062

Ordering information

Products	Size	Cat. No.
Related products		
Gibco Antibody-Expressing Positive Control Vector	1 vial	A14662
Invitrogen™ pcDNA™ 3.4 TOPO TA Cloning Kit	1 kit	A14697
Invitrogen™ pcDNA™ 3.3 TOPO TA Cloning Kit	1 kit	K830001
PureLink Expi Endotoxin-Free Mega Plasmid Purification Kit	1 kit	A31232
PureLink Expi Endotoxin-Free Giga Plasmid Purification Kit	1 kit	A31233
	25 mL	78503
M-PER Mammalian Protein Extraction Reagent	250 mL	78501
	1 L	78505
	24 x 125 mL	4115-0125
	12 x 250 mL	4115-0250
	12 x 500 mL	4115-0500
Nalgene Sterile Single-Use Erlenmeyer Flasks	6 x 1,000 mL	4115-1000
	4 x 2,000 mL	4115-2000
	4 x 2,800 mL	4115-2800
	24 x 125 mL	4116-0125
	12 x 250 mL	4116-0250
	12 x 500 mL	4116-0500
Nalgene Sterile Single-Use Erlenmeyer Flasks, Baffled	6 x 1,000 mL	4116-1000
	4 x 2,000 mL	4116-2000
	4 x 2,800 mL	4116-2800

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Order online at thermofisher.com/proteinexpression

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