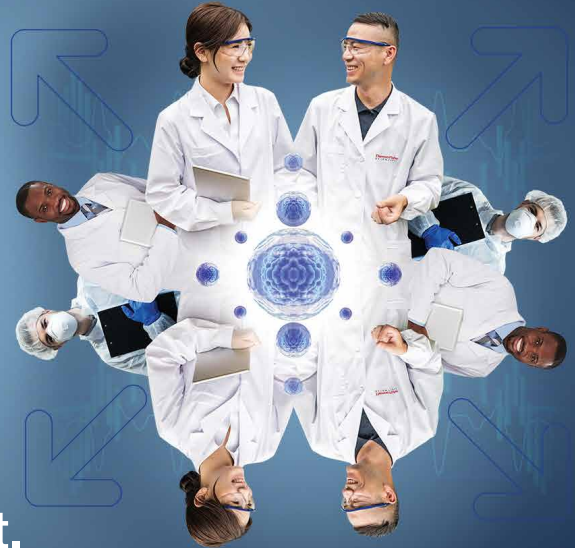


Freedom cell line development kits

Licensing simplicity. Workflow scalability. Superior technical support.



Discover cell line development freedom and advance your process

Cell line development involves multiple complex processes requiring consistency and reproducible results. That's why Gibco™ Freedom™ cell line development kits are designed to provide you with integrated, stable cell line development solutions to simplify your development workflow and accelerate your journey to commercial manufacturing.

Freedom kits contain the components for beginning-to-end cloning and expression

Benefits include:

- Regulatory-friendly, cGMP-banked cell lines
- Fast and efficient workflow for the creation of stable clones
- Proven for IgG production

Collaboration options and flexible licensing

Choose to work internally using our Freedom kit solutions; work with dedicated technical assistance from the Gibco™ PD-Express™ Services team; or work in collaboration with a contracted vendor of your choice. Freedom cell line development kits also provide you with simplified, royalty-free licensing options. (See Table 1 on page 2.)



The new Gibco™ Freedom™ ExpiCHO-S Kit joins the other kits, including the Gibco™ Freedom™ CHO-S™ and Gibco™ Freedom™ DG44 kits.

Consultative, experienced support

Freedom kits include support from the Gibco™ team of field application scientists (FAS) who are experienced in biopharmaceutical processes and in the use and applications of Gibco™ products and services. The FAS team has broad experience in cell culture, process characterization, scale-up, analytics, product development, process optimization, and tech transfer—a skill set that can help shorten your time to market and save you money. We provide the guidance and step-by-step support you need for successful cell line development.

Gibco Freedom ExpiCHO-S and CHO-S kits were developed in collaboration with ProBioGen AG.

ProBioGen
Intelligent Biopharmaceutical Solutions

Consistently high performance and stability

The Freedom ExpiCHO-S Kit delivered high IgG titers of 3–5 g/L in fed-batch cultures and maintained consistent high cell densities—all in a short development time of fewer than 6 months from transfection to stable clone.

When used with the new Gibco™ Efficient-Pro Feed 2 supplement (sold separately), the Freedom ExpiCHO-S Kit offers high-performing titers and consistent protein quality demonstrated across multiple clones.

Delivers high titers

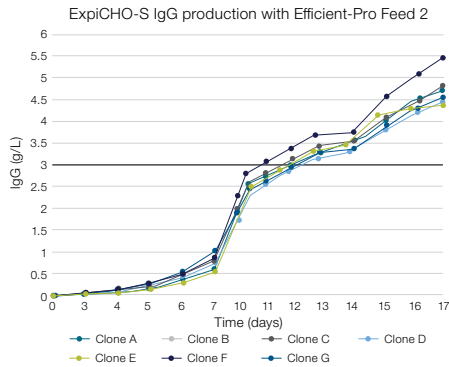


Figure 1. Protein production per day with the Freedom ExpiCHO-S Kit. Increasing productivity of more than 3 g/L beyond typical 14 day fed-batch cultures demonstrates robustness of the cell line.

Viabilities and viable cell density

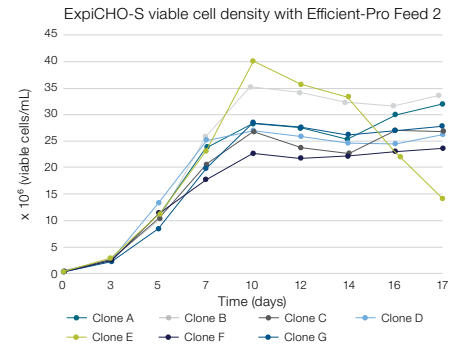
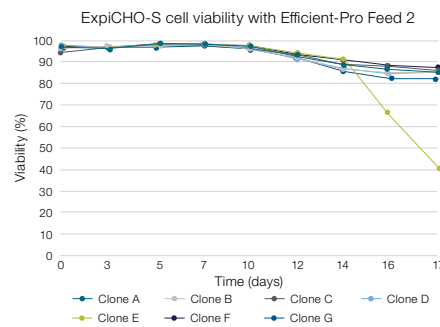


Figure 2. Viability (left) and viable cell density (right) with the Freedom ExpiCHO-S Kit. High cell densities maintained viability (above 85%) throughout the cell culture experiment.

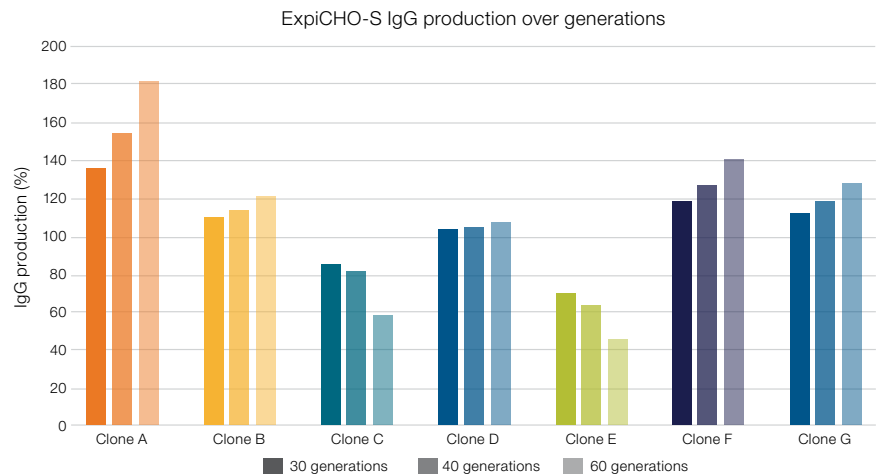


Figure 3. Clone stability with the Freedom ExpiCHO-S Kit. Clones were stable through 40 generations, with 5 out of the 7 demonstrating stability over 60 generations.

Simplified commercial licensing options

The Freedom ExpiCHO-S Kit provides the licensing flexibility you need throughout development of the process. With purchase of the kit, you are granted the research-use rights that you or your CRO need to develop a stable cell line. When ready to move into the clinic, a simple licensing structure is available without the burden of royalties or multiple milestone payments. For more information regarding licensing, email outlicensing@thermofisher.com.

Table 1. Flexible commercial-use licensing with Freedom kits

Features	Answer
Freedom from royalties?	Yes
Freedom from annual maintenance fees?	Yes
Freedom to use multiple contract manufacturers?	Yes
Freedom to use host cell line for multiple projects?*	Yes
Freedom to modify the host cell line?	Yes
Freedom to modify the purchased vector?	Yes
Freedom to conduct process optimization?	Yes
Freedom to request support when desired?	Yes
Freedom to work with others within field of use?*	Yes

* Some sale and distribution restrictions may apply.

Product information

Feature	Freedom CHO-S Kit	Freedom DG44 Kit	Freedom ExpiCHO-S Kit
Cat. No.	A1369601	A1373701	A46847
Parental cell line	cGMP CHO-S cells	cGMP CHO-DG44 cells	cGMP ExpiCHO-S cells
Medium	CD FortiCHO	CD DG44 and CD OptiCHO	ExpiCHO expression medium and ExpiCHO stable production medium
Growth rate	<24 hours	>30 hours	<24 hours
Vector	Freedom pCHO 1.0	pcDNA 3.3-TOPO and pOptiVEC-TOPO	Freedom pCHOm 3.1 and Freedom pCHOp 3.2
Primary application	mAb (IgG)	mAb and recombinant protein	mAb and recombinant protein
Amplification (with Methotrexate)	No	Yes	Yes
Timeline: transfection to stable clone	~24 weeks	~36 weeks	~24–36 weeks
Complete manual	Yes	Yes	Yes
Support	Yes	Yes	Yes
Commercial licensing	Yes	Yes	Yes

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