

DRIVE YOUR PERFORMANCE FORWARD WITH THE EXPANDED FAMILY OF EFFICIENT-PRO FEEDS

Bioproduction



Increase protein titer with Efficient-Pro Feed 3 and Efficient-Pro Feed Enhancer

Enhance your protein production with a next-generation feed specifically designed to boost the performance of CHO-K1 GS cell lines.

The expanded Efficient-Pro product family

The Gibco™ Efficient-Pro™ medium and feeds system is a tailored family of products designed to improve the performance of specific bioproduction cell lines. Gibco™ Efficient-Pro™ Medium is paired with Efficient-Pro™ Feed 1 for optimal performance of CHO-K1 cells, and with Efficient-Pro™ Feed 2 for CHO-S and DG44 cells. Some CHO-K1 GS cell lines perform best with Feed 1 and others with Feed 2. To support consistent and specific performance advantages for these cells, the synergistic combination of Gibco™ Efficient-Pro™ Feed 3 and Efficient-Pro™ Feed Enhancer was developed.

Advanced and scalable design

Based on advanced metabolomics, high-throughput screening (HTS), and design of experiments (DOEs), the two-part feed system was designed to provide chemically defined (CD), animal origin-free (AOF) formulations to help ease the regulatory approval process. Like the rest of the family, Efficient-Pro Feed 3 and Efficient-Pro Feed Enhancer are offered in multiple formats and packaging sizes to support both scalability and different stages of bioproduction.

Improved performance

Efficient-Pro Feed 3 with Efficient-Pro Feed Enhancer were shown to enable consistent, strong CHO-K1 GS cell growth and higher titers while maintaining critical product quality attributes. The performance of Efficient-Pro Medium with Efficient-Pro Feed 3 and Feed Enhancer was evaluated in 14-day fed-batch studies in Ambr™ 15 microbioreactors (Sartorius) and Thermo Scientific™ HyPerforma™ 3 L bioreactors using CHO-K1 GS cells from HealSun Biopharma.

The Ambr 15 microbioreactor study evaluated cell growth and IgG productivity in triplicate vessels across three runs. The 3 L study evaluated growth, productivity, and product quality in duplicate vessels across three runs and compared the performance of Efficient-Pro Feed 3 with Feed Enhancer to Efficient-Pro Feed 2. Efficient-Pro Feed 3 was fed at 2.6% and Efficient-Pro Feed Enhancer at 0.26% daily on days 3–13. Efficient-Pro Feed 2 was fed at 2% daily on days 3–13. Glucose was fed continuously as needed to maintain 3 g/L in the Ambr 15 microbioreactors and 2 g/L in the 3 L bioreactors.

Efficient-Pro Feed 3 with Feed Enhancer were shown to support consistent and high cell growth across multiple runs and scales (Figure 1). High cell viabilities of $\geq 92\%$ were maintained through day 14 (data not shown). Efficient-Pro Feed 3 with Feed Enhancer supported higher titers compared to Efficient-Pro Feed 2 and consistent productivity across multiple runs and scales (Figure 2). Consistent product quality was maintained across feed conditions (data not shown).

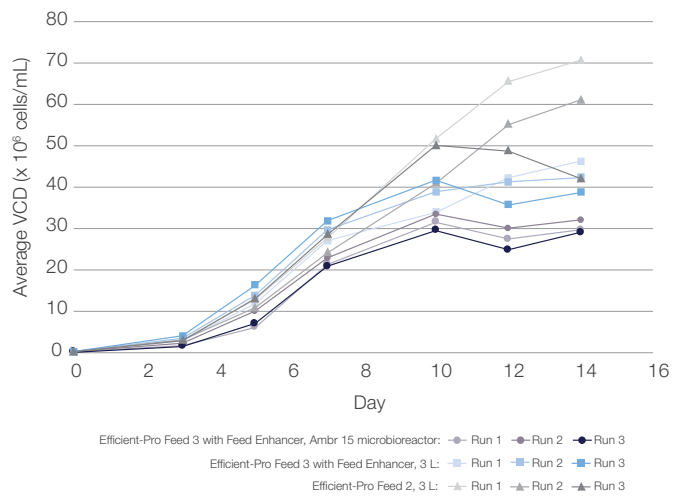


Figure 1. Efficient-Pro Feed 3 with Feed Enhancer supported consistent and high CHO-K1 GS cell growth. VCD = viable cell density.

Product information

Format	Packaging size	Cat. No.
Efficient-Pro Feed 3		
Liquid	1,000 mL bottle	A4000135701
AGT	1 L Securitainer	A4000222001
AGT	10 L Ropak bucket	A4000222002
AGT	100 L Ropak bucket	A4000222003
Efficient-Pro Feed Enhancer		
Liquid	1,000 mL bottle	A4000135801
DPM	1 L Securitainer	A4000175501
DPM	10 L Securitainer	A4000175502

AGT: The Gibco™ Advanced Granulation Technology™ (AGT™) format is a granular dry media format.

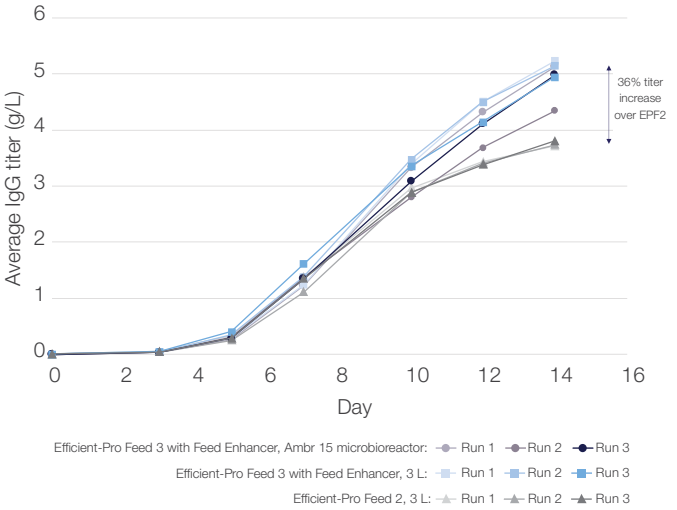


Figure 2. Efficient-Pro Feed 3 with Feed Enhancer supported 36% higher titers compared to Efficient-Pro Feed 2 with consistent titers averaging 4.8 and 5.1 g/L for Ambr 15 and 3 L runs, respectively.

Confidence with dependable supply and support

Our global network of equivalent manufacturing facilities can offer redundant supply assurance and confidence in the delivery of consistent, high-quality products to support your protein production workflow.

In addition, Thermo Fisher Scientific provides you with access to experienced field application scientists (FASs) and R&D team members who are available for consultation and guidance on any product and process questions you may have.

Format	Packaging size	Cat. No.
Efficient-Pro Medium		
Liquid	1,000 mL bottle	A5322201
Liquid	10 L bioprocess container	A5322202
Liquid	20 L bioprocess container	A5322203
AGT	1 L Securitainer	A5322301
AGT	10 L Securitainer	A5322302
AGT	100 L Ropak bucket	A5322303
AGT	500 L Ropak bucket	A5322304

Learn more at thermofisher.com/efficient-pro

