

IRVINE SCIENTIFIC

BALANCD™ CHO FEED 3

PRODUCT DESCRIPTION

BalanCD™ CHO Feed 3 is a chemically-defined feed supplement of non-animal origin. Using Irvine Scientific's *Rational Culture Media Design*® approach, this formulation has been developed to achieve high growth kinetics and product yield in fed-batch processes. The feed supplement contains balanced concentrations of glucose, amino acids, vitamins and trace elements to provide nutrients to leaner batch media that are needed to boost the productivity of the cell culture system in fed-batch. The BalanCD™ CHO Feed 3 has been successfully tested on a variety of Chinese Hamster Ovary (CHO) cell lines, including CHO-S, CHO-M, and CHO DHFR.

BalanCD™ CHO Feed 3 is a complete feed supplement that is pH and osmolality pre-adjusted. The dry powdered feed formulation dissolves fast, resulting in a highly concentrated liquid feed that remains stable in solution for an extended time. The feed medium is also available in a ready-to-use (1X) liquid format with at least 6 month stability when stored under recommended conditions.

BALANCD™ CHO FEED 3	CATALOG NUMBER
Powder	94118
Liquid	99471

PRODUCT HANDLING & STORAGE

Product handling using aseptic techniques is required to avoid contamination. Do not use if cloudy or if solution has precipitated. Powder product should be stored dry at 2-8°C and in absence of light for up to 2 years. Liquid product should be stored at 2-8°C and in absence of light for up to 6 months. Extended stability studies for both powder and liquid are ongoing for this formulation. Please contact your Irvine Scientific representative for additional information if required.

RELATED PRODUCTS

The following products are available from Irvine Scientific and developed for use in CHO fed-batch production systems. For additional information, please visit our website at www.irvinesci.com or call Customer Service at (800) 437-5706.

PRODUCT DESCRIPTION		CATALOG NUMBER
BalanCD™	Powder	94120
CHO Growth A	Liquid	91128
BalanCD™	Powder	94119
CHO Feed 1	Liquid	91127
BalanCD™	Powder	94121
CHO Feed 2	Liquid	91129

INTENDED USE

These products are for RESEARCH USE only and not approved for human or veterinary use, for application to humans or animals, or for use in clinical or in vitro procedures.

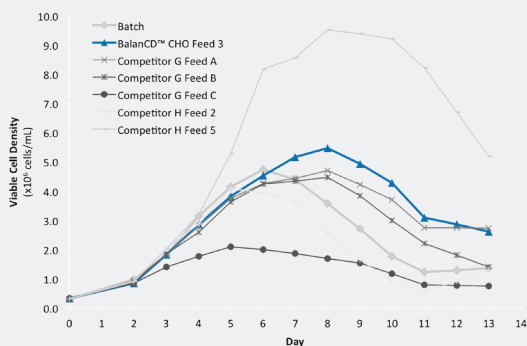
PERFORMANCE

STUDY DESIGN

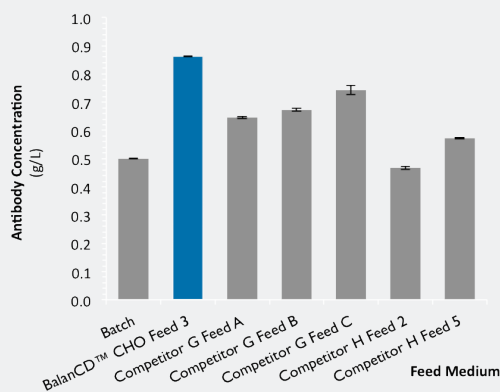
Three diverse model cell lines (CHO-S, CHO-M, and CHO DHFR) were grown in commercially available competitor growth media. The following culture parameters were applicable to all experimental conditions:

- 10% (v/v) bolus feeds on day 1,3,5
- Two (2) replicates per condition
- Shake flask cultures at 37°C, 5% CO₂, 120rpm

Antibody production was measured from samples taken on day 13 and when viability <75%.

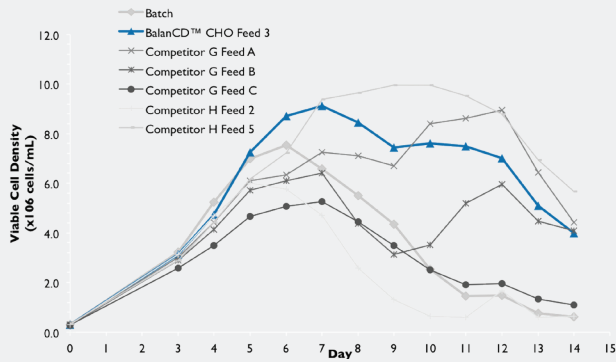


Graph 1. Fed-batch growth results with CHO-S model cell line.

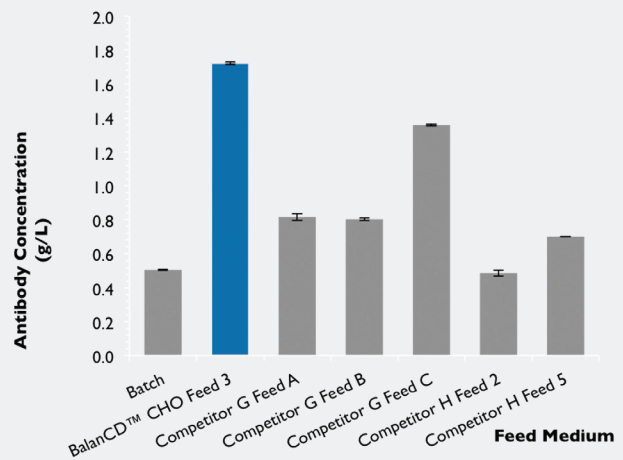


Graph 2. CHO Antibody production in fed-batch with CHO-S model cell line.

RESULTS



Graph 3. Fed-batch growth results with CHO-M model cell line.



Graph 4. Antibody production in fed-batch with CHO-M model cell line.

CONCLUSION

BalanCD™ CHO Feed 3 in fed-batch demonstrated higher growth and significantly improved antibody production when compared to either a standard batch culture or a comparable fed-batch system using any of the other commercially available feeds.

BalanCD™ CHO Feed 3 successfully provides for an increased boost in antibody production by providing a carefully balanced formulation designed to supplement a leaner batch media.

FED-BATCH SYSTEMS

Fed-batch CHO production systems are responsible for numerous commercial biological therapeutics and is one of the most prevalent systems in bio-manufacturing today due to advances in chemically-defined growth and feed media, relative ease in scalability, and improved economics both upstream and downstream over a traditional batch culture system. The economic feasibility of fed-batch systems is also due in part to:

- Improved bioreactor engineering, mathematical modeling, and bioreactor control
- Higher product reactor residence time over batch systems
- Increased peak cell densities and net production
- Process development time and costs are generally less than that of perfusion systems.
- Personnel and process control requirements are also less than that of perfusion systems.

The preparation, filtration, and sustained storage of feeds are often problematic. Each of the BalanCD™ CHO Feeds are available and stable in both liquid and powder formats with relatively easy handling and use.

HOW TO ORDER

For additional information, please contact your Regional representative or call Customer Service at (800) 437-5706 or visit our website at www.irvinesci.com.



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