

IRVINE SCIENTIFIC

BALANCD™ CHO GROWTH A

PRODUCT DESCRIPTION

BalanCD™ CHO Growth A is a chemically-defined growth medium, containing no proteins or animal derived components. The formulation has been specifically designed to support growth and productivity in a variety of Chinese Hamster Ovary (CHO) cells in fed-batch cultures. BalanCD™ CHO Growth A was developed using Irvine Scientific's *Rational Culture Media Design*® strategy with three model cell lines (CHO DHFR, CHO-S, and CHO-M). This growth medium was designed to be used in conjunction with Irvine Scientific's BalanCD™ CHO Feed 1 to fully exploit the synergistic interaction between growth and feed media in fed-batch systems.

BALANCD™ CHO GROWTH A	CATALOG NUMBER
Powder	94120
Liquid	91128

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 1 year.

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	94119
CHO Feed 1	Liquid	91127
BalanCD™	Powder	94121
CHO Feed 2	Liquid	91129
BalanCD™	Powder	94118
CHO Feed 3	Liquid	99471

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.

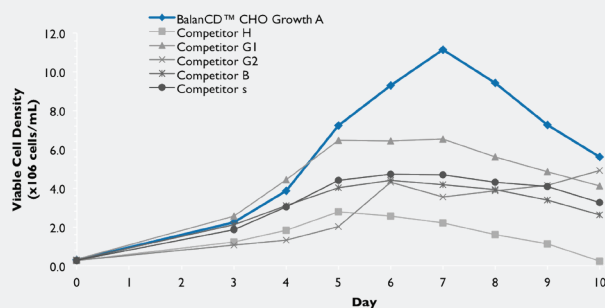
PERFORMANCE

STUDY DESIGN

Three diverse high producing model cell lines (CHO DHFR, CHO-S, and CHO-M) were grown in multiple commercially available competitor growth media in batch mode and compared to BalanCD™ CHO Growth A. The following culture parameters were applicable to all experimental conditions:

- Two (2) replicates per condition
- Shake flask cultures at 37°C, 5% CO₂, 120rpm

RESULTS



Graph 1. CHO DHFR cell viability comparative of BalanCD™ CHO Growth A batch mode versus commercially available growth media.

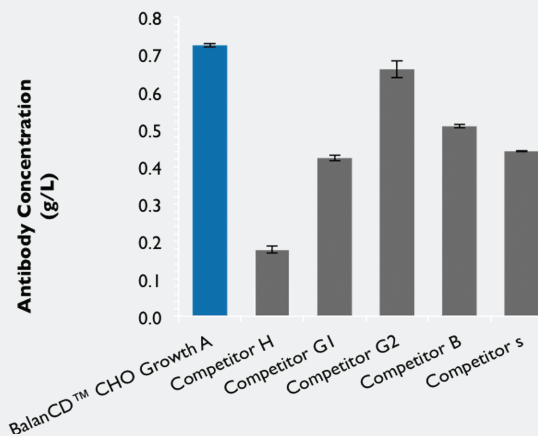
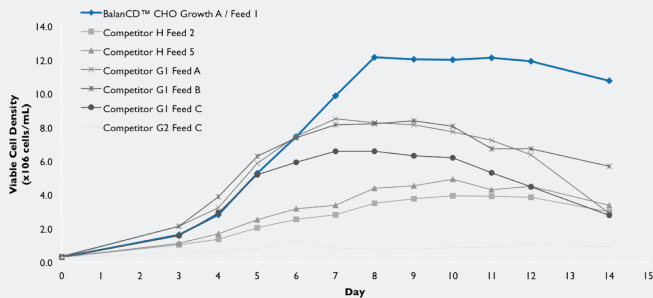
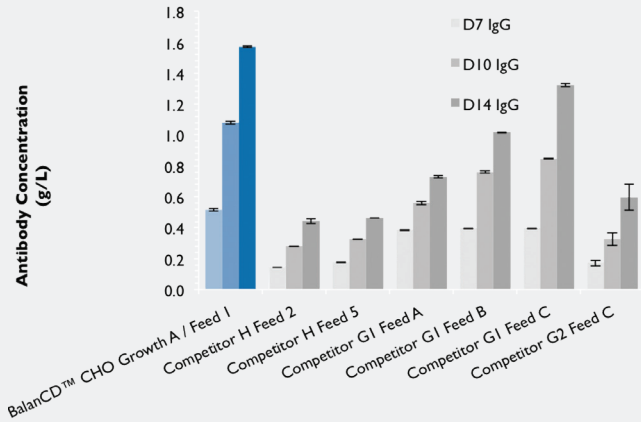


Chart 2- CHO DHFR antibody production with BalanCD™ CHO Growth A in batch mode versus commercially available growth media.

RESULTS



Graph 3. CHO DHFR growth data with BalanCD™ CHO Growth A in fed-batch mode with BalanCD™ CHO Feed I versus commercially available growth and feed media.



Graph 4. CHO DHFR Antibody production with BalanCD™ CHO Growth A in fed-batch mode with BalanCD™ CHO Feed I versus commercially available growth and feed media.

CONCLUSION

BalanCD™ CHO Growth A and BalanCD™ CHO Feed I are an optimized basal and feed media combination that provide superior growth and sustained high production capability throughout a fed-batch culture when compared to other commonly available growth and feed 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
- Process development time and costs are generally better than that of perfusion systems.
- Personnel and process control requirements are also less than that of perfusion systems.

Overall, fed-batch production tends to lead with increased efficiencies at large scale and substantial improvement with sustained cell densities and net production.

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 ease in 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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