

IS CHO-V™ Medium

IS CHO-V

Serum-Free Media for CHO cells

- Catalog Number 9197 - Liquid
- Catalog Number 94101 - Powder

IS CHO-V is a serum-free media optimized for the production of recombinant proteins in Chinese Hamster Ovary (CHO) cells. The media are free of any components derived from human, bovine, or other mammalian sources. IS CHO-V medium has been designed without Hypoxanthine and Thymidine for use with the dihydrofolate reductase (dhfr) and other selection systems. IS CHO-V meets the customer requirements for a safe, regulation friendly CHO medium while offering performance that is unmatched even by media that contain serum-derived proteins. IS CHO-V medium promotes long term, high density growth of CHO cells with high expression levels of recombinant proteins.

Features

- IS CHO-V medium is provided without L-Glutamine to extend shelf life and to allow the use of L-Glutamine feeding strategies. The recommended L-Glutamine concentration to add is 8 mM.
- IS CHO-V medium helps maintain pH in culture systems without pH feedback control by providing carbon source alternatives to glucose. Media containing glucose as the only carbon source can result in the formation of excessive lactic acid. The blend of glucose and other carbon sources in IS CHO-V has been optimized for use in systems with and without pH feedback control.
- Store at 2-8°C
- Available in 1L (liquid), 10L (powder) packaging
- Custom packaging configurations are available.

Performance

IS CHO-V was developed to meet the various performance requirements of different culture systems and different recombinant CHO cells. Studies of various applications consistently demonstrated the superior performance and versatility of the IS CHO-V medium.

Figure 1 illustrates that IS CHO-V achieves a higher density and a higher rate of growth in this recombinant CHO cell line grown in shaker flasks. In this case, the cells reached nearly 3×10^6 cells/mL by day six and expressed 180mg/L recombinant protein. IS CHO-V was compared to a serum-free medium for CHO cells (CHO SFM) for performance in a bioreactor.

Figure 2 illustrates the IS CHO-V culture reached over 6.5×10^6 cells/mL in just five days and produced 280 mg/L recombinant protein by day 7- 20% more than the CHO SFM. This experiment demonstrates the capacity of IS CHO-V to support high density growth and expression without the serum-derived proteins found in CHO SFM. IS CHO-V consistently outperforms competitors' media in both growth and expression.



Figure 3 demonstrates that IS CHO-V maintains selective pressure when using the dhfr selection system. Dhfr(-) cells would not grow in IS CHO-V medium unless the medium was supplemented with Hypoxanthine and Thymidine. IS CHO-V is provided without Hypoxanthine and Thymidine specifically for use with the dhfr selection system.

CHO Line 2 in Shaker

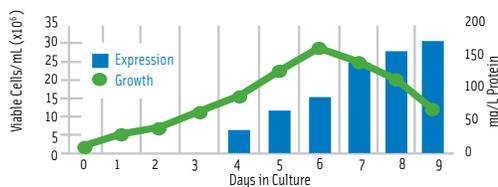


Figure 1. High density culture of CHO K1 Clone. Parallel 30 mL cultures were grown in 125 mL shaker flasks at 160 RPM in a humidified, 5% CO₂, 37°C incubator. CHO K1 cells were seeded at an initial density of 3×10^5 cells/mL from a common culture.

Figure 2a. CHO Line 3 in Bioreactor - Growth

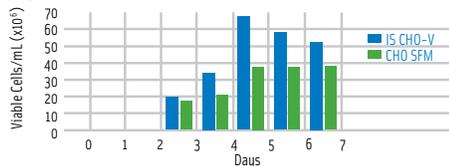


Figure 2b. CHO Line 3 in Bioreactor - Expression

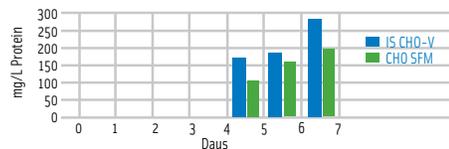


Figure 2. Growth and Expression vs CHO SFM in Bioreactor. CHO Line 3 (dhfr selection). 10L bioreactor with pH feedback control and O₂/CO₂ sparging. Same control settings used for both cultures. Cultures were adapted to each medium tested before comparison. Protein determination by HPLC. CHO SFM contains >100 µg/mL bovine serum proteins.

Selective Pressure

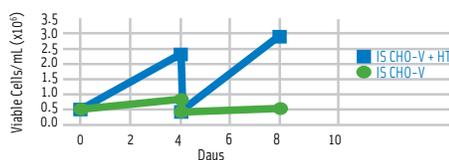


Figure 3. Selective Pressure. dhfr (-) CHO Line. Stationary cultures grown in parallel. Passaged on day four.

Adaptation

Adaptation of CHO cells to serum-free culture conditions may require either direct or sequential adaptation depending upon cell type and culture conditions. It is important that cells be in the logarithmic phase of growth with at least 90% viability before passaging. The direct transfer of cells from serum-supplemented media to IS CHO-CD medium is not recommended. Sequential adaptation can be achieved by gradual weaning of cell cultures from a serum-supplemented medium to IS CHO-CD medium. See product insert for adaptation instructions.

For more information on all of our Cell Culture Products, call 1 (800) 437-5706 and ask for your Territory Manager or visit our website at www.irvinesci.com.

North America Headquarters

Irvine Scientific
2511 Daimler Street, Santa Ana, CA 92705
USA
Phone: 1 (949) 261-7800
Toll Free: 1 (800) 437-5706
Fax: 1 (949) 261-6522
www.irvinesci.com

Europe Headquarters

Irvine Scientific
Unit 31, Newton Business Center, Block D
Newtownmountkennedy
County Wicklow
Ireland
Phone: +353 1 281 99 20
Fax: +353 1 281 99 28

Asia Headquarters

Irvine Scientific
3-17-35 Niizo-Minami
Toda-Shi
335-0026 Saitama
Japan



IrvineScientific®