



ClonaCell™-CHO ACF Supplement

Robust Growth of CHO Cells at Low Cell Density

Challenges in CHO Cell Line Development

Efficient development and production of novel biopharmaceuticals depends on innovations in cell culture technology. As a result, the need for faster and more effective bioprocessing techniques has driven significant advances in the formulation of cell culture media for Chinese hamster ovary (CHO) cells. Protein-free and platform media for CHO cells are now standard tools that promote efficient cell line development and scale-up, ultimately minimizing development timelines and maximizing the volumetric productivity of CHO cell cultures. Protein-free media, however, do not support robust growth of CHO cells at the low cell densities required for single-cell cloning. Rare, high-producing clones can also be lost immediately after transfection or during other sensitive stages of cell line development due to poor survival or expansion of CHO cells in protein-free medium. The efficiency and success of cell line development can be improved by adding a medium supplement to protein-free CHO cell culture media in order to significantly increase clonal survival and growth of CHO cells at critical process points.

ClonaCell™-CHO ACF Supplement

The ClonaCell™-CHO ACF Supplement significantly improves cloning efficiency and promotes robust growth of CHO cells. This defined, 40X medium supplement can be added to liquid or semi-solid protein-free cell culture media to support CHO cell survival and expansion, especially at low cell density. Add ClonaCell™-CHO ACF Supplement to a protein-free cell culture medium to achieve cloning efficiencies comparable to medium containing 10% fetal bovine serum (FBS) (Figure 1), while maintaining defined culture conditions. The ClonaCell™-CHO ACF Supplement does not contain serum, animal- or human-derived components, hydrolysates or any other undefined components, and reliably supports growth of CHO cultures with consistent quality attributes.

Advantages of ClonaCell™-CHO ACF Supplement :

- Does not contain animal-derived components, hydrolysates or any other undefined components
- Supports CHO cell growth at low cell densities
- Can be added to protein-free culture media without changing culture conditions for upstream or downstream processes

PRODUCT: ClonaCell™-CHO ACF Supplement
CATALOG #: 03820 **SIZE:** 2.5 mL

RECOMMENDED FOR:

- Increasing cloning efficiency of CHO cells during cloning by limiting dilution, semi-solid cloning or single-cell sorting
- Promoting CHO cell survival and growth after transfection
- Supporting CHO cell expansion

CONTAINS:

- Recombinant proteins and chemically defined components as a 40X concentrated solution.



FREE SAMPLE

Learn more about ClonaCell™ products for CHO cell line development or request a sample:

www.stemcell.com/Try_ClonaCell



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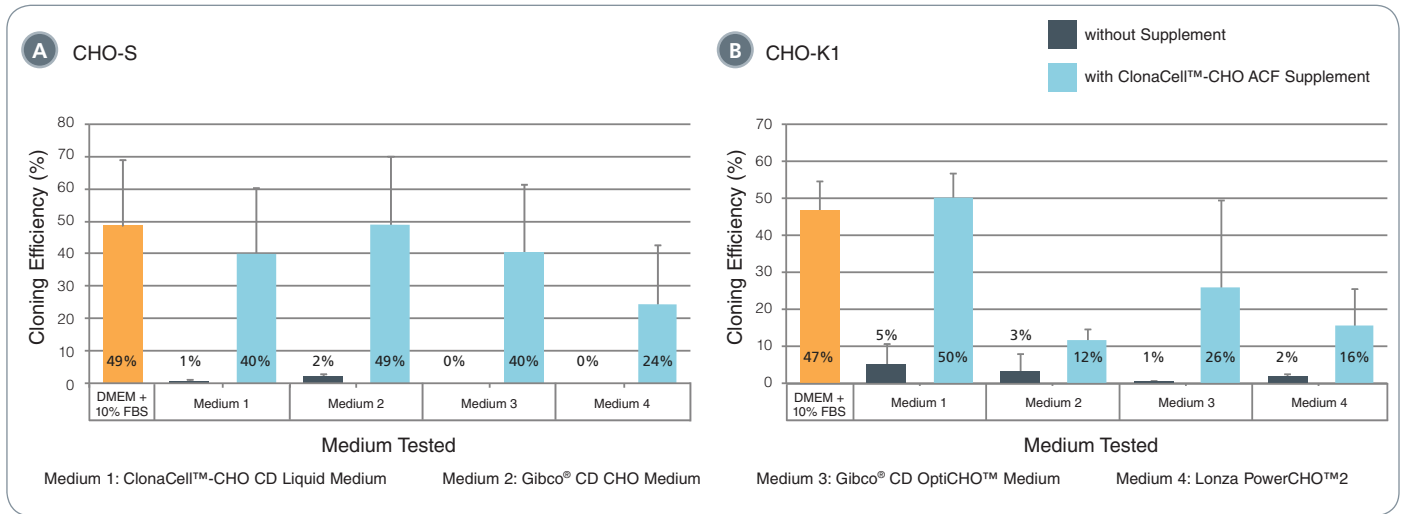


Figure 1. Cloning efficiencies of CHO-S and CHO-K1 cells in protein-free media from different commercial suppliers with and without addition of ClonaCell™-CHO ACF Supplement.

The bar graphs illustrate the cloning efficiency of untransfected CHO-S (A) and CHO-K1 (B) cells, defined as the percentage of wells in 96-well plates that contain greater than 100 cells after 14 days of incubation. Individual wells of a 96-well plate were seeded with an average cell density of one cell per well in 200 μ L cell culture medium and incubated at 37°C and 5% CO₂. All conditions contained 6 - 8 mM L-glutamine. Cloning efficiencies in various protein-free cell culture media with (blue) or without (grey) addition of ClonaCell™-CHO ACF Supplement or in DMEM + 10% FBS (orange bar) are shown. Error bars represent the standard deviation based on triplicate data for each condition, except Medium 2 (both with and without ClonaCell™-CHO ACF Supplement), for which the average of duplicate data is shown.

PRODUCT	CATALOG #	DESCRIPTION	RECOMMENDED FOR
ClonaCell™-CHO ACF Supplement	03820	Defined, animal component-free CHO cell culture medium supplement	Supplementing protein-free cell culture medium to increase cloning efficiency or support CHO cell expansion after transfection
ClonaCell™-CHO CD Liquid Medium	03817	Liquid CHO cell culture medium	Culturing suspension-adapted CHO cells; single-cell cloning of CHO cells when combined with ClonaCell™-CHO ACF Supplement
ClonaCell™ FLEX	03818	Semi-solid base medium	Converting a user-selected liquid medium (2X concentrate) into a custom semi-solid cloning medium
ClonaCell™-CHO CD Medium	03815	Semi-solid cloning medium; chemically defined and protein-free	Selection and cloning of transfected, suspension-adapted CHO cells
ClonaCell™-CHO ACF Medium	03816	Semi-solid cloning medium; animal component-free	Selection and cloning of transfected, suspension-adapted CHO cells

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