CELLiST™

Cell culture media

For better lives

CELLiST™ BASAL3 / BASAL3P

Shortcut to
Official Channel

CELLiST™ BASAL3 / BASAL3P

Overview

CELLiST™ BASAL3 is a high-performance growth medium specifically designed to support robust cell growth and viability in various CHO cell lines. This chemically defined medium, free from animal-derived components, ensures consistent and reliable results across different production batches. Leveraging Ajinomoto's extensive expertise in developing and manufacturing amino acids, CELLiST™ BASAL3 provides everything your CHO cell line needs for stable, high-yield protein production. Suitable for use with any CHO cell line, CELLiST™ BASAL3 offers a comprehensive solution for biotherapeutic production with superior quality and reproducibility.

CELLiST™ BASAL3 Features	Benefits
Enriched with amino acids for enhanced cell growth.	Rapid cell proliferation, achieving higher cell densities faster.
Versatility across cell lines.	Compatible with a wide range CHO cell line, including CHO-K1, CHO-GS, CHO-S and their derivatives.
Chemically defined, protein-free medium with no animal-derived components.	Reduces risk of viral contamination, ensures batch consistency.
Supplied in fine powder form.	Easy to dissolve and allows for prolonged shelf life and ease of transportation.
Available in test samples and bulk sizes.	Flexibility according to usage requirements.
Suitable for batch, fed-batch, and perfusion cell cultures, at any scale.	Versatility across cell culture processes and scales.

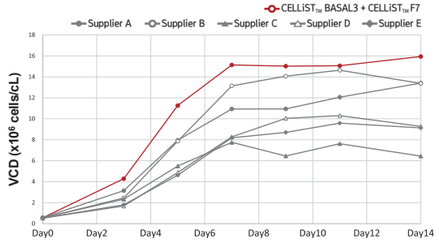
BASAL3 Product List

Product	Catalog No.	Specification	Amount	Packaging Information
BASAL3	AD1	-	27.0 g/L	1L / 50L
BASAL3P	AD3	Includes Poloxamer	28.0 g/L	1L / 50L

Cell Culture Performance

Comparative studies show superior culture growth and productivity with the CELLiST™ BASAL3 + CELLiST™ F7 media combination. In a fed-batch process using a CHO-K1 cell line expressing IgG1 antibody, our media outperforms top global competitors in viable cell density and IgG titer.

Cell Growth



Protein Production

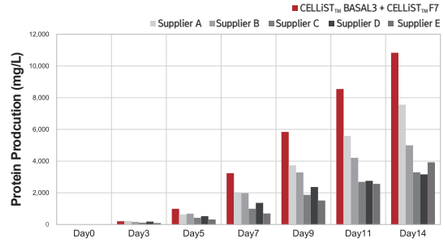
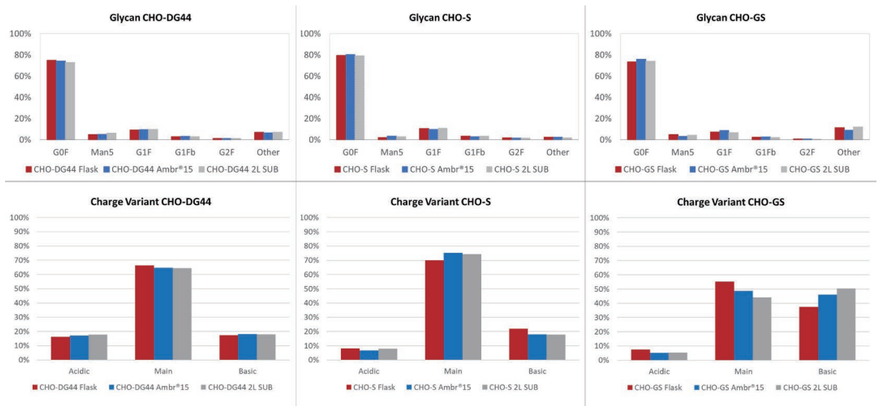


Figure 1: Fed-batch process was performed in an Ambr®15 microbioreactor system, using CHO-K1 cell line expressing IgG1 antibody. Feeding in CELLiST™ group was performed at a concentration of 6% (v/v) on day 3, 5, 7, 9 and 11.
'Supplier A, B, C, D and E' represent basal/feed media combinations from major media suppliers. Culture and feeding manners were performed according to each manufacturer's recommendations.

Protein Quality Across Different Scales

CELLiST™ media maintains consistent protein quality from flask to bioreactor scale. Our data indicates reliable protein quality, making scale-up processes straightforward and efficient. Fed-batch process was performed in 125 mL Erlenmeyer flasks, Ambr®15 microbioreactor system, and 2L single-use bioreactor system (Sartorius, BioStat® B), using CHO-DG44, CHO-S and CHO-GS cell lines expressing IgG1 antibody. Feeding was performed at a concentration of 6% (v/v) on day 4, 6, 8, 10 and 12.



Liquid Media Preparation

BASAL3 Liquid Reconstitution (1L)

1. Add the entire contents of the CELLiST™ powder medium pouch to 900 mL of room temperature cell culture-grade water (use a large enough mixing container such as beaker or conical flask). Rinse inside of package to remove all traces of the powder and add to the vessel.
2. Add the necessary additives as listed below:

Product	Catalog No.	Amount	Required Additives
BASAL3	AD1	27.0 g/L	1.0 g/L Poloxamer + 1.8 g/L Sodium Bicarbonate
BASAL3P	AD3	28.0 g/L	1.8 g/L Sodium Bicarbonate

3. Mix using a magnetic stirrer for 20 minutes until dissolved.
4. Add cell-culture grade water to a final volume of 1 L and mix for an additional 10 minutes.
5. Sterile filter the media using a 0.22 µm membrane filter inside the bio-safety cabinet.
6. Store the prepared medium at 2°C to 8°C.
7. Add L-glutamine and any required growth factors aseptically before use.

Notes regarding cell passaging

a. It is highly recommended to passage the cells at least 3 times in their original medium, prior to transferring into the new CELLiST™ Medium.

b. To reduce the stress faced by cells due to media switch process, it may help to add growth factors such as insulin or IGF-I (for example, 50 µg/L of LONG®R³ IGF-I).

c. Cell adaptation into a new medium is very much dependent on the cell line and original medium being used. If direct switch ('direct adaptation') of cells from their original media to CELLiST™ results in unusual low viability and slow cell growth, sequential adaptation may be required (see the following section).

Cell Adaptation Strategy

1) Direct Adaptation

Most CHO cell lines can undergo direct adaptation to CELLiST™ media as follows.

1. Determine the cell concentration and viability of the culture. Cells should be in logarithmic growth phase (usually Day 3-5) with a viability of >90% prior to inoculation into new medium.
2. Seed cells at 0.3-0.5 x 10^6 viable cells/mL in sterile culture vessels containing pre-warmed complete CELLiST™ BASAL medium.
3. Incubate at 37°C in a humidified incubator at 5% CO_2 on an orbital shaker platform rotating at the desired RPM (e.g.100-150 RPM).
4. Passage (subculture) cells every 3-4 days or when viable cell density reaches >1.0 x 10^6 cells/mL. Seed cells at densities of 0.3-0.5 x 10^6 viable cells/mL.

2) Sequential Adaptation

Sequential adaptation of CHO cells into CELLiST™ media can be a favorable solution for cell lines facing challenges with direct adaptation (for example, exhibiting very slow cell growth). It is recommended to use a higher seeding density during the adaptation period, approximately (~0.5 x 10^6 cells/mL). This sequential adaptation method allows a gradual adaptation of the cells to the new medium, achieved by sequentially increasing the relative volume of the new medium. The three-step adaptation procedure (100:0 → 50:50 → 0:100; ratio between Original-to-CELLiST™ medium) may be sufficient in most cases. However, for sensitive cell lines, it is recommended to perform a 5-step adaptation procedure, as described below:

Ratio of Original vs. CELLiST™ medium	Seeding Density	Criteria for next stage
100:0	0.3-0.5 x 10^6	Cell density 1-3 x 10^6; Viability > 90%
75:25	0.3-0.5 x 10^6	Cell density 1-3 x 10^6; Viability > 90%
50:50	0.3-0.5 x 10^6	Cell density 1-3 x 10^6; Viability > 90%
25:75	0.3-0.5 x 10^6	Cell density 1-3 x 10^6; Viability > 90%
0:100	0.3-0.5 x 10^6	Cell density 1-3 x 10^6; Viability > 90%

Note: Some cell lines require addition of growth factor for proper growth. The addition of growth factors, such as Insulin or IGF-I, can help the adaptation process in these cases that show extremely poor initial cell growth.

Other Products

Products	Type	Features
CELLiST™ F7	Feed medium	High-performance, all-in-one feed media that easily dissolves and remains stable at neutral pH, thanks to Ajinomoto Group's unique cysteine-stabilization technology. This enhances cysteine availability, boosting performance and enabling hassle-free, single-agent feeding.
AminoSupplement Cys1	Feed medium supplement	Performance-enhancing supplement for any single-agent feed media, improving culture performance and stability with Ajinomoto Group's unique cysteine stabilization technology.
AminoSupplement Cys2	Feed medium supplement	Performance-enhancing supplement that eliminates the need for high-pH feeding in dual-agent feed media. Easily added at neutral pH, ensuring high stability and simplified processes.
Supplement Gly-L-Tyr	Feed medium supplement	Highly soluble tyrosine supplement that boosts tyrosine concentrations for any neutral pH feeding process, enhancing culture growth without solubility concerns.

Related Technical Documents

Sales & Technical Support

For quoting, ordering, product sample request

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