

# CHO Cell Culture Media & Feeds

## Selecting the right Media to enable your next Breakthrough

Discover Cellvento<sup>®</sup> and EX-CELL<sup>®</sup> CHO cell culture media and feeds, a comprehensive range of off-the-shelf products to support all your CHO production processes and cell line development needs. These products are optimized for high-performance monoclonal antibody and recombinant protein production in fed-batch, intensified fed-batch and perfusion.

The media and feeds are produced using highly controlled raw materials, are chemically defined, and contain no animal-derived components. Compacted media are easy to dissolve and handled with less dust, which increases operator safety while high concentration Cellvento<sup>®</sup> feeds reduce the volume added to the bioreactor.

These products contain well-balanced nutrients to support CHO cell lines used in the industry to maximize performance. Our latest technologies such as modified amino acids and media compaction are applied to our catalog portfolio to address your process

intensification needs. The portfolio has been expanded by a new set of feeds to allow optimizing the glycosylation profile, which is considered a critical quality attribute in biologic manufacturing, vital for protein structure and function.

Our CHOZN<sup>®</sup> cell line offering provides you with an integrated solution to accelerate your time to market.

Emprove<sup>®</sup> dossiers are available for the media and feeds to support regulatory requirements, ensuring consistent and aligned performance for all your manufacturing needs.

### Catalog Media Selection Guidance

The following table provides an overview of CHO media and feeds, each of which has been specifically developed for optimized performance in the respective application.

#### CELL LINE DEVELOPMENT

##### CHOZN<sup>®</sup> Electroporation, Selection, and Single Cell Cloning

EX-CELL<sup>®</sup> CD Fusion



Cellvento<sup>®</sup> 4CHO-C

#### BANKING AND TRADITIONAL OR PERFUSED SEED TRAIN

EX-CELL<sup>®</sup> CD Fusion

Cellvento<sup>®</sup> 4CHO-X

#### TRADITIONAL AND INTENSIFIED FED-BATCH

##### Basal Media

EX-CELL<sup>®</sup> Advanced FB

Cellvento<sup>®</sup> 4CHO



##### Complete Feeds

Base Feeds

Glycosylation Modulating Feeds

Cellvento<sup>®</sup> ModiFeed Prime

Cellvento<sup>®</sup> ModiFeed Gal-

Cellvento<sup>®</sup> 4Feed

Cellvento<sup>®</sup> ModiFeed Gal+

EX-CELL<sup>®</sup> Advanced Feed

Cellvento<sup>®</sup> ModiFeed Sial+

#### DYNAMIC AND STEADY-STATE PERFUSION

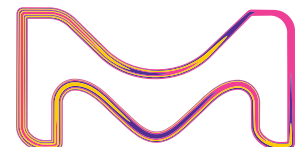
EX-CELL<sup>®</sup> Advanced HD Perfusion Medium

#### Related Products:

- CHOZN<sup>®</sup> GS Cell Line
- Millipore Express<sup>®</sup> Filters
- Mobius Breez<sup>®</sup> Microbioreactor
- Cellicon<sup>®</sup> Assemblies
- Mobius<sup>®</sup> HCDC Assemblies
- Mobius<sup>®</sup> iFlex Bioreactors

#### Legend:

- Batch or fed-batch
- Perfusion
- Batch or perfusion
- Glycosylation modulating feed platform



Cellvento® products utilize compaction technology for less dust accumulation as well as simplified hydration.

The Cellvento® ModiFeed platform of cell culture feeds are highly concentrated single part feeds in compacted format, with convenient hydration instructions and room temperature stability. The portfolio supports both, traditional and intensified fed-batch. Using Cellvento® ModiFeed Gal+, Cellvento® ModiFeed Gal- or Cellvento® ModiFeed Sial+ feeds can impact glycosylation profiles. Mixing Cellvento® ModiFeed Prime feed with a specific modulating feed can create a titratable response so a specific glycosylation profile can be targeted for applications such as biosimilars.

## Detailed Selection Guidance

### From Cell Line Development to Full Scale

### CHOZN® Electroporation, Selection, and Single Cell Cloning

For cell line development the following media are recommended: EX-CELL® CD Fusion and Cellvento® 4CHO-C Cloning Medium.

Please see CHOZN® GS<sup>-/-</sup> Platform User Guide for details.

### Banking and traditional or perfused seed train

For cell banking and expansion, we recommend EX-CELL® CD Fusion and Cellvento® 4CHO-X Expansion media. Cellvento® 4CHO-X medium also supports perfused seed train applications, such as High Cell Density Cryopreservation (HCDC) and especially N-1 perfusion, to establish high cell densities needed for intensified applications.

For further details, please reference product information:

[SigmaAldrich.com/bioprocessing-cell-lines](https://sigmaaldrich.com/bioprocessing-cell-lines)

[SigmaAldrich.com/bioprocessing-cell-culture-media](https://sigmaaldrich.com/bioprocessing-cell-culture-media)

### Dynamic and Steady-State Perfusion

For perfusion processes we recommend EX-CELL® Advanced HD Perfusion medium, specifically designed to support high cell densities and performance.

### Traditional and Intensified Fed-batch

**Basal media:** for fed-batch applications we recommend EX-CELL® Advanced Fed-batch medium for higher nutrient diversity demanding cell lines or Cellvento® 4CHO medium.

Both basal media can be combined with the range of complete feeds.

**Base feeds for initial feeding options:** highly concentrated Cellvento® ModiFeed Prime feed is recommended as first evaluation. Cellvento® 4Feed is a high concentrated protein free alternative, while EX-CELL® Advanced Feed 1 can be fed alone or in combination with Cellvento® 4Feed.

Please see feeding protocols for guidance.

**Glycosylation modulation feeds:** empower you to target desired glycan profiles. The Cellvento® ModiFeed platform includes modulator feeds that leverage the robust characteristics of Cellvento® ModiFeed Prime feed: Cellvento® ModiFeed Gal+ increases galactosylation, Cellvento® ModiFeed Gal- decreases galactosylation, and Cellvento® ModiFeed Sial+ increases sialylation. They create high growth and productivity in fed-batch processes and can be used as standalone complete feeds or in combination with Cellvento® ModiFeed Prime feed to achieve specific galactosylation and sialylation levels.



To place an order or receive technical assistance in Europe, please call Customer Service:

France: 0825 045 645

Spain: 901 516 645 Option 1

Germany: 069 86798021

Switzerland: 0848 645 645

Italy: 848 845 645

United Kingdom: 0870 900 4645

For other countries across Europe, please call: +44 (0) 115 943 0840

Or visit: [SigmaAldrich.com/offices](https://sigmaaldrich.com/offices)

For Technical Service visit: [SigmaAldrich.com/techservice](https://sigmaaldrich.com/techservice)

Merck KGaA

Frankfurter Strasse 250

64293 Darmstadt, Germany

[SigmaAldrich.com](https://sigmaaldrich.com)

We have built a unique collection of life science brands with unrivalled experience in supporting your scientific advancements.

**Millipore® Sigma-Aldrich® Supelco® Milli-Q® SAFC® BioReliance®**

© 2024 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved. Merck, the vibrant M, BioReliance, Millipore, Milli-Q, SAFC, Sigma-Aldrich, Supelco, Cellvento and EX-CELL are trademarks of Merck KGaA, Darmstadt, Germany or its affiliates. All other trademarks are the property of their respective owners. Detailed information on trademarks is available via publicly accessible resources.

MK\_PG5517EN Ver. 2.0 58589 09/2024

