

# Cell Boost kit

## HYCLONE MEDIA AND SUPPLEMENTS

HyClone™ Cell Boost™ supplements each provide an exclusive selection of nutrients such as amino acids, vitamins, lipids, cholesterol, glucose and/or growth factors in complements optimized for multiple mammalian cell types. All Cell Boost supplements are chemically defined and contain no animal-derived components. The Cell Boost kit contains 100 g of each of six Cell Boost products (Fig 1). The supplements are designed to increase cell productivity in a variety of cell lines.

Key features of Cell Boost supplement kit include

- Chemically defined
- Animal-derived component-free
- Protein-free
- Manufactured according to cGMP guidelines

## Specifications

Cell Boost supplements are designed to provide nutrients such as amino acids, vitamins, lipids, cholesterol growth factors and glucose to multiple cell lines (Table 1). Each supplement is developed through the Metabolic Pathway Design process (see box) and is chemically defined and protein-free with no animal-derived components. The supplements aid in fed-batch culture applications by providing concentrated nutrient solutions during mid-culture. Feed component optimization can be achieved by formulating the supplements at different concentrations and adding at designated culture times. The supplements are fully customizable to meet particular cell line and process requirements, and have been tested in a variety of cell culture systems including shaker flasks and bioreactors. Each supplement is available in multiple packaging configurations.

## Suggested preparation

1. To 900 mL of cell culture-grade water at 20°C to 25°C, add 35 g of Cell Boost powder.
2. Stir for 20 to 30 min.
3. Adjust pH to 7.0 to 7.4 if desired.
4. Bring volume to 1000 mL.
5. Sterile filter with 0.2 µm filter.

### Preparation notes

Because of the lipid components in Cell Boost 5 and Cell Boost 6, the liquid preparation temperature should be maintained 22°C to 25°C

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**Fig 1.** Cell Boost process supplement kit contains 100 g each of six Cell Boost products.

## General culture recommendations

- Cultures can be fed 100 mL/L multiple times within a run. Depending on the concentration of the feed solution and intended volume of feeding, culture starting volume will require adjustment
- Monitor L-glutamine separately in those cultures where it is present in the cell culture medium, and supplement as needed

### Metabolic Pathway Design process

An optimal cell culture process is dependent of a variety of factors including the parental cell line, the genetic makeup of the specific clone, medium and feed composition, as well as process variables to maximize viable cell densities and titers while maintaining cell morphology. Our experts in medium design and development know and understand how these factors can influence the metabolic processes involved. They evaluate the culture's metabolic activities, measuring nutritional demand and waste creation to make sure the correct type and quantity of nutrients are used to minimize waste and resultant cell toxicity. Our experts use their understanding of metabolic pathways to optimize medium composition for enhanced productivity and viable cell densities. Once a medium has been optimized using this Metabolic Pathway Design process, our scientists can help you devise the most effective cell culture strategy using a combination of medium and feeds to further enrich productivity and reduce process inefficiencies.

**Table 1.** Supplement matrix

	Amino acids	Vitamins	Glucose	Trace elements	Growth factors	Hypoxanthine/thymidine	ADCF* lipids	ADCF* cholesterol	Suitable for	Product Code
Cell Boost 1 Supplement (R05.2)	•	•	•						HEK293 CHO	SH30584
Cell Boost 2 Supplement (R15.4)	•		•						PER.C6® CHO	SH30596
Cell Boost 3 Supplement (JM3.5)	•	•	•	•		•			Hybridoma Myeloma	SH30825
Cell Boost 4 Supplement (PS307)	•	•	•	•	•		•	•	CHO	SH30857
Cell Boost 5 Supplement (CN-F)	•	•	•	•	•	•	•	•	Hybridoma NS0 HEK293 CHO	SH30865
Cell Boost 6 Supplement (CN-T)	•	•	•	•	•	•	•	•	T-Cells Hybridoma NS0 HEK293 CHO	SH30866

\* Animal-derived component-free

### Optimization notes

1. Each Cell Boost product can be formulated and/or supplemented based on specific culture or process requirements. The suggestions contained in this document are recommended starting points.
2. Cell Boost supplements can be formulated from 30 to 60 g/L with no pH adjustment. For higher concentrated solutions pH adjustment may be necessary. Each supplement has specific storage, temperature and pH requirements when formulated at higher concentrations.
3. Formulations can be manufactured on a custom basis to include L-glutamine, glutamine-dipeptide and/or the removal of glucose.
4. Performance expectations vary based on cell line, clonal isolate, basal media, and culture mode employed.

### Related products

#### HyClone HyCell CHO medium

HyCell™ CHO is a chemically defined production medium designed to provide excellent performance, support high peak cell density, and enhance product yield and quality.

#### HyClone CDM4CHO medium

CDM4CHO is a chemically defined medium developed to increase process yields for the manufacture of recombinant proteins using a variety of CHO cell clones.

#### HyClone CDM4NS0 medium

CDM4NS0 is a chemically defined medium developed to increase process yields in the manufacture of MAbs using a variety of NS0 cell clones.

#### HyClone CDM4MAb medium

CDM4MAb is a chemically defined medium developed to increase process yields for the manufacture of monoclonal antibodies for therapeutic use in a variety of engineered hybridoma and recombinant myeloma cell lines.

#### HyClone CDM4HEK293 medium

CDM4HEK293 is a chemically defined, medium designed to support the growth of HEK 293 cultures, and promote adenovirus and recombinant proteins production.

#### HyClone CDM4PERMAb medium

Increases process yields in the production of human antibodies and recombinant proteins when using PER.C6 technology.

# Ordering information

Product	Size	Product code
Cell Boost kit	6 × 100 g	SH30890

Related products	Product code
HyClone CDM4CHO powder medium	SH30556
HyClone CDM4CHO liquid medium	SH30557, SH30558
HyClone CDM4NS0 powder medium	SH30578
HyClone CDM4NS0 liquid medium	SH30579
HyClone CDM4MAb powder medium	SH30800
HyClone CDM4MAb liquid medium	SH30801, SH30802
HyClone CDM4PERMAb powder medium	SH30872
HyClone CDM4PERMAb liquid medium	SH30871
HyClone CDM4HEK293 powder medium	SH30859
HyClone CDM4HEK293 liquid medium	SH30858
HyClone HyCell CHO powder medium With hypoxanthine and thymidine (HT)	SH30999
HyClone HyCell CHO liquid medium With HT	SH30934
HyClone HyCell CHO powder medium Without HT	SH30948
HyClone HyCell CHO liquid medium Without HT	SH30949

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