

LS1000 and LS250 supplements

HYCLONE MEDIA AND SUPPLEMENTS

HyClone™ LS1000 cholesterol and LS250 lipid cell culture supplements are chemically defined, animal-derived component-free (Fig 1). LS1000 is specifically designed to be added as a supplement to fed-batch culture processes or to sterile liquid culture media at the time of use. LS250 lipid supplement is specifically developed through the HyClone Metabolic Pathway Design process (see box) to stimulate cell growth and monoclonal antibody (MAb) production in cholesterol-auxotrophic NS0 cell lines.

Key features include

LS1000 supplement

- Animal-derived component-free
- Contains 2.5 mg/mL of cholesterol
- Supports high-cell density fed-batch bioreactor cultures

LS250 supplement

- Animal-derived component-free
- Developed specifically for NS0 cell cultures
- Provides cholesterol and fatty acids necessary for optimal NS0 cell culture

Specifications

LS1000 supplement

LS1000 is a 1000× concentrated cholesterol supplement formulated using a proprietary complexing process for enhanced concentrated cholesterol delivery. LS1000 supplement has been developed for fed-batch applications. LS1000 supplement can also be used to prepare complete cell culture media. After dilution into cell culture medium, however, the preparation should not be refiltered.

LS250 supplement

LS250 is a 250× concentrated lipid supplement formulated using a proprietary lipid complexing process for enhanced stability and filterability. LS250 has been designed to supplement a variety of HyClone serum-free media, and may be used in the preparation of complete liquid media from powdered media (i.e., it may be filtered after dilution in cell culture media). The supplement is designed for hybridoma/myeloma serum-free media (deficient in cholesterol) to meet the cholesterol requirements of auxotrophic NS0 cells.



Fig 1. LS1000 and LS250 supplements are chemically defined and animal-derived component-free.

Product handling

Store medium at 2°C to 8°C, away from light.

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.

General culture recommendations

LS1000 supplement

The supplement can be added multiple times to cultures. While each application of LS1000 supplement will be unique, our suggested supplementation ratio is 1:1000. Fed-batch additions beginning at day 3 to 4 of cell culture, followed by subsequent additional feeds have been shown to boost MAb expression.

LS250 supplement

While each application of LS250 supplements will be unique, suggested supplementation ratio is 1:250.

Quality control testing

Quality control test specifications for LS1000 and LS250 supplements are listed in Table 1.

Table 1. Test specifications¹

Appearance	Clear solution
Sterility	No growth (bacteria or fungi)
Endotoxin	For information only ¹

¹ Refer to certificate of analysis for actual results.

Related products

HyClone HyQTase supplement

HyQTase supplement is an ultrafiltered solution of proteolytic and collagenolytic enzymes combined to achieve rapid dissociation, while being gentle to cells. Its nonmammalian formulation makes it well-suited for serum-free applications and eliminates the need for neutralizing or enzyme inhibitors.

HyClone CDM4NS0 medium

CDM4NS0 medium is a hydrolysate-free medium containing no animal-derived components. This regulatory-friendly medium is developed through HyClone Metabolic Pathway Design process to increase process yields in the manufacture of MAbs using a variety of NS0 cell clones. CDM4NS0 medium requires no cholesterol or glutamine synthetase (GS) supplementation, as it has sufficient amounts to support NS0 cell culture already in the formulation.

Ordering information

Product	Size	Code number
HyClone LS1000 cholesterol supplement	50 mL bottle	SH30554.01
	100 mL bottle	SH30554.02
	500 mL bottle	SH30554.03
	1000 mL bottle	SH30554.04
HyClone LS250 lipid supplement	100 mL bottle	SH30555.01
	500 mL bottle	SH30555.02
	1000 mL bottle	SH30555.03

Related products	Size	Code number
HyClone HyQTase supplement	100 mL bottle	SV30030.01
HyClone CDM4NS0 liquid medium Without L-glutamine	500 mL bottle	SH30579.01
	1000 mL bottle	SH30579.02
	5 L bag	SH30579.03
	10 L bag	SH30579.04
	20 L bag	SH30579.05
	50 L bag	SH30579.06
	100 L bag	SH30579.07
HyClone CDM4NS0 powder medium Without L-glutamine	200 L bag	SH30579.08
	500 L bag	SH30579.09
	1 × 5 L HDPE* bottle	SH30578.01
	1 × 10 L HDPE* bottle	SH30578.02
	1 × 50 L HDPE* bottle	SH30578.03
	1 × 100 L HDPE* bottle	SH30578.04
	1 × 500 L polybag/pail	SH30578.05
	1 × 1000 L polybag/pail	SH30578.06

* High-density polyethylene

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