

CDM4Avian

HYCLONE MEDIA AND SUPPLEMENTS

HyClone™ CDM4Avian cell culture medium is developed for the production of secreted viruses, such as measles, influenza, and Japanese encephalitis (JE); and of non-secreted viruses, such as the modified vaccinia Ankara (MVA) virus, for manufacturing of viral vaccines in avian cell lines, such as EB66® cells. With its chemically defined and animal-derived component-free (ADCF) formulation, the medium is well-suited for bioprocess applications. CDM4Avian is available in various configurations, ranging from liquid to powder format for small- to large-scale applications (Fig 1).

CDM4Avian is formulated for use in a variety of cell culture platforms, ranging from shaker flasks to WAVE™ and Xcellerex™ bioreactors.

Key features of CDM4Avian medium

- Chemically-defined and ADCF formulation
- Designed to support high cell density, viral infectivity and productivity
- Economical, single formulation for cell propagation and viral production
- Designed for small- to large-scale culture applications
- Available in liquid and powder formulations

Specifications

Liquid medium

- Without L-glutamine
- With sodium bicarbonate
- With poloxamer 188
- Without phenol red

Powder medium

- Without L-glutamine
- Without sodium bicarbonate
- Without poloxamer 188
- Without phenol red

Product handling

Both powder medium and hydrated medium should be stored at 2°C to 8°C. Product should be stored away from light.



Fig 1. CDM4Avian is available as liquid or powder in pack sizes suitable for small-volume cell culture as well as large-scale bioprocessing applications.

Suggested preparation

Liquid medium

With the exception of L-glutamine addition, liquid medium is ready to use right out of the bottle. Recommended addition is 2.5 mM sterile-filtered L-glutamine.

Dry powder medium

1. While stirring, add 19.28 g/L dry powder medium to cell culture-grade water at 90% of final preparation volume. If your water source is normally cool, it may be useful to adjust the water temperature. Using warmer room temperature water (22°C to 25°C) will improve dissolution time. Mix 30 min or until dissolved.
2. Add poloxamer 188 (1 g/L) and sodium bicarbonate (2 g/L). Mix 30 min or until dissolved.
3. Bring vessel to final volume with cell culture-grade water. Allow solution to mix for for 10 min.
4. Check pH and osmolality and adjust if necessary. Expected values:
 - pH 7.0–7.4
 - Osmolality 290–330 mOsm/kg
5. Sterile filter into desired container using a 0.2 µm sterile filter.

Preparation notes

L-glutamine can be added (2.5 mM final concentration) during step 2 if medium is to be stored short term. For longer storage, it is recommended that L-glutamine is added at time of use. Once hydrated, medium without L-glutamine can be stored at 2°C to 8°C for at least 12 months. The shelf life for powder is 36 months from date of manufacture.

General culture recommendations

- 1 Cultures should be incubated at 37°C in a 7.5% CO₂ environment.
2. Maintain adapted cells by establishing a mid-logarithmic growth phase subculturing schedule.
3. Suggested seeding density of cultures: 4 × 10⁵ cells/mL; viability should be > 90%.

Direct adaptation

Transfer cells grown in current serum-free medium directly into CDM4Avian at 4.0 × 10⁵ cells/mL. Passage cells every two to three days. Adaptation is complete once cells have transitioned to a growth rate of < 24 h per doubling.

Cryopreservation

Adapted cells can be cryopreserved in CDM4Avian with 10% DMSO. We recommend freezing the cells at a minimum cell density of 1 × 10⁷ cells/mL.

Quality control testing

Quality control test specifications are listed in Table 1.

Table 1. Test specifications¹

Liquid medium	
Appearance	Clear solution
Osmolality	290 to 330 mOsm/kg H ₂ O
pH	7.0 to 7.4
Sterility	No growth (bacteria or fungi)
Endotoxin	< 1 EU/mL
Growth promotion	Satisfactory
Powder medium	
Appearance	Off-white powder
Osmolality (without NaHCO ₃)	240 to 280 mOsm/kg H ₂ O
pH (without NaHCO ₃)	5.0 to 7.0
Endotoxin	< 10 EU/g
Growth Promotion	Satisfactory

¹ Refer to certificate of analysis for actual results.

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Custom manufacturing

Formulations and delivery systems can be customized to your specific process requirements or optimized to maximize process yields.

Rapid Response Production (RRP)

Our RRP program manufactures up to 200 L of your custom prototype formulation, typically within five working days of your order. Use our RRP service to expedite the development and testing of custom media, buffers, and process liquids for your biopharmaceutical manufacturing process.

Ordering information

CDM4Avian is manufactured in homogenous liquid lot sizes up to 10 000 L and powder lot sizes up to 250 000 L.

Product	Size	Product code	
HyClone CDM4Avian powder medium*	10 L bottle	SH31035.02 [†]	
	50 L bottle	SH31035.03 [‡]	
	Without L-glutamine		
	Without sodium bicarbonate	100 L polybag/pail	SH31035.04 [‡]
Without poloxamer 188	500 L polybag/pail	SH31035.05 [‡]	
	Without phenol red		
	1000 L polybag/drum	SH31035.06 [‡]	
HyClone CDM4Avian liquid medium	1 L bottle	SH31036.02 [†]	
	10 L bag	SH31036.04 [†]	
	Without L-glutamine		
	With sodium bicarbonate	20 L bag	SH31036.05 [‡]
	With poloxamer 188	50 L bag	SH31036.06 [‡]
	Without phenol red		
	100 L bag	SH31036.07 [‡]	
	200 L bag	SH31036.08 [‡]	

Related products	Size	Product code
L-glutamine 200 mM	100 mL bottle	SH30034.01 [†]
	500 mL bottle	SH30034.02 [†]
	500 g	SH30336.03 [‡]

* Packaging has powder sufficient to make liquid medium equivalent to volume stated on the label.

[†] Item in stock.

[‡] Item is made to order. Lead times and minimum order quantities apply.

