

Thermo Scientific HyClone CDM4HEK293™

Thermo Scientific HyClone CDM4HEK293 is a chemically-defined, animal component free and protein-free cell culture medium designed to support the growth of HEK 293 cultures, and promote adenovirus and recombinant protein production. This regulatory-friendly medium was developed through the Metabolic Pathway Design™ to support the extremely high productivity and cell density in suspension cultures.

Features

- Animal Derived Component Free
- Chemically-defined formulation
- Metabolically designed for high cell yield and recombinant protein/vector production
- Allows for direct or sequential adaptation
- Component traceability
- Manufactured under cGMP

Specifications

- Contains Pluronic® F-68 (Liquid Only)
- Does not contain L-glutamine
- Does not contain Phenol-Red

QC Testing

Test	Specification
Appearance	Clear Solution
Osmolality	290-340 mOsm/kg
pH	7.0-7.4
Sterility	No Growth
Endotoxin	<1.0 EU/mL
Application Testing	Growth Promotion

Suggested Preparation

Reconstitution of HyClone CDM4HEK293 DPM (SH30859)

- 1 While stirring, add SH30859 to cell culture grade water (20-25°C) at 90 percent of final preparation volume (19.5 g/L). Mix until dissolved. Medium should be a clear, golden solution at this point.
- 2 Add 1.0 g/L Pluronic® F-68 and 2.0 g/L sodium bicarbonate. Ensure each component has completely dissolved before adding the next component.
- 3 Bring vessel to final volume with cell culture grade water. Allow solution to mix for 10-20 minutes.
- 4 Adjust pH to between 7.0 and 7.2 by adding 1 N NaOH, or 1N HCl dropwise to solution.
- 5 Check osmolality. Expected value is 290-340 mOsm/kg
- 6 Sterile filter into desired container using a 0.2 micron sterile filter.

Preparation Notes

HyClone CDM4HEK293 DPM (SH30859) does not contain L-glutamine. Recommended concentration: 4 mM. Liquid and DPM HyClone CDM4HEK293 should be stored at 2-8°C away from light.



Culture Recommendations

- 1 Cultures should be incubated at 37°C and in a 5 percent CO₂ environment.
- 2 Adaptation of 293 cells from adherent and serum rich conditions is best achieved using a two-step process. First, adaptation to serum-free suspension conditions is achieved using HyClone SFM4HEK293. Once cells have adapted to this SFM they can be directly adapted to HyClone CDM4HEK293. Follow the adaptation protocol for HyClone SFM4HEK293 to adapt cells from serum-containing conditions.

Direct Adaptation

1. Transfer cell grown in current serum-free media directly into HyClone CDM4HEK293 at 3.0×10^5 cells/mL.
- 2 Passage cells every 3 to 4 days.
- 3 Adaptation is complete once cells have transitioned from a doubling rate of 30 h to a rate of 24 h or less per doubling.

Cell Maintenance

Maintain adapted cells by establishing a passage schedule that allows the cells to be passed while in log growth phase. HEK 293 cells cultivated in HyClone CDM4HEK293 should be subcultured every 3 to 4 days (72 to 96 h). The passage schedule and seeding density may be adjusted to optimize performance. The recommended cell seeding density of new cultures for general maintenance is 300,000 cells/ml. The culture viability of an adapted culture should remain greater than 90 percent. However, during adaptation from serum-containing medium viabilities may be slightly lower than 90

percent. Cells should exhibit a population doubling time of approximately 20 to 24 h. If the recommended seed density of 3.0×10^5 cells/mL is used, cultures typically reach approximately 2.5 to 3.5×10^6 cells/ml after 72 h and 5.0 to 6.0×10^6 cells/ml after 96 h. Doubling times during an adaptation period may be higher. Seed stock does not require centrifugation for spent medium removal unless the seeding volume is greater than 50 percent of the culture working volume. This may occur during adaptation, but should not be the case during general culture maintenance.

Cryopreservation

HyClone CDM4HEK293 adapted cells can be cryopreserved in a medium consisting of a 1:1 ratio of fresh and conditioned HyClone CDM4HEK293. To this add DMSO at a final concentration of 7.5 percent.

Ordering Information

Name	Part Number/Unit Size	Description							
HyClone CDM4HEK293™ Liquid	SH30858.01	500 mL Bottle							
	SH30858.02	1000 mL Bottle							
	SH30858.LS	6 x 1000 mL Bottles							
	SH30858.04	5 L BPC: Hanging Pillow							
	SH30858.05	10 L BPC: Hanging Pillow							
	SH30858.06	20 L BPC: Hanging Pillow							
	SH30858.07	50 L BPC: 3D Bag							
	SH30858.08	100 L BPC: 3D Bag							
	SH30858.09	200 L BPC: 3D Bag							
	SH30858.10	500 L BPC: 3D Bag							
	SH30858.11	900 L BPC: 3D Bag							
HyClone CDM4HEK293™ Powder	SH30859.01	1 x 5 L							
	SH30859.02	1 x 10 L							
	SH30859.03	1 x 50 L							
	SH30859.04	1 x 100 L							
	SH30859.05	1 x 500 L							
	SH30859.06	1 x 1000 L							
Related Products									
HyClone SFM4Transfx-293™	SH30860	4 mM L-glutamine (Liquid)							
	SH30861	No L-glutamine (Powder)							
HyClone Cell Boost™ Kit	SH30890	6 x 100 g							
		Cell Boost 1	Amino Acids	Vitamins	Glucose	Trace Elements	Growth Factors	Lipids	Cholesterol
		Cell Boost 2	✓	✓	✓				
		Cell Boost 3	✓	✓	✓	✓			
		Cell Boost 4	✓	✓	✓	✓	✓		
		Cell Boost 5	✓	✓	✓	✓	✓	✓	✓
		Cell Boost 6	✓	✓	✓	✓	✓	✓	✓

