HyCell TransFx-H

HYCLONE MEDIA AND SUPPLEMENTS

HyClone™ HyCell™ TransFx-H is an animal-derived component-free (ADCF), hydrolysate-free, and regulatory-friendly cell culture medium. The versatility of this medium allows quick adaptation and supports exceptional transfection, high viable cell density, and high productivity across a variety of human embryonic kidney (HEK) 293 cell lines. HyCell TransFx-H is available in liquid and powder formats in user-friendly packaging (Fig 1).

Key features of HyCell TransFx-H medium include

- Hydrolysate-free and ADCF formulation
- Supports high transfection efficiency
- Designed for high cell yield and recombinant protein production
- Allows for direct or sequential adaptation
- Designed for micro- to large-scale transfection and production applications
- Manufactured from traceable components according to cGMP guidelines

HyCell TransFx-H medium provides consistent performance and maximizes process yields in transfection and transient expression of recombinant proteins. The versatility of the medium allows for the use of HEK 293 cell lines in microliter volumes starting from 200 µL to production-scale volumes in bioreactors.

In addition to component traceability and regulatory-friendly characteristics, cGMP- and ISO-compliant manufacturing is maintained to provide a quality product for cell culture and bioprocessing applications. L-glutamine, a photoreactive component, was removed to lengthen media shelf life; point-of-use supplementation is recommended (see below for details).



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

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Specifications

HyCell TransFx-H powder medium

- ADCF
- Without poloxamer 188 and L-glutamine
- Hydrolysate-free

HyCell TransFx-H liquid medium

- ADCF
- With sodium bicarbonate
- Without poloxamer 188 and L-glutamine
- Hydrolysate-free

Product handling

Store medium at 2°C to 8°C, away from light. In addition, powder medium should be stored protected from moisture in a tightly sealed container.

Preparation notes

HyCell TransFx-H media does not contain L-glutamine or poloxamer 188

- Recommended concentration of L-glutamine: 4 mM. (For longer storage, up to three months, it is recommended that L-glutamine is added at time of use).
- Recommended concentration of poloxamer 188:
  - For liposomal transfection: 0.1 to 0.5 g/L
  - For polymer transfection: 0.5 to 1.5 g/L

L-glutamine and poloxamer 188 concentration should be optimized for each system.

Protocol for hydration of HyCell TransFx-H powder medium

1. While stirring, add 19.25 g/L HyCell TransFx-H 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 solubilization time. Mix for 20 min until dissolved. Medium should be a clear, yellow solution at this point.
2. Add poloxamer 188 to desired level (according to the transfection method being employed as described above) and 3.2 g/L sodium bicarbonate. Mix until dissolved.
3. Bring vessel to final volume with cell culture-grade water. Allow solution to mix for 15 to 30 min.
4. Check pH and osmolality and adjust if necessary. Adjust pH to between 7.0 and 7.2 by adding 1 N NaOH or 1 N HCl dropwise to solution.
5. Expected osmolality: 280 to 320 mOsm/kg.
6. Sterile filter into desired container using a 0.2 µm sterile filter.

General culture recommendations

Cultures should be incubated at 37°C in a 5% CO_2 environment.

Sequential adaptation of cells grown in serum-containing medium

Adaptation of HEK 293 cells from adherent and serum-rich conditions is preferably achieved using a two-step process. First, adaptation to serum-free suspension conditions is achieved using HyClone SFM4HEK293 or HyClone CDM4HEK293. Once cells have adapted to serum-free conditions, they can be directly adapted to HyCell TransFx-H medium.

Direct adaptation from cells grown in serum-free medium

Transfer cells grown in current serum-free medium directly into HyCell TransFx-H media at 3.0×10^5 cells/mL. Passage cells every 3 to 4 days. Adaptation is complete once cells have transitioned to a growth rate of ~ 24 h per doubling.

Cryopreservation

Adapted cells can be cryopreserved in HyCell TransFx-H medium with 10% DMSO. We recommend freezing the cells at a minimum cell density of 1×10^7 cells/mL.

Quality control testing

Quality control test specifications are listed in Table 1.

Table 1. Test specifications[1]

Appearance	Clear yellow solution
Osmolality	280 to 320 mOsm/kg
pH	7.0 to 7.4
Sterility	No growth (bacteria or fungi)
Endotoxin	< 1.0 EU/mL
Application	Growth promotion

[1] Refer to certificate of analysis for actual results.

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Custom production

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

Related products

CDM4HEK293

CDM4HEK293 medium is animal-derived component-free and designed to support the growth of HEK 293 cell cultures and promote adenovirus and recombinant protein production.

Ordering information

HyCell TransFx-H medium is manufactured in homogenous liquid lot sizes up to 10 000 L and powder lots up to 250 000 L.

Product	Size	Product code
HyClone HyCell TransFx-H liquid medium Without L-glutamine Without poloxamer 188	500 mL PETE* bottle	SH30939.01†
	1 L PETE* bottle	SH30939.02‡
	5 L bag	SH30939.03†
	10 L bag	SH30939.04†
HyClone HyCell TransFx-H powder medium Without L-glutamine Without poloxamer 188	5 L in HDPE§ bottle	SH30944.01†
	10 L in HDPE§ bottle	SH30944.02‡
	50 L in HDPE§ bottle	SH30944.03†
	100 L in HDPE§ bottle	SH30944.04†
	500 L in poly bag/pail	SH30944.05†
	1000 L in poly bag/pail	SH30944.06†

Related products	Size	Product code
HyClone CDM4HEK293 liquid medium	500 mL PETE* bottle	SH30858.01†
	1000 mL PETE* bottle	SH30858.02‡
	1 L bag	SH30858.03†
	5 L bag	SH30858.04†
	10 L bag	SH30858.05†
	20 L bag	SH30858.06†
	50 L bag	SH30858.07†
	100 L bag	SH30858.08†
	200 L bag	SH30858.09†
	500 L bag	SH30858.10†
HyClone CDM4HEK293 powder medium	5 L HDPE§ bottle	SH30859.01†
	10 L HDPE§ bottle	SH30859.02†
	50 L HDPE§ bottle	SH30859.03†
	100 L HDPE§ bottle	SH30859.04†
	500 L polybag/pail	SH30859.05†
	1000 L polybag/pail	SH30859.06†

* Polyethylene terephthalate
† Item is made to order. Lead times and minimum order quantities apply.
‡ Item in stock.
§ High-density polyethylene

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