HyCell TransFx-C

HYCLONE MEDIA AND SUPPLEMENTS

HyClone™ HyCell™ TransFx-C 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 Chinese hamster ovary (CHO) cell lines. HyCell TransFx-C is available in liquid and powder formats in user-friendly packaging (Fig 1).

Key features of HyCell TransFx-C medium include

- ADCF and hydrolysate-free 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-C medium was developed through the HyClone Metabolic Pathway Design process (see box) to provide consistent performance and maximize process yields in transfection and transient expression of recombinant proteins. The versatility of the medium allows for the use of CHO cell lines in microliter volumes, starting from 200 µL to production-scale volumes in bioreactors.

In addition to component traceability and regulatory-friendly ADCF characteristics, cGMP- and ISO-compliant facility manufacturing is maintained to provide a quality product for cell culture and bioprocessing applications. To lengthen shelf life, please note that neither version of this formulation includes L-glutamine. The recommended supplementation is 4 mM.



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

Metabolic Pathway Design process

An optimal cell culture process is dependent on a variety of factors, such as cell line, specific clones, media, and feeds, as well as processes to maximize viable cell densities and productivity. Our experts in medium design and development know and understand these factors at the metabolic level. They evaluate each metabolic profile, understanding nutritional demands and waste creation, to make sure the correct nutrient type and quantity is used to minimize waste and resultant cell toxicity. Our experts use their understanding of metabolic pathways to optimize media for enhanced viable cell densities and productivity. Once the medium has been optimized using this Metabolic Pathway Design process, our scientists can help you devise an effective cell culture strategy using a combination of media and feeds to further enrich productivity and reduce process inefficiencies.

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Specifications

HyCell TransFx-C powder medium

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

HyCell TransFx-C liquid medium

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

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

HyCell TransFx-C medium does not contain L-glutamine or poloxamer 188.

- Recommended concentration for 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 for 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-C powder medium

1. While stirring, add 23.4 g/L HyCell TransFx-C 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 than 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 drop wise to the solution.
5. Expected osmolality: 260 to 300 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 CHO 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 SFM4CHO or HyClone CDM4CHO. Once cells have adapted to serum free conditions, they can be directly adapted to HyCell TransFx-C medium.

Direct adaptation from cells grown in serum-free medium

Transfer cells grown in current serum-free medium directly into HyCell TransFx-C medium at 3.0×10^5 cells/mL. Passage cells every 3 to 4 day. 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-C 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

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 within seven working days of your request. Use our RRP service to expedite the development and testing of custom media for your biopharmaceutical manufacturing process.

Related products

SFM4CHO

SFM4CHO cell culture medium is a serum-free and protein-free formulation that contains no components of bovine origin and has been designed for high performance in a variety of culture vessels, including bioreactors. The medium is formulated using a proprietary lipid complexing process for enhanced stability and growth promotion of various CHO cell lines.

CDM4CHO

CDM4CHO cell culture medium is serum-free, chemically defined, and contains no animal derived components. This regulatory-friendly medium is developed through the Metabolic Pathway Design process to increase the process yields for the industrial manufacture of recombinant proteins using a variety of CHO cell clones. CDM4CHO medium has been successfully tested in a variety of culture systems, including T-flasks, shaker flasks, and bioreactors, including fed-batch and perfusion culturing.

CDM4CHO medium contains Pluronic™ F-68 and L-glutamine and does not contain phenol red. The medium is also available without L-glutamine to support the glutamine synthetase gene expression system.

Ordering information

HyCell TransFx-C 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-C liquid medium Without L-glutamine Without poloxamer 188	500 mL PETE bottle	SH30941.01†
	1 L PETE bottle	SH30941.02†
	1 L bags	SH30941.03†
	5 L bags	SH30941.04†
	10 L bags	SH30941.05†
	20 L bags	SH30941.06†
	50 L bags	SH30941.07†
	100 L bags	SH30941.08†
	200 L bags	SH30941.09†
	500 L bags	SH30941.10†
HyClone HyCell TransFx-C powder medium Without L-glutamine Without poloxamer 188	5 L in HDPE bottle	SH30942.01†
	10 L in HDPE bottle	SH30942.02*
	50 L in HDPE bottle	SH30942.03†
	100 L in HDPE bottle	SH30942.04†
	500 L in poly bag/pail	SH30942.05†
	1000 L in poly bag/pail	SH30942.06†

Related products	Size	Product code
HyClone SFM4CHO Without L-glutamine (liquid)	500 mL	SH30548.01†
	1000 mL	SH30548.02*
	5 L	SH30548.03†
	10 L	SH30548.04†
	20 L	SH30548.05†
	50 L	SH30548.06†
	100 L	SH30548.07†
	200 L	SH30548.08†
	500 L	SH30548.09†
	6 × 1000 mL	SH30548.LS†
HyClone CDM4CHO With L-glutamine (liquid)	500 mL	SH30557.01†
	1000 mL	SH30557.02*
	10 L	SH30557.04†
	20 L	SH30557.05†
	6 × 1000 mL	SH30557.LS†

* Stock items

† Item is made to order. Lead times and minimum order quantities apply.

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