

The User's Manual—Tobitec FC

Basic Information Introduction

Product Introduction

Tobitec FC is chemically-defined (CD) feed media, containing amino acids, vitamins, glucose, inorganic salts and trace elements, without protein, protein hydrolysate and any animal-derived components. Tobitec FC is an efficient feeding formula specifically designed to improve CHO and HEK293 cell growth and product production performance, which can meet the nutritional needs of high-density cell culture and high product expression. The use of Tobitec FC enables high-density stable culture of CHO and HEK293 cells and high-level expression of viral products.



Application Scope

Tobitec FC can be applied to the Fed-batch culture of CHO and HEK293 cells, effectively improving cell density and product expression. It is suitable for the development and production process of protein or antibody and virus-related products, but cannot be directly used in the human body or as a drug.

Shipping, Storage and Validity Period

Product	Catalog No.	Storage	Shipping	Validity Period
Tobitec FC	LQF01-C, Liquid	2°C ~ 8°C, Protect from light	2°C ~ 8°C, Protect from light	6 months
Tobitec FC	DQF01-C, Powder	2°C ~ 8°C, Protect from light	2°C ~ 8°C, Protect from light	24 months

Protocol for Hydration of Powder Medium

1. Fill the mixing container with purified water (20 ~ 30°C) at 90% of the final volume.
2. Slowly add 35.00 g/L of powder medium with gentle stirring. Mix for 30 ~ 40 minutes.
3. Adjust the pH to 8.70 ~ 8.90 using 5M NaOH solution. Mix for 40 ~ 50 minutes.
4. Adjust the pH to 6.90 ~ 7.20 using 5M HCl solution. Mix for 5 ~ 10 minutes.
5. Adjust the solution volume to 100% with purified water. Mix for 5 ~ 10 minutes.
6. Filter immediately the media with a 0.22 μm membrane filter.

Quality Index of Powder and Liquid Media

Product Index	Tobitec FC (LQF01-C), Liquid	Tobitec FC (DPF01-C), Powder
Appearance	Light red, clear liquid	Off white powder
pH	6.9 ~ 7.4	6.9 ~ 7.4 (pre-filter)
Osmolality (mOsmol/kg)	280 ~ 350	280 ~ 350
Solubility	--	Dissolve well according to the protocol for hydration of powder medium
Endotoxin (EU/mL)	< 3	< 3
Sterility	Negative	--
Bioburden	--	Aerobic bacteria: < 200 CFU/g Molds and yeasts: < 50 CFU/g

Reference Fed Feeding Strategy

CHO Fed-batch culture fed-feed strategy

Tobitec FC used for CHO transfection and protein expression

In the cell culture process, on day 3 or day 4 (the middle and late stage of growth), start adding FC feed products, the feeding range is recommended 20 ~ 300 mL/L.

Refer to the following feeding strategies for feeding:

Feeds/Time	D3	D5	D7	D9	D11	D13
Tobitec FC	4%	4%	4%	4%	4%	4%
	5%	5%	5%	5%	5%	5%
	6%	6%	6%	6%	6%	6%
Glucose	When the glucose concentration is below 4 g/L, glucose is added at the final concentration of 6 g/L					
Glutamine	Control glutamine 2 ~ 6 mmol/L after transfection or add 4 mmol/L glutamine according to the culture volume at the time of feeding					

HEK293 Fed-batch culture fed-feed strategy

Tobitec FC used for HEK293 virus infection and expression

Tobitec FC used for HEK293 transient and protein expression

24 h after transfection, add Tobitec FC feeding product at 5 ~ 8%, and add 4 mmol/L glutamine according to the culture volume.