

CHO Series Medium Products

Product Introduction

The CHO media series includes three stable transfer media: CHO-1 CDM08, CHO CDM09, CHO CDM27, one instant transfer media CHO CDM10, and two supplementary culture media Tobitec FA and Tobitec FB, all of which are fully chemically defined, animal-derived and protein-free. They are suitable for large-scale suspension culture of CHO and product expression, can support high-density cell expansion and stable product expression. Among them, CHO-1 CDM08 is suitable for CHO-K1, CHO CDM09 has a wide range of adaptability to CHO cell types, and CHO CDM27 is specially optimized for CHO-ZN. Tobitec FA & FB are highly efficient feeding mediums specially designed for improving CHO cell growth and production, which can satisfy the nutrient needs from high cell density culture and high level expression.



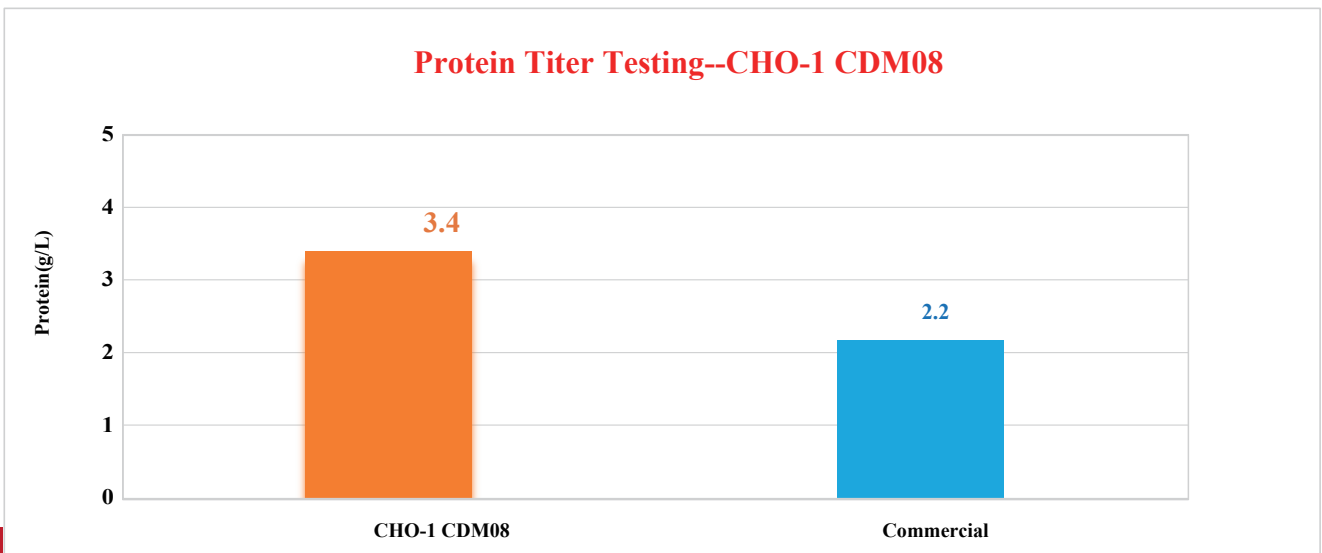
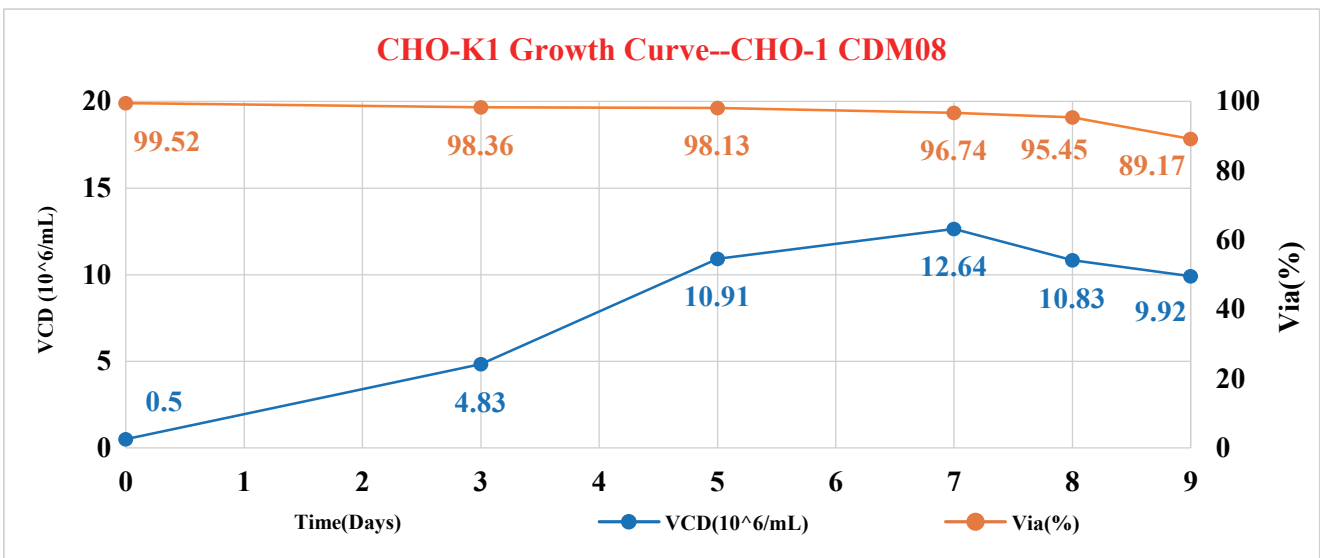
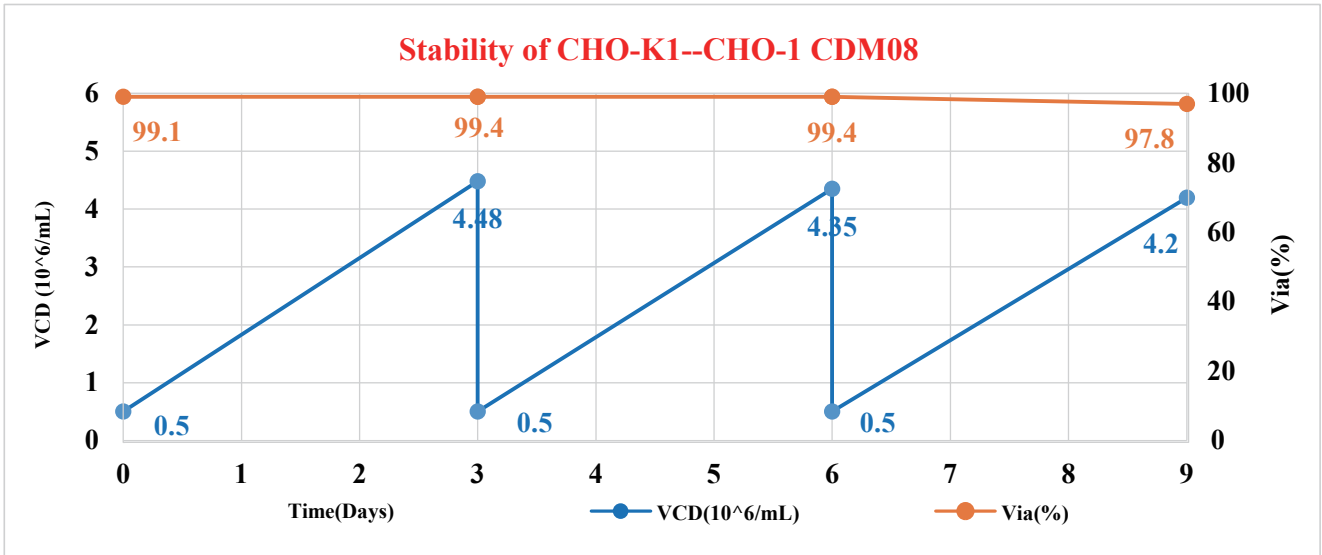
Product Information

Product	Catalogue	Characteristic	Suitable Cell Line & Related Derivatives			
CHO-1 CDM08 (stable transfected)	LQ08-1000 (Liquid)	Animal origin free, protein-free, chemically defined	CHO-k1			
	DP08,50L/100L (Dry Powder)					
CHO CDM09 (stable transfected)	LQ09-1000 (Liquid)		Animal origin free, protein-free, chemically defined	CHO-k1, CHO-S, etc.		
	DP09,50L/100L (Dry Powder)					
CHO CDM27 (stable transfected)	LQ27-1000 (Liquid)			Animal origin free, protein-free, chemically defined	CHO-k1, CHO-S, CHO-ZN and CHO-Q, etc	
	DP27,50L/100L (Dry Powder)					
CHO CDM10 (transient transfected)	LQ10-1000 (Liquid)	Animal origin free, protein-free, chemically defined				CHO-k1, CHO-S, CHO-ZN and CHO-Q, etc
	DP10,50L/100L (Dry Powder)					

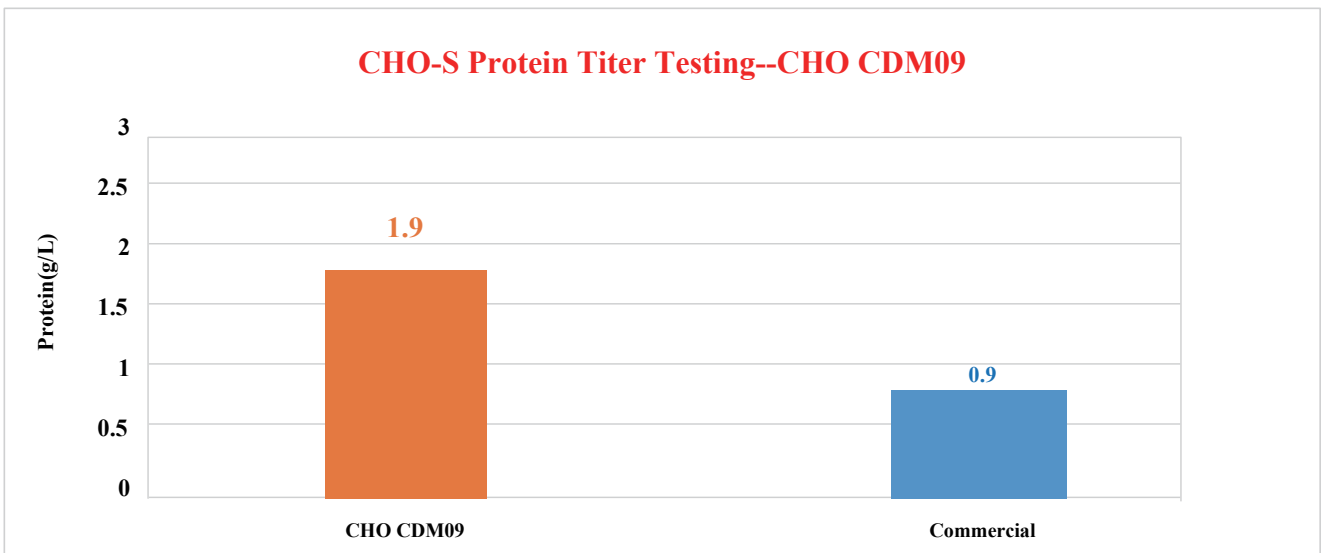
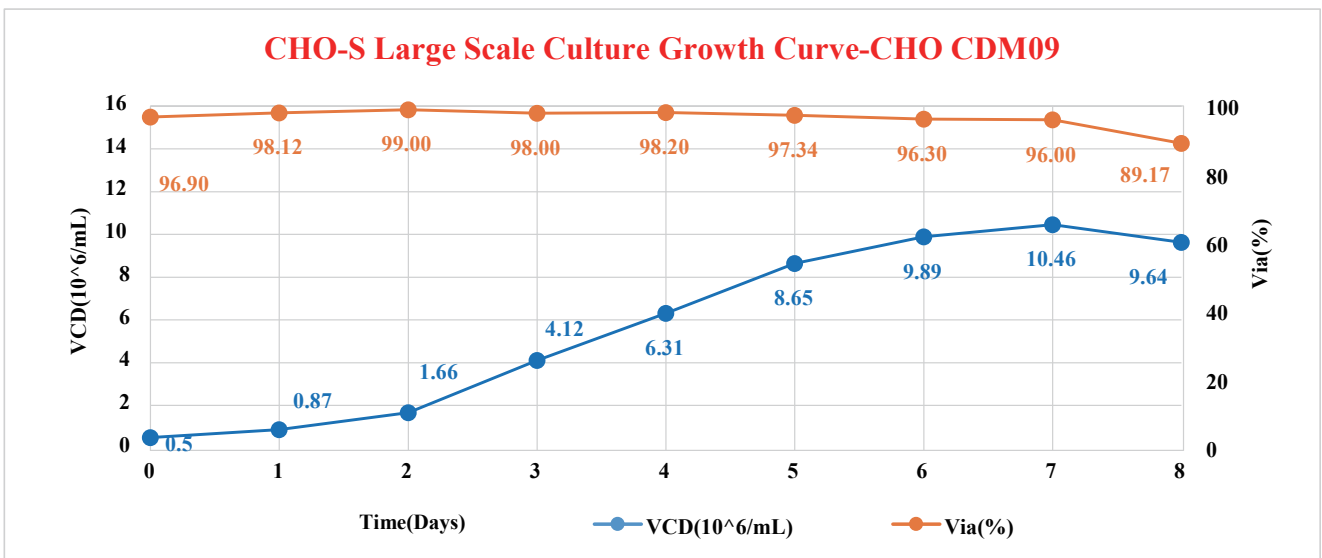
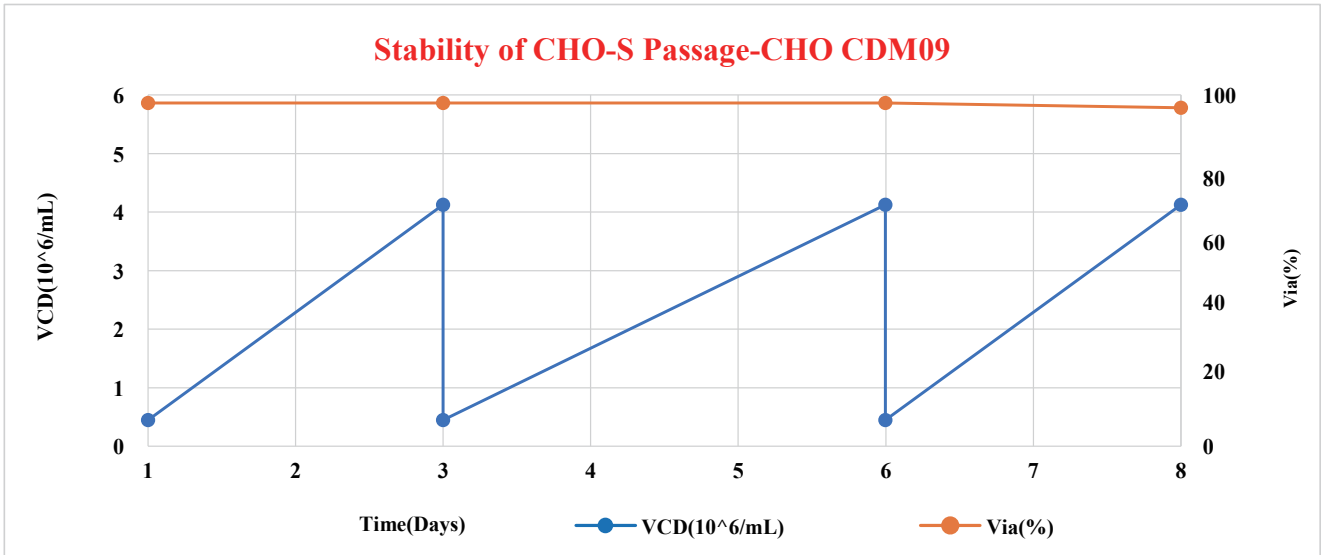
Product Advantages

- Animal origin free, protein-free, fully chemically defined culture media products;
- Suitable for high-density suspension culture of CHO cells with strong adaptability and rich nutrients;
- Suitable for bioreactor large-scale scale-up culture processes, supporting batch, fed-batch and perfusion culture modes;
- Effective support for transfection and subsequent protein expression, ensuring stable and high quality expression of antibodies and proteins;
- Highly quality imported raw materials to formulate the product with high quality and stability;
- cGMP standard production conditions, using continuous needle milling equipment for power medium production to ensure good product consistency of different batches.

1、CHO-1 CDM08

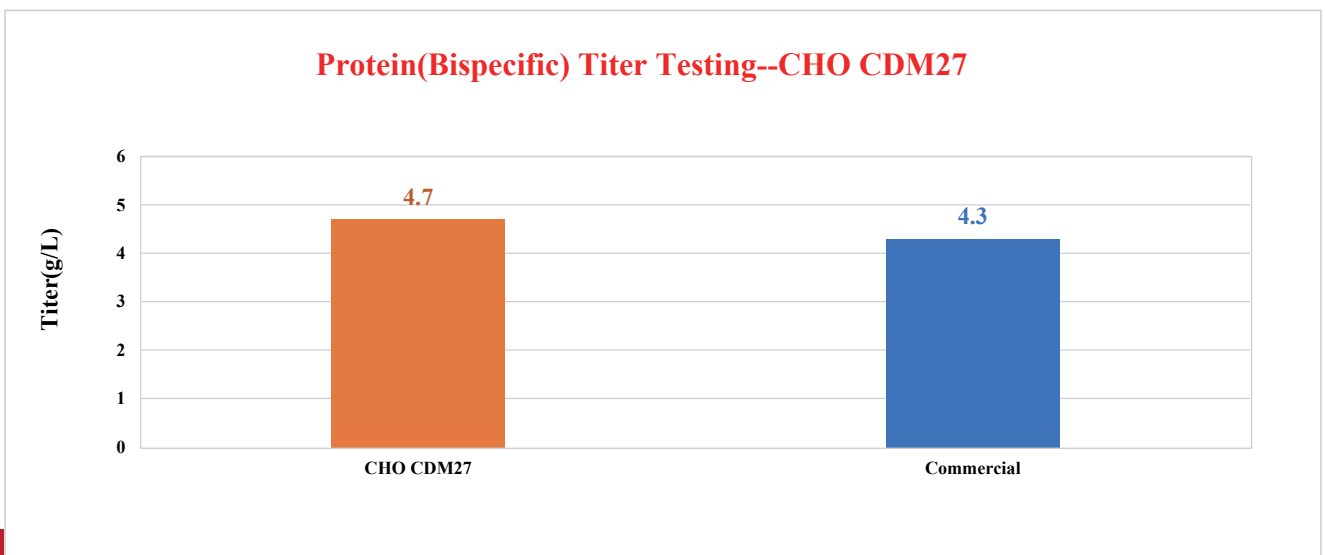
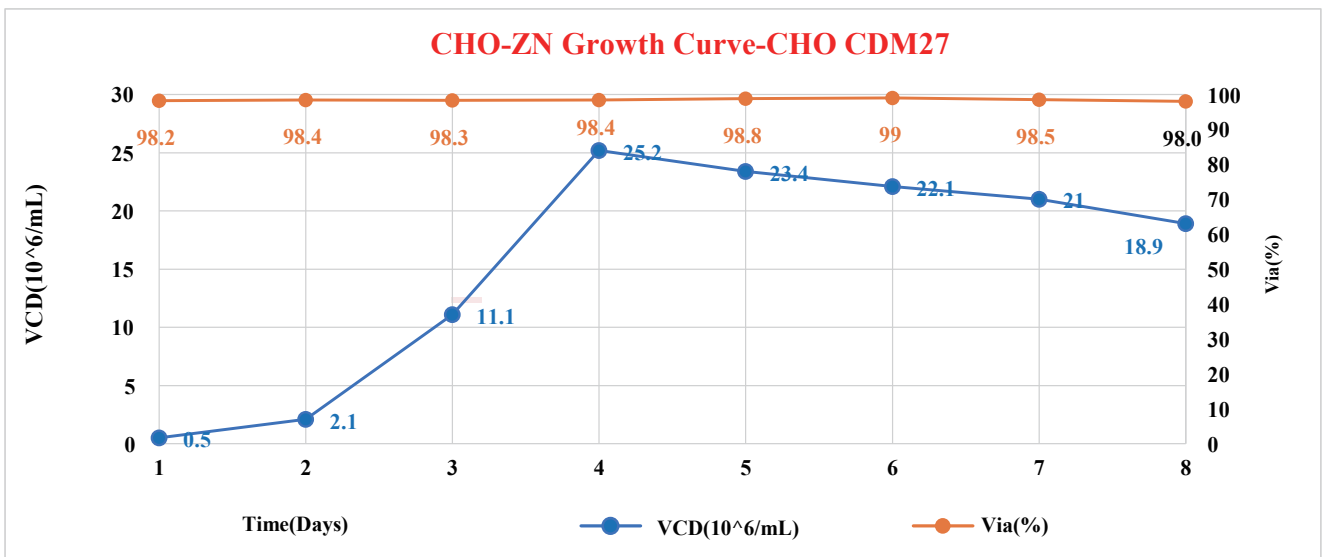
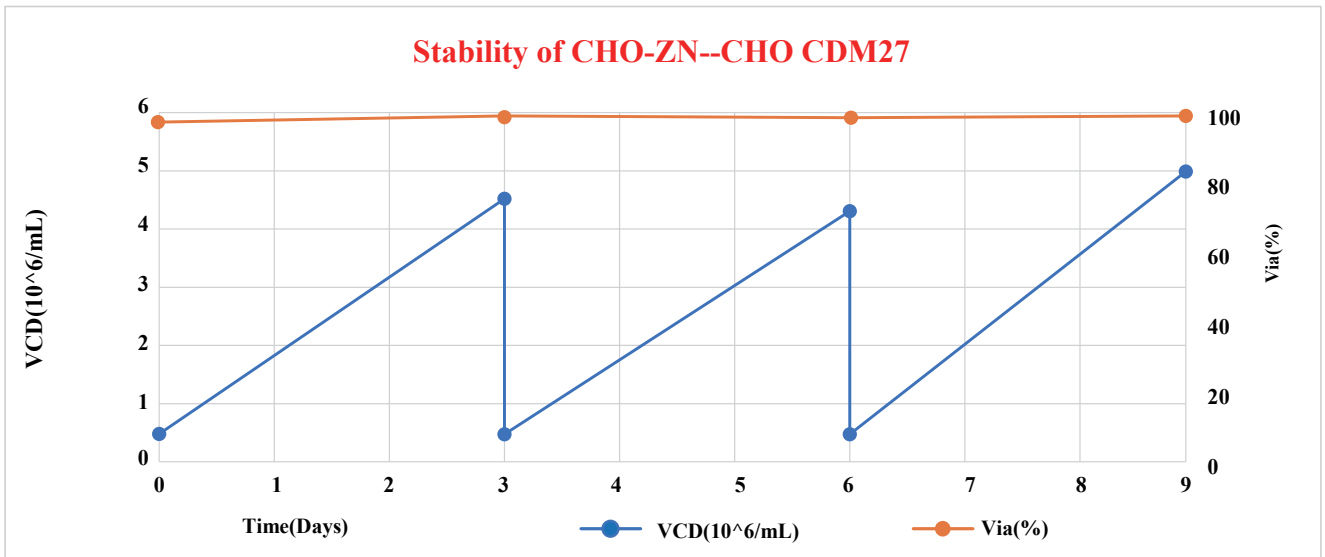


2、CHO CDM09





3、CHO CDM27



CHO series medium--Tobitec FA & Tobitec FB

Product Introduction

Tobitec FA &FB are chemically-defined feeding mediums without animal-derived components, growth factors, polypeptides, hydrolysates and phenol red, containing amino acids, vitamins, glucose, inorganic salts, and trace elements. Our products are highly efficient feeding mediums specially designed for improving CHO cell growth and production, which can satisfy the nutrient needs from high cell density culture and high level expression. Our products are also suitable for different cell lines including CHO-K1, CHO-S, DG44, CHO-ZN, etc, selected by GS system and DFHR system. Using appropriate feeding strategy based on cell strain traits can significantly improve cell growth and expression level and quality of antibody.



Product Information

Product	Catalogue	Characteristic	Adapted cell types
Tobitec FA	LQF01-A-125/500/1000 (Liquid)	Animal origin free, protein-free, chemically defined	CHO-ZN, CHO-k1, CHO-S, CHO-Q and etc.
	DPF01-A,10L/50L (Dry Powder)		
Tobitec FB	LQF01-B-125/500/1000 (Liquid)		
	DPF01-B,5L/10L (Dry Powder)		

Product Advantages

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- Suitable for bioreactor large-scale scale-up culture processes, supporting batch, fed-batch and perfusion culture modes;
- Effective support for transfection and subsequent protein expression, ensuring stable and high quality expression of antibodies and proteins;
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Application of Tobitec FA&FB in protein drug production

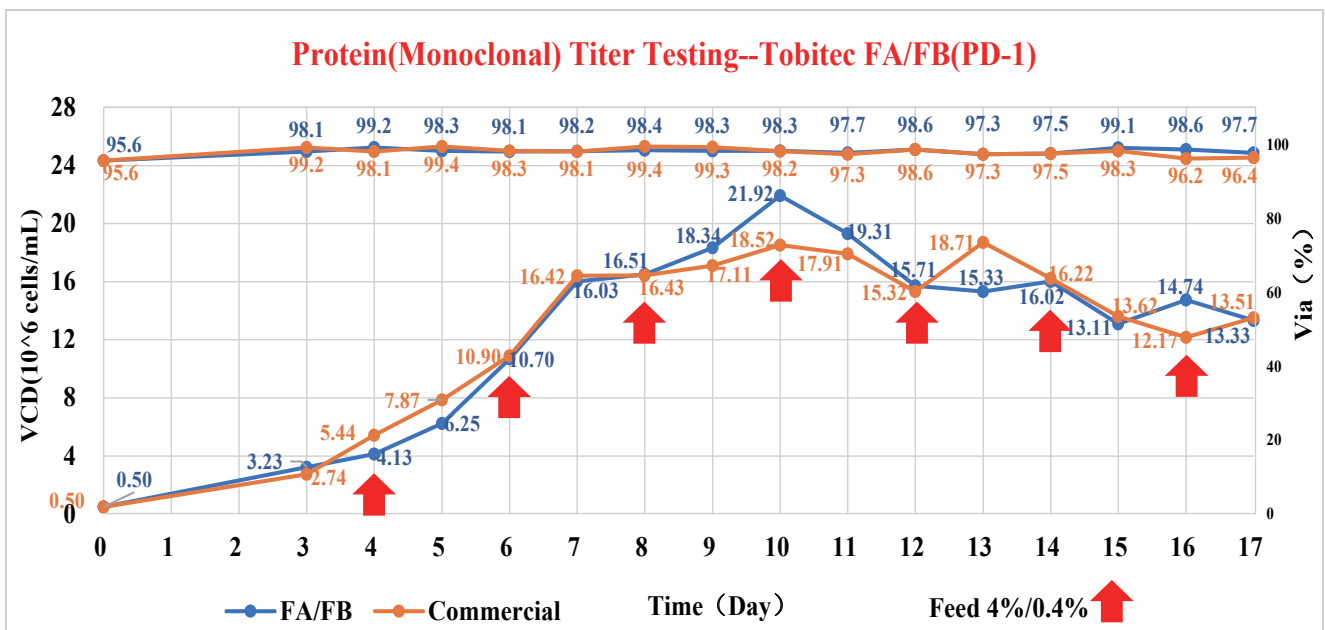
CCM: CHO -1 CDM08 +Tobitec FA&FB /Commercial

Cell Line: CHO-K1

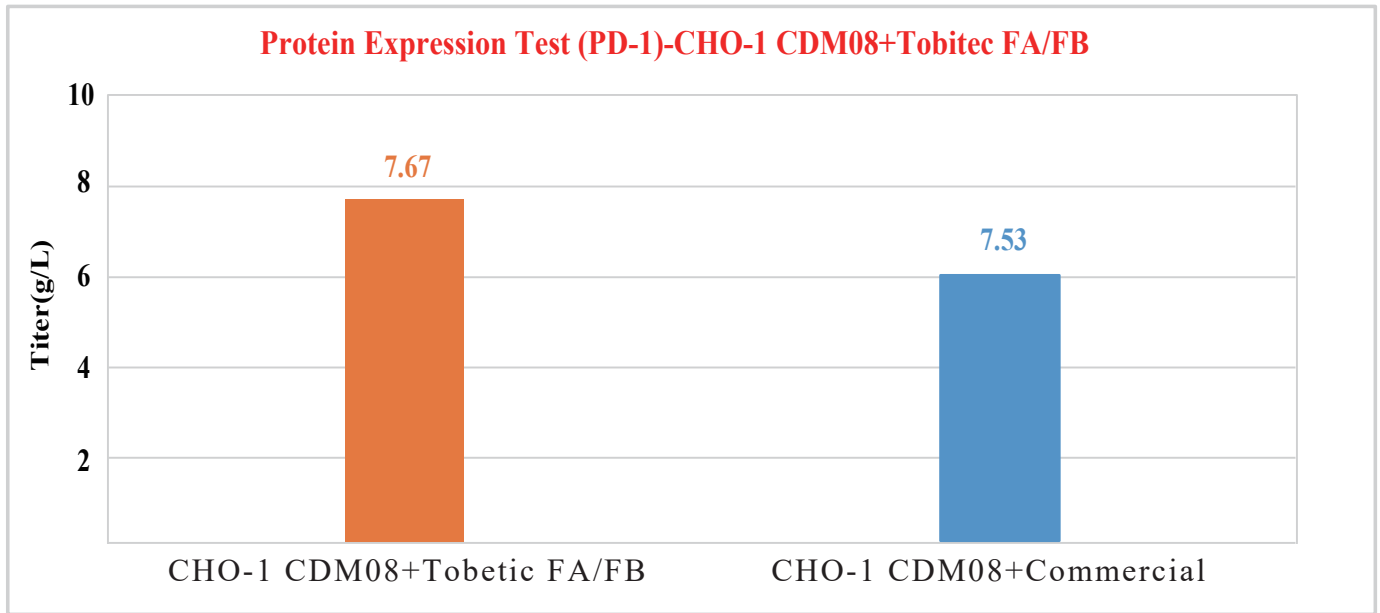
Process: Fed batch

Product: PD-1

PQAs: CQAs and Titer



Feeds/Day	3	5	7	9	11	13
Tobitec	2/0.2%	2/0.2%	2/0.2%	2/0.2%	2/0.2%	2/0.2%
Tobitec FA/FB	3/0.3%	3/0.3%	3/0.3%	3/0.3%	3/0.3%	3/0.3%
Tobitec FA/FB	4/0.4%	4/0.4%	4/0.4%	4/0.4%	4/0.4%	4/0.4%
Glucose	To target concentration, 4-6 g/L					



Comparative testing of glycosylation data of protein production using different culture media

Experiment NO.	Fman3	G0-GN	G0F-GN	G0	G0F	Man5	G1F-GN	G1F	G1F+	G2F	G1F+ SA	G2F+ SA	G2F+ 2SA	Others
CHO Basic media Commercial feed media	0.2	1.1	3.8	4.0	73.3	2.2	0.6	7.7	3.7	0.9	ND	ND	ND	2.5
CHO Basic media+ Tobitec FA&FB	0.2	0.7	2.4	2.9	69.5	1.6	0.7	12.1	5.7	1.4	ND	ND	ND	2.7

CHO series medium-New Products

Product Introduction

The CHO media series includes three stable transfer media: CHO CDM29, all of which are fully chemically defined, animal-derived and protein-free. They are suitable for large-scale suspension culture of CHO and product expression, can support high-density cell expansion and stable product expression.



Product Information

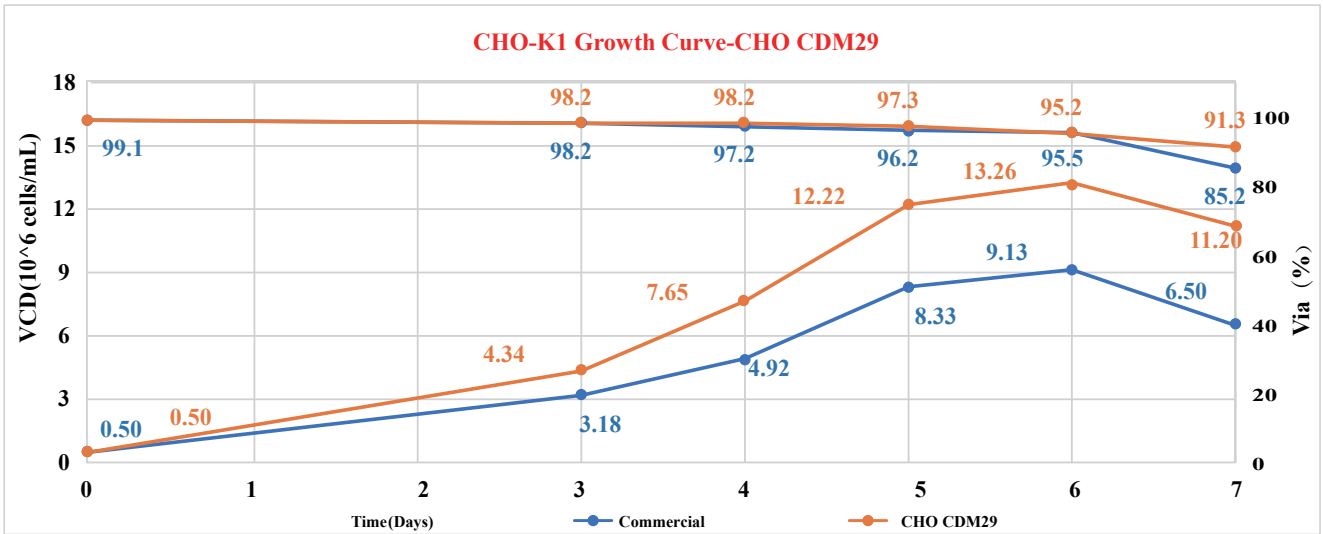
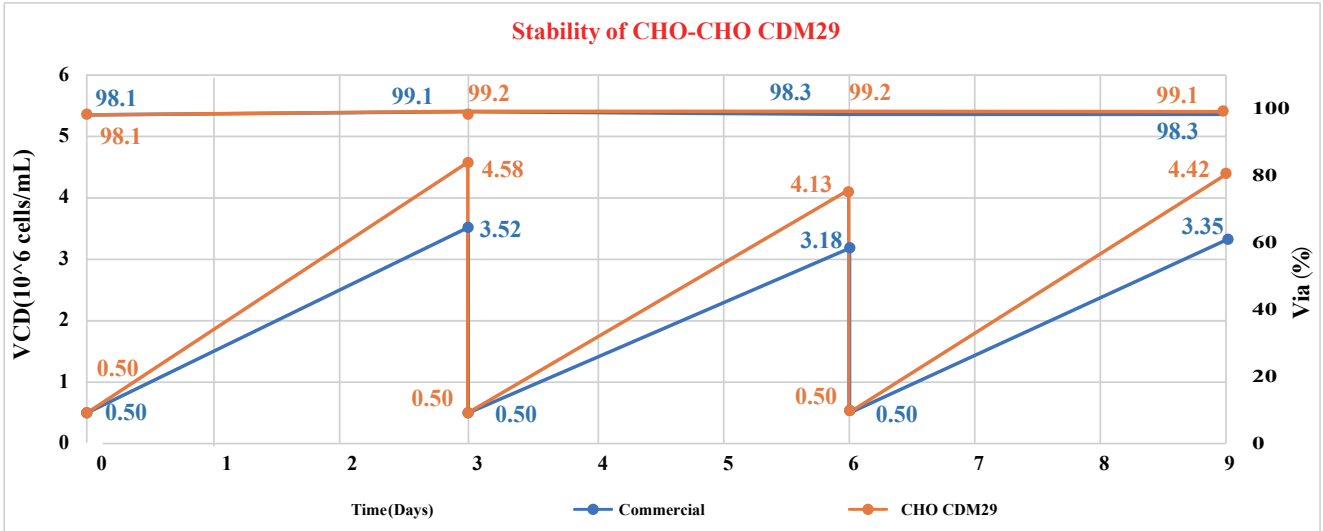
Product	Catalogue	Characteristic	Suitable Cell Line & Related Derivatives
CHO CDM29 (stable transfected)	LQ29-1000 (Liquid)	Animal origin free, protein-free, chemically defined	CHO-ZN、CHO-k1、 CHO-S、CHO-Q and etc.
	DP29, 50L/100L (Dry Powder)		

Product Advantages

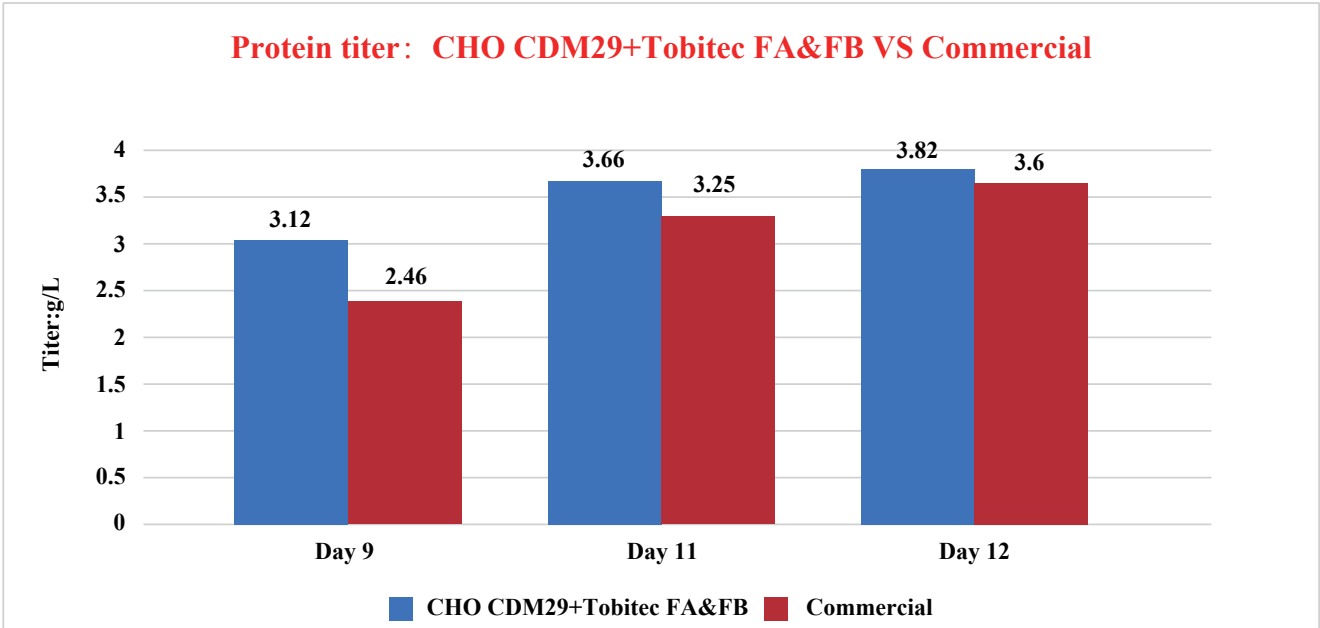
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1、CHO CDM29

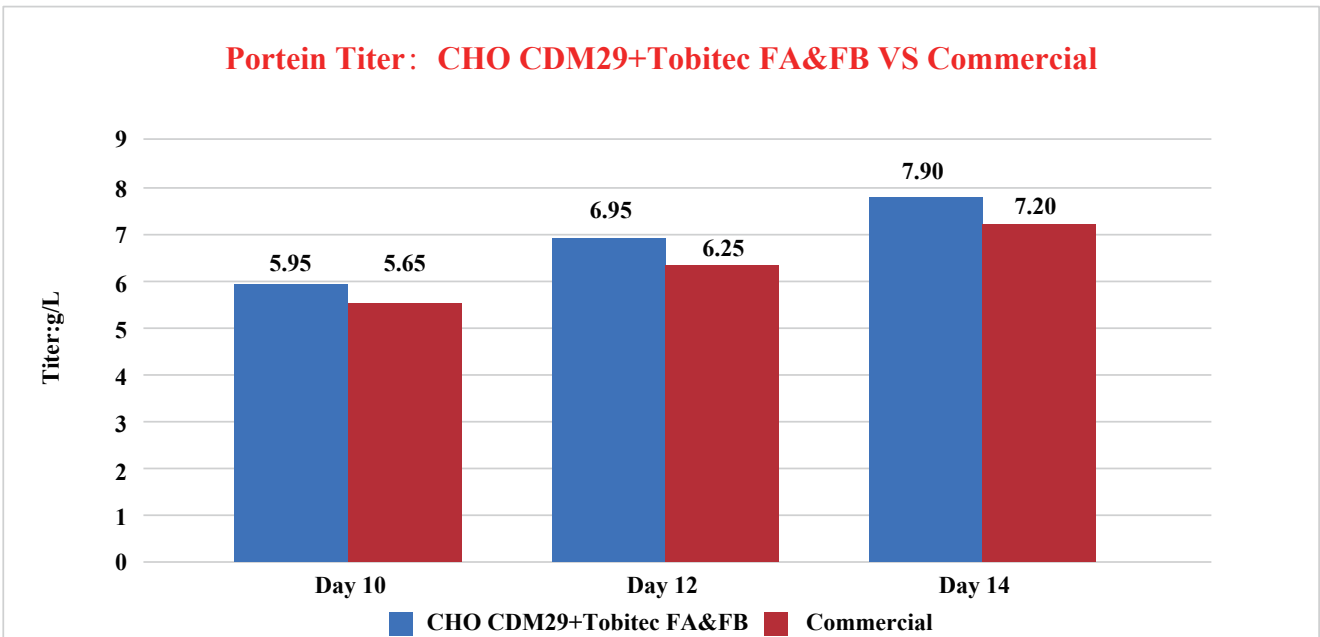


Project 1:Horizon CHO cell line



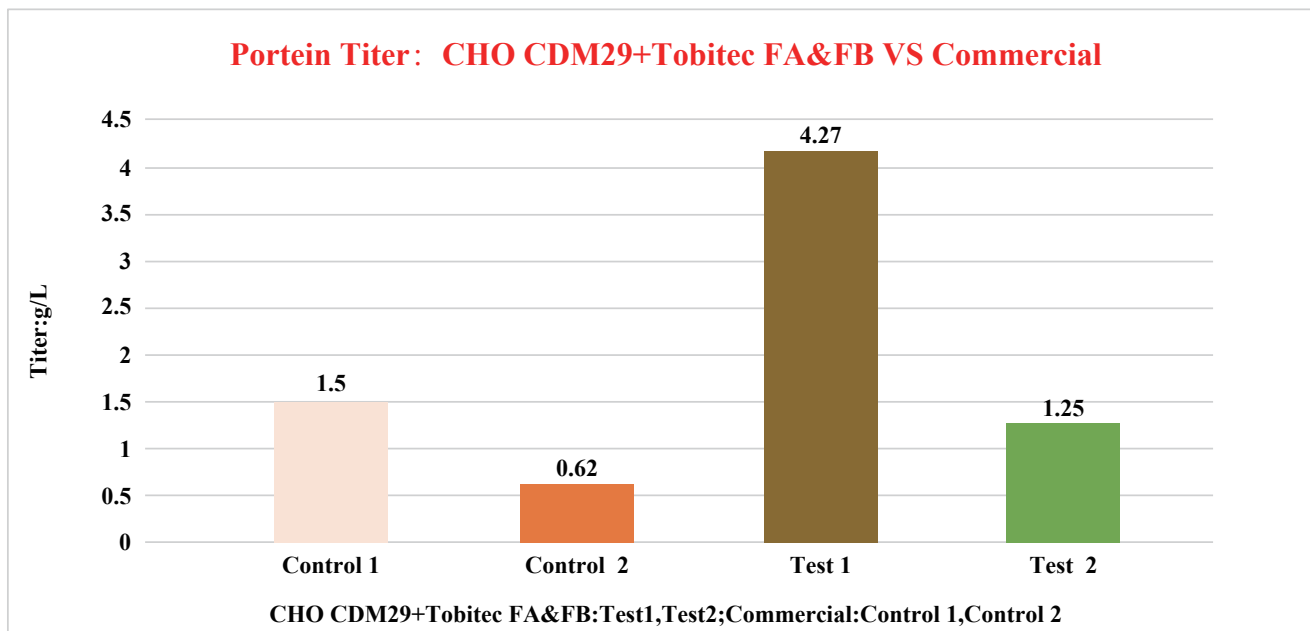
Conclusion: The average titer of Tofflon CHO CDM29+Tobitec FA&FB group is 11.7% higher than commercia media.

Project 2:Lonza CHO



Conclusion: The cell culture performance and titer of CHO CDM29+Tobitec FA&FB is better than commercia media.

Project 3:CHO-K1



Conclusion: The titer of Tofflon CHO CDM29+Tobitec FA&FB group is better than commercia media.

Group	Acidic variants	Main peak	Basic variants
Control 1	15.64	15.64	17.24
Control 2	16.20	16.20	16.04
Test 1	19.64	19.64	29.11
Test 2	18.52	18.52	29.17