

4Cell[®] MDCK CD Medium

Chemically Defined (CD) medium for MDCK cell growth and virus infection in suspension cultures



Benefits

Developed for quick and robust MDCK cell growth for vaccine manufacturing, this chemically defined medium provides a suitable environment for MDCK cells for all upstream steps and manufacturing scales and offers:

- **Easy-to-use:** One medium for seeding, growth, infection and easy adaptation from bench scale to manufacturing
- **Operational Efficiency:** Simplify your downstream purification and filtration processes while increasing virus productivity
- **Regulatory-friendly:** Chemically defined; eliminate process variability and contamination risks for optimal safety

Product Information

4Cell[®] MDCK CD Medium is a chemically defined, serum-free, protein-free, animal component-free, hydrolysate-free medium designed to the growth and infection of Madin-Darby Canine Kidney (MDCK) cells in suspension conditions, either for research use or for further manufacturing purposes. 4Cell[®] MDCK CD Medium has been optimized for both expansion and virus infection of MDCK cells from bench scale to manufacturing.

This formulation is ready-to-use and suitable for suspension cultures. It supports MDCK cell growth and Influenza virus (H1N1, H3N2) expansion allowing all upstream bioprocessing steps with one single medium.



Applications

In Bioprocessing, MDCK cells have been classically used for Cell-based viral vaccine manufacturing processes. While MDCK cells have been strongly recommended by the World Health Organization (WHO) in the isolation of influenza A and influenza B viruses (mainly for diagnosis purpose), they are actually a major cell line of choice for producing seasonal or pandemic Influenza vaccines on cells instead of traditional cultivation on eggs.

Features of the Standard Product



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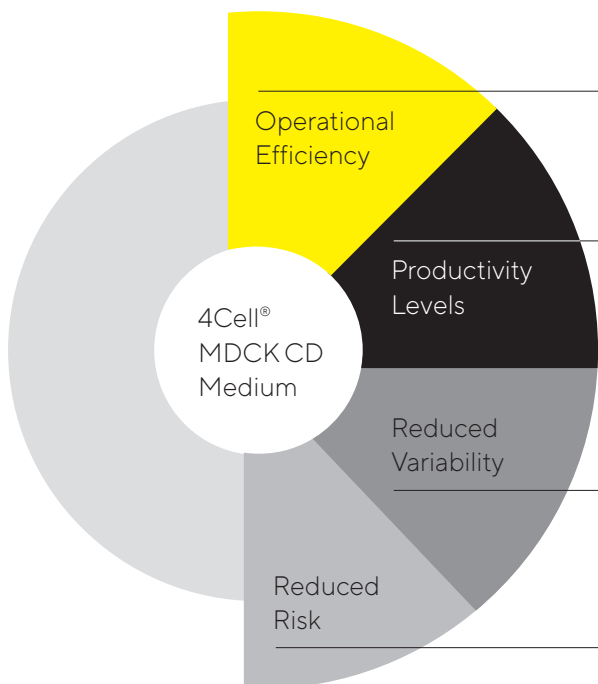
- CD** **Chemically Defined:** The exact concentration and size of every component is known
- NAO** **Non-Animal Origin:** The formulation is entirely made from non-animal | -human origin components
- PF** **Protein-Free:** The formulation does not contain any protein
- FFM** For research or for further manufacturing use
-  Product available in powder format
-  Product available in liquid format

Technical Data

Specifications

Media Type	Chemically-defined medium: does not contain serum or undefined components
Easy-to-use	Available in liquid or complete powder
Cell Line	Developed for suspension MDCK (Madin-Darby Canine Kidney) cells
Storage Condition	2-8°C, protect from light
Shelf Life	1 year for liquid media 2 years for powder media

Your Benefits at a Glance



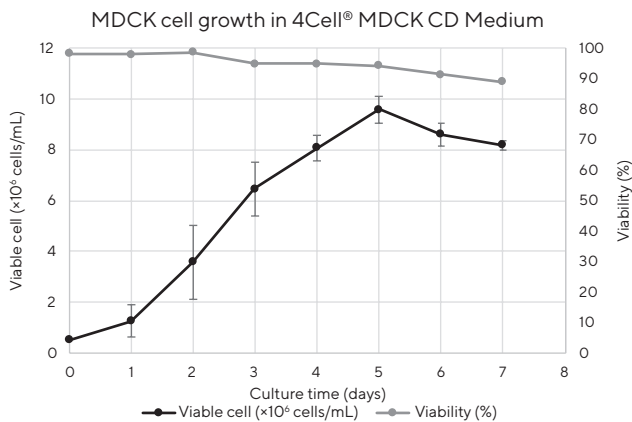
One medium from seed to manufacturing with **easy downstream processing due to Serum-Free composition**

Excellent performances in supporting MDCK grow and **high influenza virus production as suspension cultures** in shaker flasks, spinner bottles or stirred tank bioreactors

Absence of hydrolysates significantly reduces the amount of process variability

Fully chemically defined medium reduce the possibility of contamination by animal-derived components and **facilitates regulatory compliance**

4Cell® MDCK CD Medium performance have been evaluated on MDCK cells' growth in suspension.



Virus quantification was performed by calculating the TCID₅₀ (50% Tissue Culture Infective Dose) index. 4Cell® MDCK CD Medium showed high abilities in supporting MDCK infection and virus productivity. Additionally to the TCID₅₀ assay, ddPCR was performed for the samples A/Puerto Rico/8/34 (72 hours post-infection) to detect the total viral genome.

Total viral genome detection

4Cell® MDCK CD Medium = 2.57E+07 copies/mL

4Cell® MDCK CD Medium performance have been also evaluated on MDCK cells propensity to produce Influenza viruses. Two common vaccine strains were tested.

Influenza Virus	Infectious Titer (TCID ₅₀ /mL)	MOI	TOI
A/Puerto Rico/8/34 H1N1	1.33E+07	10E-03	72H
A/Hong Kong/8/36 H3N2	8.32E+05	10E-02	72H

Ordering Information

Description	Form*	Package	Volume Size*	Order Code
4Cell® MDCK CD Medium	Liquid	Bottle	1 L Box of 2 × 1 L	CFV3FA2003
4Cell® MDCK CD Medium	Liquid	Bottle	1 L Box of 6 × 1 L	CFV3FA2004
4Cell® MDCK CD Medium	Powder	Multilayer Bag	10 L	CQV3FA2012
4Cell® MDCK CD Medium	Powder	Multilayer Bag	100 L	CQV3FA2014


* Other sizes are available on request

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