

CultiFlask 50 disposable bioreactor

High throughput bioreactor for process | media optimization



Technical Specification

Material

Tube:	Polypropylene (PP)
Cap:	High-Density Polyethylene (HD-PE)
Filter insert:	Polytetrafluoroethylene (PTFE); Carrier material PP

Not autoclavable

Temperature range -40°C to $+80^{\circ}\text{C}$

Introduction

The production of recombinant proteins in suspension cell culture nowadays is a major issue in the biopharmaceutical industry. Each of the mammalian cell lines used for these process has individual characteristics, furthermore the different stages during the production process have different requirements. Process development and particularly media optimisation are of utmost importance to provide maximum cell numbers and highest protein yield.

The CultiFlask 50 disposable bioreactor is a versatile tool to perform media optimization | process development experiments in high numbers. It resembles the classic 50 ml centrifuge tube design, thus making handling steps like e.g. media exchange very convenient. Each bioreactor is equipped with a vented screw cap with five holes of different size for optimal gas exchange with the surrounding atmosphere; a PTFE membrane serves as a sterile barrier and minimizes liquid loss by evaporation. There is no stirrer or any other mixing mechanism extending into the bioreactor's interior; mass transfer is achieved by shaking in an appropriate incubation

shaker (temperature, CO_2 and humidity controlled; regulation of shaking amplitude and frequency). Due to the unsophisticated design the CultiFlask 50 disposable bioreactor provides an ideal tool to perform hundreds of parallel cell cultivations under concern of media optimization | process development experiments.

Features and Benefits

Centrifuge tube design – flexible working volume of 10–35 ml (generally about 40% of the total volume capacity); easy handling concerning e.g. media exchange or sampling, minimal expenses

Each tube represents an individual bioreactor – Allows for parallel experiments in high numbers

Passive mixing with no stirring mechanism inside – Low risk of contamination, less shear stress to the cells, negligible foaming

Vented cap with PTFE membrane – Optimal gas exchange, reduced water loss by evaporation

Completely disposable – No need for elaborate cleaning or validation procedures, tubes are sacrificed after the run

Cell Culture

Ordering information

Article no.	Description
DF-050MB-SSH---4	CultiFlask 50 disposable bioreactor for high throughput applications in process development and media optimization, Box of 180

Related products

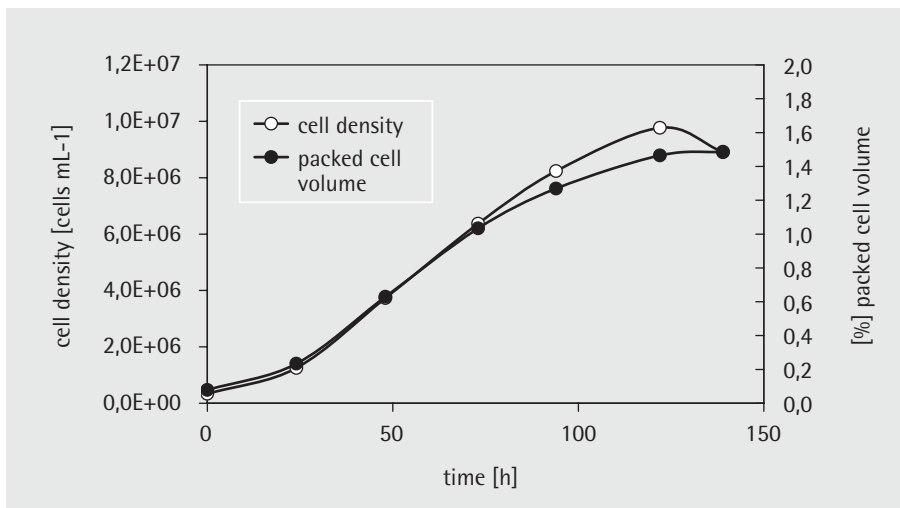
Article no.	Description
DCC0304W-----K	VoluPAC tubes for reproducible determination of packed cell volume (PCV) as an alternative to manual cell count, Box of 50
DCC0304W-----S	VoluPAC tubes for reproducible determination of packed cell volume (PCV) as an alternative to manual cell count, Box of 200

References

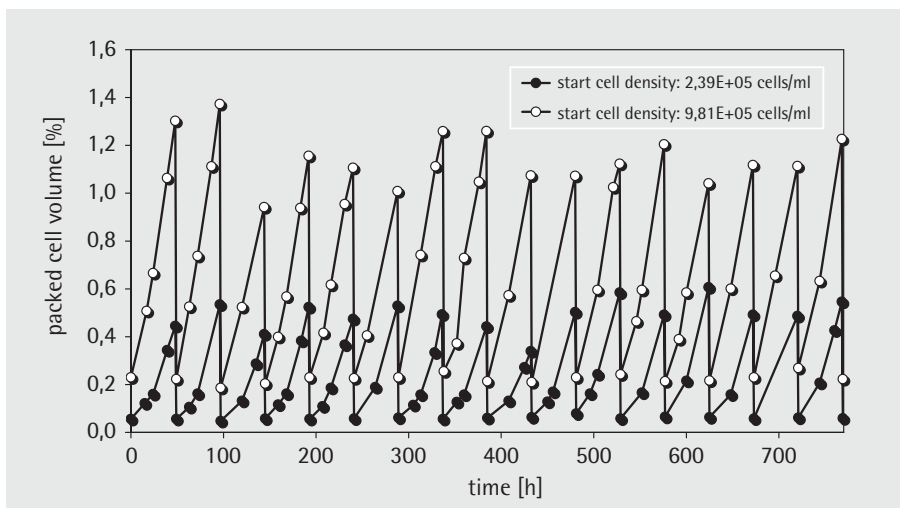
A versatile disposable culture system for high throughput screening of process parameters and production cell lines. M. Jordan, M.J. De Jesus, C. Eigenmann, T. Gleich, and F.M. Wurm : F. Godia and M. Fussenegger (Eds), Animal Cell Technology meets Genomics, 381-383.

Orbital shaker technology for the cultivation of mammalian cells in suspension. Muller, N. *, Girard, P., Jordan, M., Wurm, F.M. Biotechnol. Bioeng. 89, 400-406.

TubeSpin satellites: a fast track approach for process development with animal cells using shaking technology De Jesus, M., Girard, P., Bourgeois, Baumgartner, M., Jacko, G., Amstutz, H. and Wurm, F.M. Biochemical Engineering Journal 17, 3, 217-223.



CHO DG44 cells cultivated in CultiFlask 50 in proCHO5 serum-free media; 10 ml working volume; 180 rpm; 37°C (5% CO₂)



CHO DG44 cells cultivated in CultiFlask 50 in proCHO5 serum-free media over a prolonged period of time, comparison of two different start cell densities; 10 ml working volume; 180 rpm; 37°C (5% CO₂)

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Order No	Description
DF-050MB-SSH---4	CultiFlask 50 ml disposable bioreactor; cell culture vessel for suspension culture of animal cells for high-throughput screening in process optimization, applied within an incubation shaker; box of 180