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WHEATON® CELLine™ Bioreactors

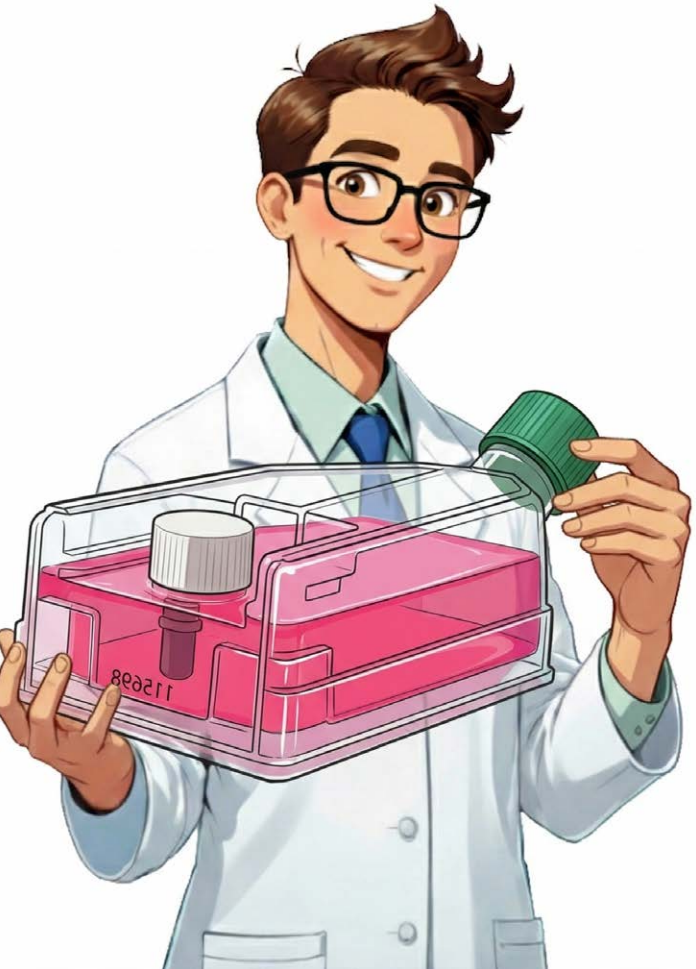
High-density culture system enabling the production of concentrated biomolecules without complex automation. Designed to optimise small-scale bioproduction, particularly for the generation of antibodies and proteins.



Benefits of the CELLine™ flask

Reduced handling requirements

CELLine™ flasks require fewer manipulations and fewer consumables. Thanks to their unique regulatory membrane, they allow for longer operational cycles with constant and controlled access to nutrients.



Optimised cell densities

The direct positioning of cells against the gas-permeable membrane ensures maximal exchange of oxygen and carbon dioxide, promoting optimal cellular metabolism.

Simplified purification

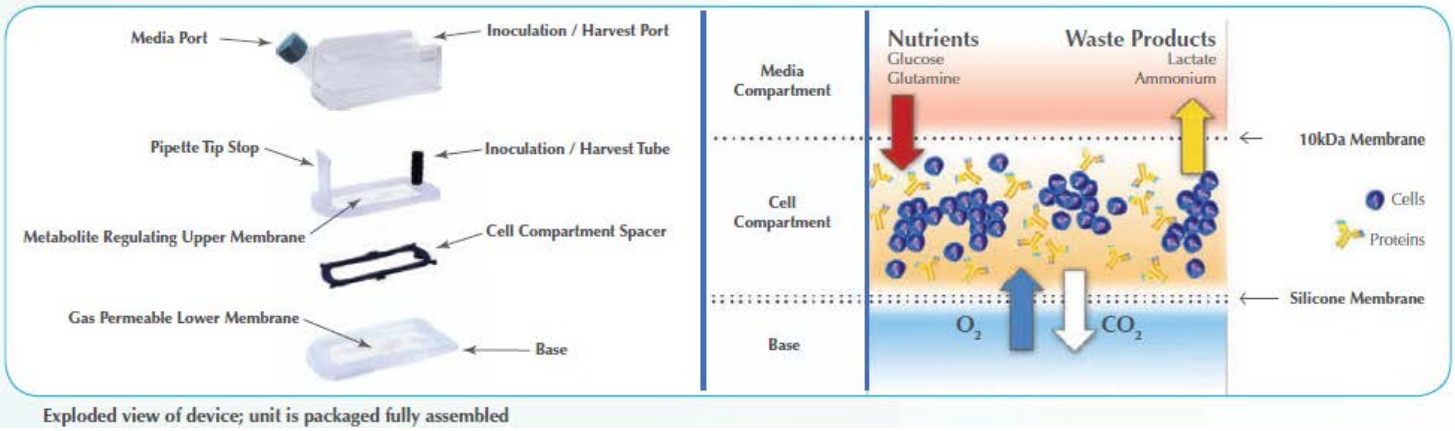
The upper and lower membranes create an optimised compartment for cellular proliferation. This allows for the reduction in the use of growth factors and hormones, while concentrating antibodies and proteins of interest.

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How does the CELLine™ flask work?



Exploded view of device; unit is packaged fully assembled

Middle compartment

Allows bulk storage of culture medium. Its capacity is **50 times greater** than that of the cellular compartment, thereby significantly reducing the frequency of medium renewal.

Upper regulatory membrane of metabolites (10 kDa)

The dialysis membrane (cut-off threshold 10 kDa) regulates the passage of metabolites to and from the cellular compartment, while retaining proteins within it.

Cellular compartment

Zone optimised for seeding and achieving high-density crops.
It concentrates cells and their products, while limiting the need for exogenous growth factors.

Gas-permeable lower membrane

In static cultures, gas exchange is often a limiting factor.
The CELLine™ system positions cells directly in contact with the permeable membrane to ensure optimal levels of oxygen and carbon dioxide.

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Practical user guide



1. Heat the nutrient medium and prepare the upper membrane by adding a small amount of medium to the medium compartment.



2. Inoculate the cellular compartment.



3. Fill the middle compartment.



4. Incubate in a CO_2 incubator for approximately 3 to 7 days.



5. Replace the medium in the middle compartment and/or harvest the cells from the cellular compartment.
a. The higher the cell density, the greater the protein production. Higher densities require more frequent changes of medium.
b. Renewal of the medium is recommended every 3.5 or 7 days, to be adjusted according to cell density and production objectives.



6. Incubate the flask and repeat the cycle of media change and harvest until the desired quantity of protein is obtained.

Type of Flask	Type of Flask	Culture type	Medium volume (ml)	Cell volume (ml)	Pack. unit	Units/ box	CHF/ box
150103A	CELLine 1000	Suspension	1000	15	1	1	**N/A -**
150103	CELLine 1000	Suspension	1000	15	1	3	**N/A -**
150104A	CELLine 1000-AD	Adherent	1000	15	1	1	**N/A -**
150104	CELLine 1000-AD	Adherent	1000	15	1	3	**N/A -**
150102A	CELLine 350	Suspension	350	5	1	1	**N/A -**
150102B	CELLine 350	Suspension	350	5	1	5	**N/A -**

Parameter	CELLine 350	CELLine 1000
Preculture (viable cells)	7.5×10^6	22.5×10^6
Inoculation volume (ml)	5	15
Inoculation concentration (viable cells/ml)	1.5×10^6	1.5×10^6
Concentration at the harvest (viable cells/ml)	$20–40 \times 10^6$	$20–40 \times 10^6$
Titre (mg/x	1 – 10	1 – 10
Antibody yield per month (mg)	20 – 200	60 – 600



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