



AGRO-BIO
The Proteomic &
Immune Response

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Protocol for *in vitro* production of monoclonal antibodies CELLine 1000/Fibercell

19

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Agro-Bio has developed a production protocol of culture supernatant with an antibody concentration optimized.

In addition to ethical and regulatory playing against the traditional production in ascites, there are real technical advantages in switching to the *in vitro*. These techniques allow to obtain similar antibody concentrations of ascites. The antibodies thus obtained are defined, as culture media is precisely known, and can be tailored to each customer's specifications.

Volumes :	> 100 mL of culture supernatant (<i>production possible until x L</i>)
Cells :	- Hybridoma cells ready to be injected, - Frozen cells (Agro-Bio offers the re-cultivation of cells and preparation of cells for injection).
Quantities of cells :	- 25.10 ⁶ cells are required for inoculation of CELLine 1000 - 50.10 ⁶ to 100.10 ⁶ cells are required for inoculation of a cartridge Fibercell.

Fibercell

The FiberCell™ is a hollow fiber system for *in vitro* production on a larger scale of 100 mg to 500 mg monoclonal antibody per month. The hydrophilic fiber polysulfone with a threshold of 20 kDa has a filtration rate 10 times higher than conventional hollow fibers, thereby having cultures of 10⁸ cells / mL, and concentrations of antibodies in the order of 0.5 mg to 5 mg / mL. Contaminants such as lipids, endotoxins, proteins and viruses are reduced or eliminated. Purification is simplified and the overall yields are improved.

Features :

- The recovery of antibodies is done every two days (5 to 50 mg per sample)
- The cartridges can be maintained for more than 6 months in continuous production,
- The level of endotoxin is 10 times lower than in ascites,
- An easy adaptation to reduce serum.



CELLine 1000

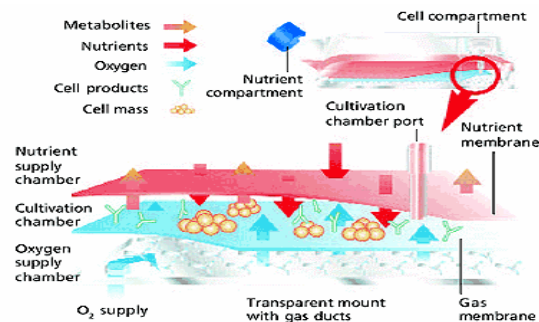
The CELLine™ 1000 is an ideal bioreactor for cell culture of monoclonal antibodies. It enables a culture of cells continues. The bioreactor is designed to facilitate removal and replacement of environments without disrupting cell growth.

Features :

- Separation of the chamber and growth chamber environments, allowing a direct oxygenation, and facilitates the isolation of production.
- Patented design keeps the cells in culture for several months.
- High cell density up to 10⁷ to 10⁸ cells per mL.
- Access media is independent of the culture chamber.
- Transparent container allows good visualization and microscopic observation of cells.

This culture system is composed of two compartments: cellular and nutritious, separated by a semipermeable membrane leaving distribute gas and nutrients.

Nutrients and other small molecules pass through the membrane of cellulose acetate semi-permeable and secreted antibodies are retained in the growth chamber of the device.



Comparative table

	Fibercell	CELLine 1000
Recovery volume of supernatant	120 mL / month	60 mL / month
Production of monoclonal antibodies / month (average)	100 - 400 mg / month	30 - 100 mg / month
	CAUTION: production yields can vary from one to another hybridoma	
Remarks	Recommended for production > 200 mg	Recommended for production < 200 mg

Note: The production of antibodies with a CELLine 1000 requires 2 to 4 weeks accommodation based clones planted. For a production Fibercell, this adaptation time is approximately 2-3 weeks.

Within two weeks following the dispatch of your order, you will receive a provisional timetable listing the various stages of your service.

Included in our protocol : See Terms of sale

- The purchase of production systems,
- Samples.

Not included in our protocol :

- Charges,
- The rehabilitation,
- The amplification of cells for inoculation of different production systems,
- Purification.

Agro-Bio has an approval under the Tax Credit for Research.

