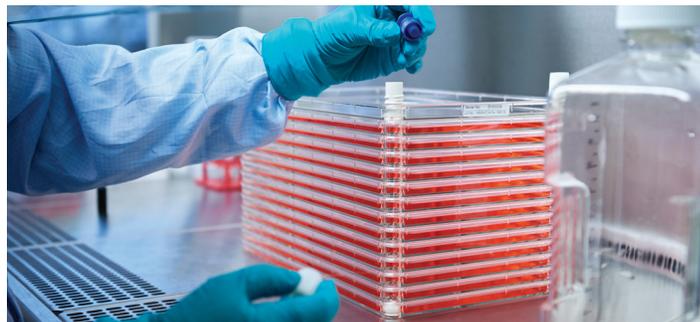


Cell Factory systems

The Thermo Scientific™ Nunc™ Cell Factory™ system is a robust and easy-to-use cell culture platform for applications in the production of human and animal vaccines, therapeutic proteins, cell therapy, and gene therapy. To address your unique workflow, the Nunc Cell Factory system contains three product lines: Standard Cell Factory, EasyFill™ Cell Factory, and High Density Cell Factory. All systems are easy to customize and close with standard and custom tubing assemblies that facilitate venting, filling, and harvesting. In addition, to support efficient and consistent scale-up of cell culture, all systems are available in multiple-tray versions, providing increasing surface areas for cell growth.

Benefits

- Maximize cell and product yield, and enhance your workflow productivity—stacked trays provide surface area for cell growth. Standard and EasyFill systems come in 1-, 2-, 4-, 10-, and 40-tray versions. The High Density system comes in 3-, 5-, 52-tray versions. The cell culture surface area of one 10-layer Cell Factory system is equivalent to area of thirty-six T-175 flasks.
- Obtain faster results and lot-to-lot consistency as these systems have the same growth kinetics as laboratory-scale Thermo Scientific™ Nunc™ cell culture dishes and flasks.
- Nunc Cell Factory systems are designed for a variety of biological and commercial applications. With a certified sterility assurance level of 10^{-6} achieved following ISO 11137-2 guidelines.
- Thermo Scientific™ Nunclon™ Delta-treated surfaces offer consistent performance from layer to layer and from lot to lot. Our cell culture certification includes verification of monolayer formation and cloning efficiency using four different cell lines.
- Configuration service to design and certify full cell factory assembly to meet your process needs.



• Benefits of three systems

- Standard: unique port design for configuration with tubing/filter assemblies
- EasyFill system: facilitates faster filling and emptying with one large opening; able to fill and empty 5 times faster
- High Density: 30% more surface area with the same footprint as standard cell factory systems

Key advantages of the Nunc Cell Factory system

- **Proven platform**—adopted by global pharmaceutical companies to manufacture vaccines, gene therapy, and cell therapy.
- **No adhesive or solvent**—constructed of polystyrene chambers and assembled with sonic-welded technology, which differs from suppliers' products that use glue-based substances.
- **Adaptable to your workflow**—for aseptic processes, we offer direct plug-and-play port options, enabling you to optimize your process with confidence. No threaded screw caps to wet, exchange, or back off, which are common causes of contamination. The EasyFill system has a versatile port design that facilitates both pouring and aseptic filling techniques.

How much medium, PBS, and trypsin do I use with my Nunc Cell Factory system?

Culturing in a Cell Factory system is as simple as culturing in a T-flask or dish. Seed the Cell Factory system with the same medium and at the same cell density as in a flask or dish. A volume of 150–200 mL per tray (2.4–3.2 mm depth) is commonly used.

Simply identify the size of the Cell Factory system you are using in the table below, then use the suggested working volumes for each step of the cell culture process.

Cell Factory system accessories

A full line of accessories is available for the Nunc Cell Factory systems, supporting the use of aseptic methods for fluid handling related to filling, inoculation, feeding, and harvesting. These accessories enable further development of the applications requiring a closed cell culture system, reducing the number of open interventions. Find out more at thermofisher.com/cfaccessories.

Cell Factory system equipment

Develop a fully commercial-scale process using Cell Factory systems. Equipment options include an automated manipulator, a CO₂ incubator, and a shaker. The versatile cart and racks systems are compatible with all equipment and allow simultaneous processing of twelve 10-layer Standard or 13-layer High Density Cell Factory systems or four 40-layer Standard or 52-layer High Density Cell Factory systems. Find out more at thermofisher.com/cfequipment.

Nunc Cell Factory system	Seeding		Harvesting		
	Surface area (cm ²)	Medium* (mL)	Phosphate-buffered saline (PBS), no Ca ²⁺ or Mg ²⁺ (mL)	0.25% trypsin-EDTA (mL)	Medium for stopping cell dissociation (mL)
1-layer Standard/EasyFill	632	150–200	30–40	20	40
2-layer Standard/EasyFill	1,264	300–400	60–80	30	80
4-layer Standard/EasyFill	2,528	600–800	120–160	60	160
10-layer Standard/EasyFill	6,320	1,500–2,000	300–400	150	400
40-layer Standard/EasyFill	25,280	6,000–8,000	1,200–1,600	600	1,600
3-layer High Density	1,896	450–600	90–120	60	120
13-layer High Density	8,216	1,950–2,600	390–520	260	520
52-layer High Density	32,864	7,800–10,400	1,560–20,802	1,040	2,080

* To ensure equal distribution of cells on each layer, cells should be added to the medium and mixed thoroughly prior to filling the Cell Factory system. Suggested volumes are based on the cultivation of Vero and MRC-5 cell lines. Some cell lines may require more or less volume.

Find out more at thermofisher.com/cellfactory