

Solutions for cell culture growth and analysis



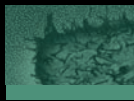
Surfaces & Materials



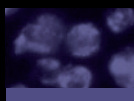
Cell Culture Flasks



Dishes, Multidishes & Plates

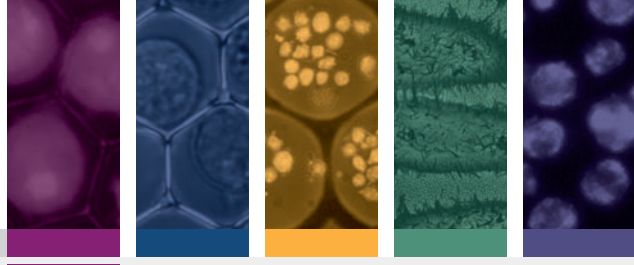


Slide Flasks, Chamber Slides & Inserts



Accessories

Surfaces & Materials



Surfaces

Cell Culture treated

- For adherent cell cultures

The Thermo Scientific Nunc Nunclon Δ cell culture treated surface is a hydrophilic surface that facilitates cell attachment and growth. Perfect for most applications with adherent cell cultures. A proven cell culture surface for 25 years.

Untreated

- For suspension cell cultures

An untreated polystyrene surface is hydrophobic and thus suited for growth of suspension cultures that can proliferate and grow without attachment.

Poly-D-Lysine and Collagen coating

- For cells with low adherence or growth

The uniform coating creates a positive charge on the surface that ensures cell attachment, growth and differentiation. Should be used when cell lines are difficult to grow and show low adherence or slowed growth even after optimization of growth conditions.

Thermo Scientific Nunc CC²

- Mimics Poly-D-Lysine without coating

Our CC²™ surface mimics Poly-D-Lysine and can be used for cells that show low adherence or low growth.

Custom coating

- Need something special?

If you have special needs, we can coat surfaces according to a specific custom protocol - both for cell culture and immuno assays. Contact us for more information.

Materials

Polystyrene

Most products are made from polystyrene because of its good optical properties and because polystyrene is amenable for many different surface treatments.

Glass

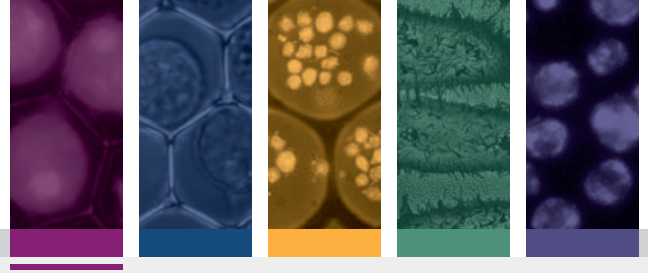
Some of our chamber slides and chambered coverglass are made of glass, which has superior properties for microscopy. Glass is naturally charged and has a good growth surface for adherent cells.

Thermo Scientific Nunc Thermanox

Our coverslips are made from Thermanox™, a proprietary polyester film surface modified to be hydrophilic for cell adherence. Thermanox is highly resistant to solvents, including those used in electron microscopy, and has a very low oxygen content.

Thermo Scientific Nunc Permanox

Some chamber slides and dishes are made from Permanox™, a polyolefin that has minimal autofluorescence and high oxygen permeability. Hepatocytes grow exceptionally well on Permanox.



Quality from start to finish

Reliability • Reproducibility • Scalability • Traceability • Security • Simplicity

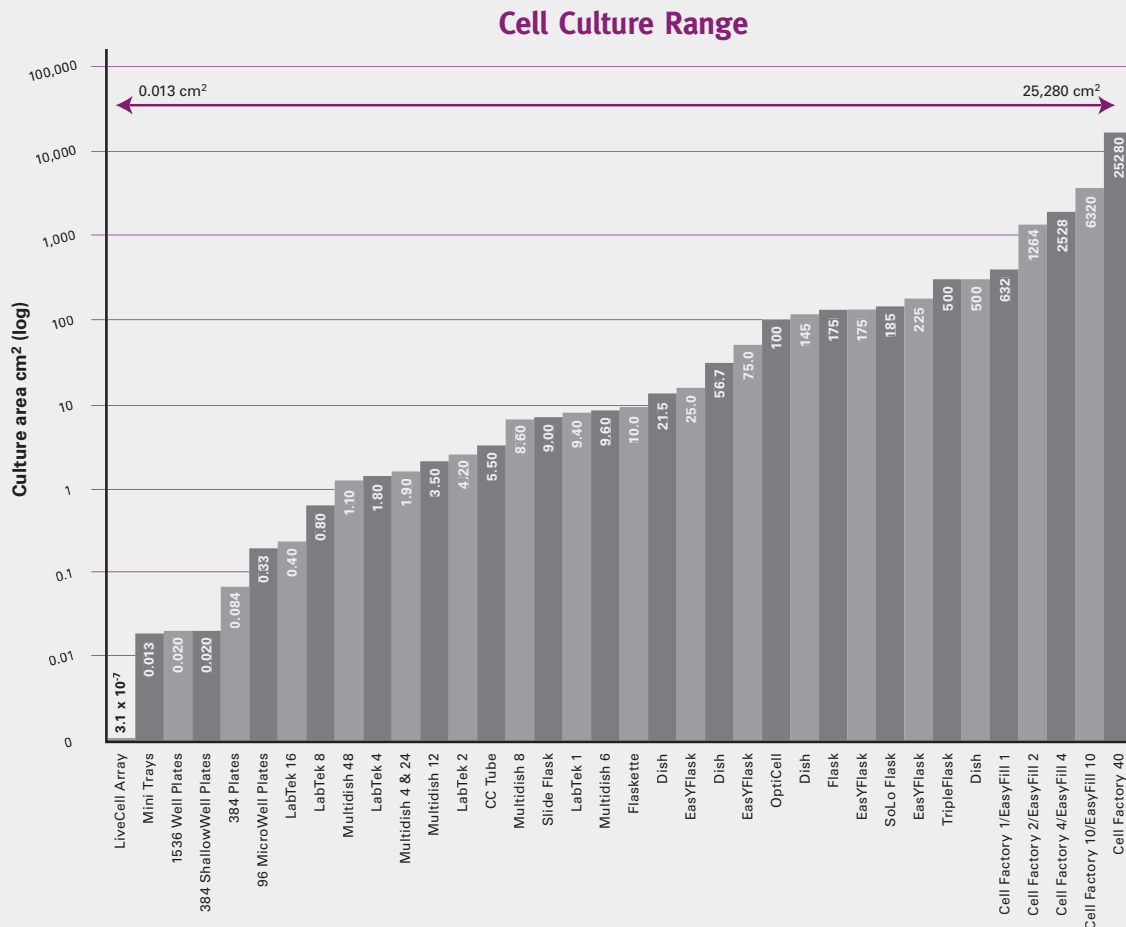
Thermo Scientific Nunc cell culture products have been used by researchers worldwide for the past 55 years.

We take pride in supplying products with consistent high quality to ensure you get the most reproducible and reliable results in your research.

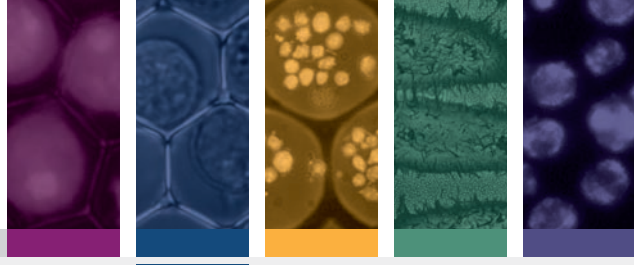
Our cell culture products have surface areas ranging from 0.013 cm² to 25,280 cm², allowing for easy scale up when expanding cultures. Our standard surfaces address most applications. If they do not fit your needs, we can provide custom surfaces for your specific application.

Our products are manufactured using only high quality raw materials that comply with USP Class VI. Most of our cell culture products are tested with 3-4 different cell lines to ensure monolayer formation and consistent cloning efficiency.

Our products are manufactured in ISO 9001:2000 and ISO 13485:2003 registered facilities. (not U.S.)



Cell Culture Flasks



Reproducibility and reliability – 55 years of quality

- Widest range of **formats, sizes and surfaces** for use in your cell culture lab
- Many **formats and surfaces** (31 different standard products)
- Ideal for **scale-up** (surface area from 25 to 6300 cm²)
- **Double bags** as option for GMP applications
- **Barcoding** as option for all products

The Thermo Scientific Nunc flask portfolio has been developed with emphasis on continuous and **consistent quality**. Reproducibility and **reliability** are the keys to good scientific results, which is why we only use certified polystyrene. We test our products with not only 1 or 2 cell lines, but with 4 different cell lines to ensure unflinching monolayer formation and consistent cloning efficiency.

The patented Nunclon™ Δ cell culture surface has been preferred by researchers for many years. Neck and sides of the flasks are not treated to avoid cell attachment on these surfaces.

For larger surface areas see our bioproduction portfolio.

Standard Flask



Straight neck

EasYFlask™



Angled neck
Access to entire surface

SoLo Flask



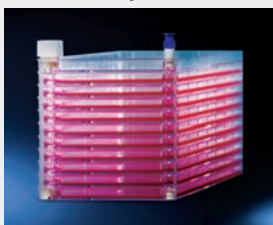
Angled neck
Access to entire surface
Low profile saves space

TripleFlask



Triple the surface
Ideal for scale-up

EasyFill™

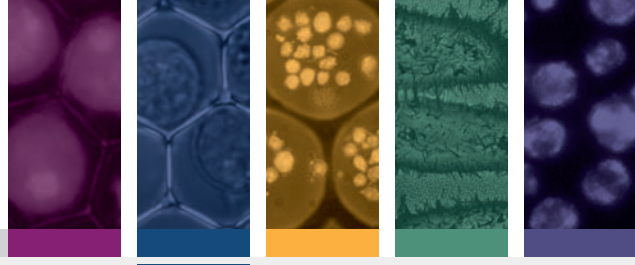


Space saving
cell culture device

Design	Surfaces				Culture area cm ²	Cap type		Double bagged	Barcoding
	Un-treated	Cell culture	Poly-D-Lysine	Collagen		Vent/Close	Filter		
Standard Flask	○	●			25, 75, 175	●	●	○	○
EasYFlask	●	●	●	●	25, 75, 175, 225	●	●	○	○
SoLo Flask	○	●			185	●	●	○	○
TripleFlask	●	●			500	●	●	○	○
EasyFill		●			630 - 6300		●	●	

- Standard product
- Option

Thermo Scientific Nunc OptiCell Cell Culture System



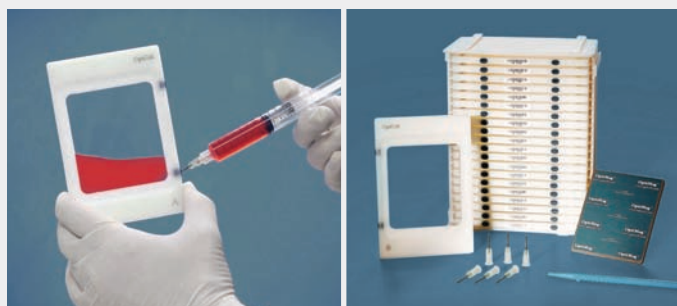
Innovative solution for growth, imaging, transport and storage of all cell types in a closed environment

- Closed system with sterile fluid path
- Growth kinetics same as tissue culture flasks
- Excellent imaging properties through the 75 µm thick film
- Freeze and thaw cell cultures directly in OptiCell™
- Ship or move cell cultures easily

The Thermo Scientific Nunc OptiCell cell culture system has very **stable growth conditions**, as O₂ and CO₂ are efficiently diffused through the thin film to the growing cells and are not dependent on mass transport or diffusion in the media. Additional features of the OptiCell are very **low space requirements** (1/10 space required compared to tissue culture flasks) and a **low media consumption** because of the large growth area-to-volume ratio.

While cell culture flasks are useful for many applications, the OptiCell growth system can be used when a **fully closed system** is needed, when **good quality images** are needed or when you would like to **store or transport cells** in your growth vessel.

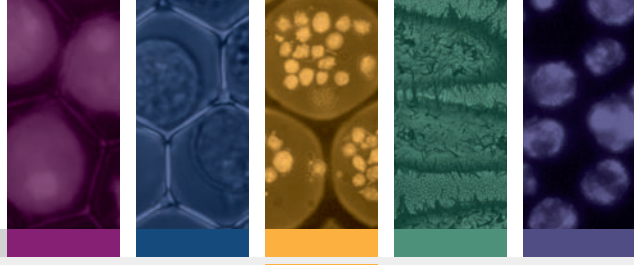
Besides growth, imaging, transport and storage of cell cultures, OptiCell cell culture system can also be used for biomagnetic cell separation and has proven itself as excellent for hybridoma antibody production and transfection studies.



Design	Surfaces		Culture area cm ²	Volume ml	Cryostorage	Transport	Barcoding	Magnetic Cell Separator
	Un-treated	Cell culture						
OptiCell	○	●	100	10	●	● Mailer kit	●	●
OptiCell MAX	○	●	100	30	●	*	●	**

- Standard product
- Option
- * OptiCell MAX can easily be transported, but no mailer kit is currently available
- ** OptiCell MAX can be used for biomagnetic cell separation, but no kit is currently available

Dishes & Multidishes



What would you like?

- More than 100 combinations of formats and surfaces for cell culture
- Excellent optical quality for manual or automated imaging
- Compliant with automated equipment

Thermo Scientific Nunc multidishes offer a wide range of features for any application.

Choose between surfaces with low to high cell binding characteristics.

Dishes



Multidishes



Round Dishes

Product	Wells	Culture area per well	Surfaces			
			Un-treated	Cell culture	Poly-D-Lysine	Collagen
Petri dish	1 (5 sizes)	8.8 - 150.0	○	●	○	○
4-well dish*	4	1.9	●	●	○	○
6-well dish	6	9.6	●	●	●	●
12-well dish	12	3.5	●	●	○	○
24-well dish	24	1.9	●	●	○	○
48-well dish	48	1.1	●	●	○	○

● Standard product

○ Option

* Also available certified for use in IVF/ART

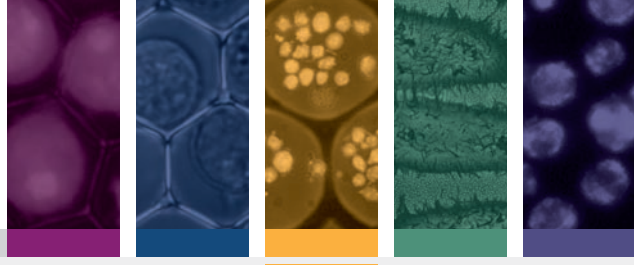
Square Dishes

Product	Wells	Culture area per well	Surfaces			
			Un-treated	Cell culture	Poly-D-Lysine	Collagen
Omnitray	1 (2 sizes)	84.0 - 500.0	○	●	○	○
4-well dish	4	21.8	○	●	○	○
8-well dish	8	10.5	○	●	○	○

● Standard product

○ Option

Plates



If you need a plate, we have it

- Plates for **any need** (many formats and surfaces)
- Different well shapes
- Optical Bottom Plates (OBP) for **superior** imaging properties

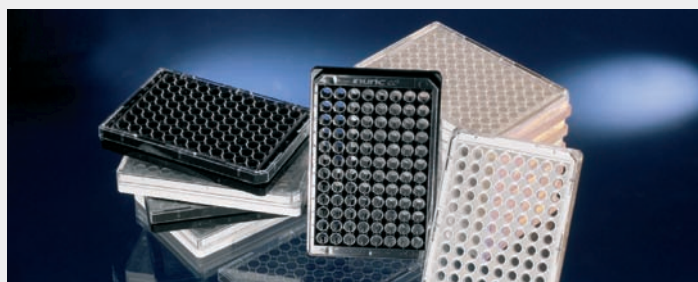
For an overview of all our plates, visit: www.plateguide.com

Based on decades of experience, we offer a wide range of plates. We provide 96, 384 and 1536 well formats with different well shapes.

Thermo Scientific Nunc solid plates are fully molded plates in either clear polystyrene for a variety of applications, or in white or black for use in fluorescence or luminescence studies.

Our clear plates have excellent imaging properties. For increased performance or magnification at 40X, try our OBP plates, which are composite products with an attached polystyrene or coverglass base.

The plates are also available with passive and active surfaces for immuno assays, or with custom coatings.



Number of wells	Type	Color	Well shape*	Surface**					Barcoding
				Un-treated	Cell culture	CC ²	Poly-D-Lysine	Collagen	
96 wells	Solid	Clear	F	●	●	●	●	●	○
			U	●	●				○
			V	●					○
	OBP	White	F	●	●	●	○	○	○
			Black	●	●		○	○	○
			Black	●	●	●	●	●	○
384 wells	Solid	Clear	F	●	●	●	○	○	○
			F, S	●	●				○
		White	F	●	●		○	○	○
			F, S	●	●				○
	Black	F	●	●		○	○	○	
		F, S	●	●				○	
OBP	White	F	●	●	●	○	○	○	
		Black	●	●	●	●	●	○	
1536 wells	Solid	Clear	F	●	●				○
		White	F	●	●				○
		Black	F	●	●				○

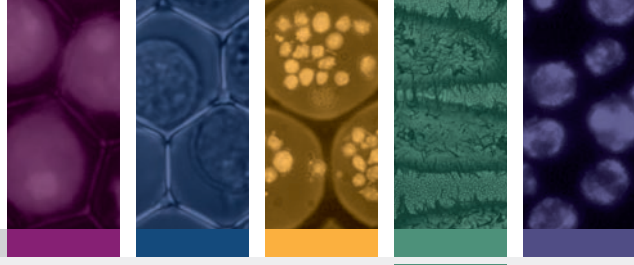
● Standard product

○ Option

* Well shape: F=Flat, U=Round, V=Conical, S=ShallowWell (small volume)

** Surfaces also available for immuno assays: PolySorp™, MaxiSorp™, MediSorp™, MultiSorp™ and activated surfaces

Slide Flasks & Chamber Slides



Grow and monitor cells directly on a slide

- Eliminate labor-intensive transfer of cells
- Reduce usage of costly reagents (small area per well)
- Remove media chamber for staining conservation (chamber slides)
- Broad range of products to fit **all applications**
- **Many surfaces** for different applications

The Thermo Scientific Nunc slide-based flasks and microwell chamber portfolio has proven its top quality for many years. We guarantee superior reproducibility and reliability through our quality testing (with BHK-21 and Hep-2 cells). The variety of surfaces gives you a choice of binding capacity through differences in hydrophobicity and choice of no or minimal autofluorescence.



Slide Flasks

Product	Wells	Culture area per well	Volume	Surface	
				Glass	Polystyrene
		cm ²	ml		
Slide Flask	1	9.0	5.0		●
Flaskette*	1	10.0	5.0	●	

* CE marked

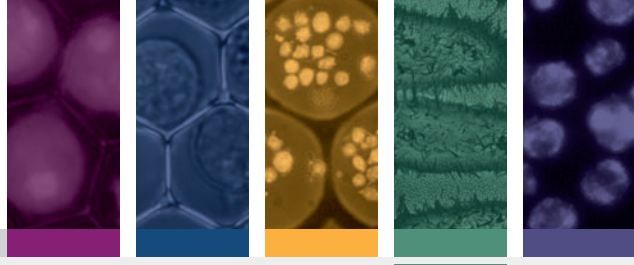
Chamber Slides

Product	Wells	Culture area per well	Medium Chamber		Slide Material		
			Material	Removable	Glass	Permanox	CC ²
		cm ²					
Lab-Tek™	1	9.4	Polystyrene	Yes	●	●	
	2	4.2			●	●	
	4	1.8			●	●	
	8	0.8			●	●	
	16	0.4			●		
Lab-Tek II	1	8.6	Polystyrene	Yes	●		●
	2	4.0			●		●
	4	1.7			●		●
	8	0.7			●		●

Chambered Coverglass (CE Marked)

Product	Wells	Culture area per well	Medium Chamber		Coverglass Material	Coverglass Thickness
			Material	Removable		
		cm ²			Glass	
Lab-Tek	1	9.4	Polystyrene	No	●	No. 1 0.13 - 0.16 mm
	2	4.2			●	
	4	1.8			●	
	8	0.8			●	
Lab-Tek II	1	8.6	Polystyrene	No	●	No. 1.5 0.16 - 0.19 mm
	2	4.0			●	
	4	1.7			●	
	8	0.7			●	

Inserts



Need a membrane surface?

- Culturing **without matrix** coating
- **Versatility** (pore sizes from 0.02 to 8 μm)
- **Reliable** cell growth for most cell lines (cell culture treated)
- **Easy** handling (prepacked in multidishes)
- Inserts with polycarbonate or Thermo Scientific Nunc Anopore™ membranes

Our insert portfolio could be the most tested on the market

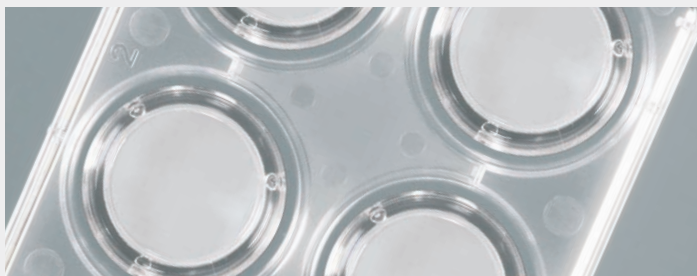
We tested more than 100 combinations of membranes and coatings to select the most versatile polycarbonate membrane for most cell lines and applications. The result is a multi-purpose portfolio offering proven Thermo Scientific Nunc quality, where all inserts are manually, visually inspected to ensure you get a product with superior reproducibility.

The **polycarbonate membrane** has large pores and is ideal for sectioning for transmission electron microscopy.

The **Anopore™ membrane** is a rigid, inorganic membrane with high transparency, no autofluorescence, small pores, and is highly porous. It is optimal for light and electron microscopy.

Our inserts are used for a variety of applications from tissue engineering and in-vitro toxicology to chemotaxis studies and transport studies.

Polycarbonate Inserts



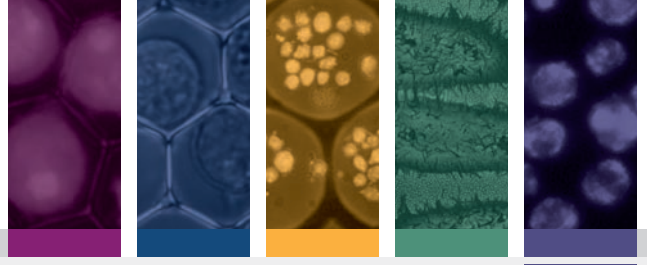
Anopore Inserts



Membrane type	For Multidish	Size	Culture area per well	Cell culture treated	Membrane pore size (μm)				
					0.02	0.2	0.4	3.0	8.0
Polycarbonate	MD 6	20	3.1	Yes			●	●	●
	MD 6	23	4.1				●	●	●
	MD 12	12	1.1				●	●	●
	MD 24	8	0.5				●	●	●
Anopore	MD 6	25	4.2	Yes	●	●			
	MD 24	10	0.5		●	●			
	96 well plate	2	0.1			●			

Anopore is a registered trademark of Whatman Scientific Ltd.

Accessories



The other things you need...

Cell culture tubes



Nunclon Δ cell culture treated tubes come in handy for growth of cells and as versatile labware. Our round bottom versions are available with screw or push-on caps. Our popular flat-sided tube functions as a miniature flask for culturing adherent cells and allows for easy microscopy with its excellent optical properties.

Serological pipettes



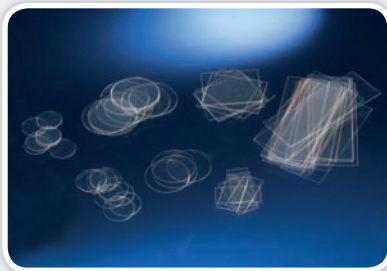
Accurate pipettes are a must-have in a cell culture laboratory. Our disposable serological pipettes are accurate, easy-to-read with extra scalings to full pipette volume and are color coded for easy identification. The pipettes have a sterility assurance level (SAL) of 10^{-6} , are non-pyrogenic and are plugged to hinder overflow.

Cell scrapers



The use of cell scrapers is often convenient to avoid trypsinization. Our cell scrapers are available in two lengths with adjustable blades and are sterile and non-pyrogenic. Thermo Scientific Nunc EasyFlask allows access to the entire growth surface with a cell scraper.

Slides and coverslips

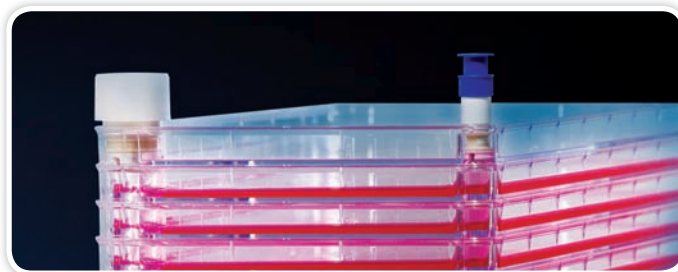


Our microscope slides are available in both Permax and polystyrene with surface treatment for cell attachment and growth. Cell culture-treated Thermanox coverslips ensure cell growth. The coverslips are resistant to most solvents, have a low oxygen content and are available in 7 different formats for maximum versatility.

The World of Thermo Scientific Nunc Products

Bioproduction

Thermo Scientific Nunc products cover a broad spectrum for bioproduction applications, including cell factory systems for laboratory and industrial-scale production, roller bottles, and MicroHex micro carriers.

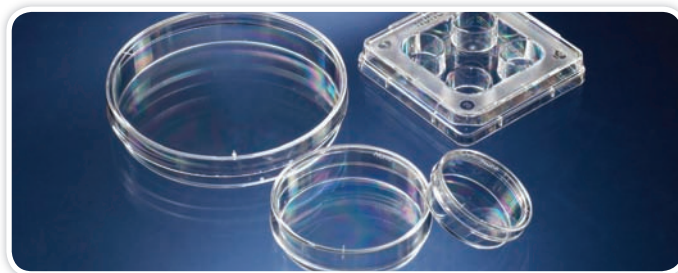


Cryogenics

When it comes to cryogenic storage and handling, our products offer variety and flexibility. Depend on conventional Thermo Scientific Nunc storage systems like CryoTube internal- and external-thread vials and CryoQuot™, CryoFlex™ and bar-coded tubes and accessories. For advanced storage and automation, innovate with the Cryobank and Bank-It™ systems, ideal for storing cells and DNA samples.

ART/IVF

Our dishes and tubes for IVF procedures are mouse embryo-tested and CE marked. Single cell mouse embryo tests result in more than 80% fully expanded blastocysts, ensuring optimal conditions for IVF. 510(k) approved.



Immuno Assay

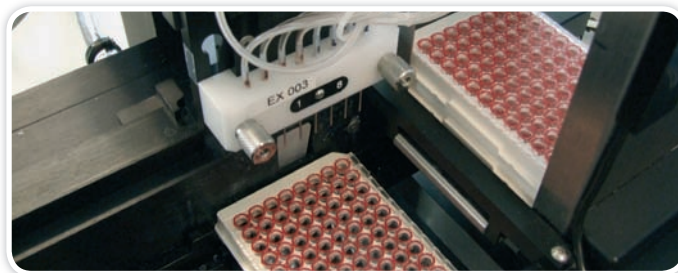
The range of our specialized surfaces for passive adsorption, as well as covalent binding of a vast array of molecules is available in various formats for all types of applications. Look to Immobilizer Amino, Streptavidin, Glutathione and Ni-Chelate; and MaxiSorp, PolySorp, MediSorp, MultiSorp and MiniSorp for all your immuno assay needs.

OEM / Diagnostics

Capabilities:

From custom coatings, custom molding and modifications to our specialized surfaces to customer-specified testing, packaging and bar-coding.

We work with the customer directly to ensure that their needs are met.



Cell Culture Excellence™

Essential products for the cell culture laboratory

Our comprehensive portfolio includes advanced tools designed to help you achieve excellence at every stage of your cell culture process – from growth and passage to experimentation through characterization, analysis and storage.

To learn about our full array of cell culture products and services, go to:
www.thermo.com/cellculture



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