Cell culture

Product selection guide for every step of your cell culture workflow

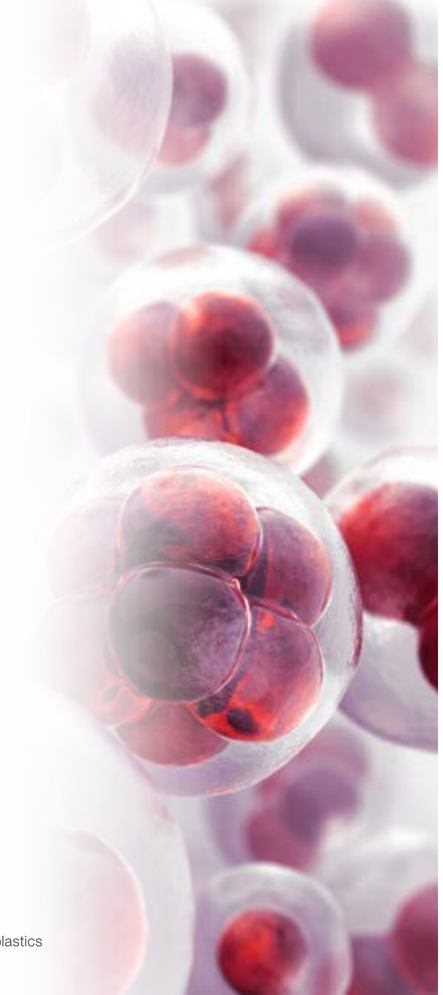
From culture to discovery

Culture with confidence

Thermo Scientific™ Nunc™ and Nalgene™ cell culture products have been used by researchers for more than 60 years in labs around the world.

We take pride in supplying products with consistent high quality to help ensure you get the most reproducible and reliable results in your research. Our products are manufactured using only high-quality raw materials that comply with USP Class VI testing. Most of our cell culture products are tested with trusted Gibco™ media to confirm optimal cell growth across multiple cell lines. This selection guide will help you find our most relevant cell culture surface and format for every step of your workflow—from culture to discovery.

Culture | Modify | Detect | Analyze



Surfaces

Choosing our best growth surface for your cells

To help ensure optimal results for different cell types, we offer a range of Thermo Scientific™ cell culture surfaces. Let us help guide your selection to choose the culture surface for your applications.

Nunclon™ Delta surface for adherent cells

A standard tissue culture (TC) surface modification that makes the polystyrene surface more hydrophilic, thus facilitating maximum adhesion for a broad range of cell types.

Nunclon™ Supra surfaces for xeno/coating-free MSC and cell therapy research

Our premium TC surface has been tested on over 40 cells and cell lines and shows improved cell yield, confluency, morphology, and reproducibility over surfaces from other suppliers for MSCs, primary cells, and sensitive cells.

Nunc™ UpCell™ surface for adherent cultures that require enzyme-free cell detachment

Enables harvesting of cells in single-cell suspensions or as contiguous cell sheets by temperature reduction to preserve cell membranes and membrane molecules, and helps create 3D tissue models without artificial scaffold material.

Nunc™ non-treated surface for suspension culture

High-quality, optically clear virgin polystyrene with a hydrophobic surface is exceptional for suspension cell culture, and also useful for a variety of biochemical assays.

Nunclon™ Sphera™ surface for spheroid–organoid culture

Using this surface, cells grow and aggregate with virtually no attachment to the culture vessel; suitable for spheroid culture, organoid culture, and 3D culture.

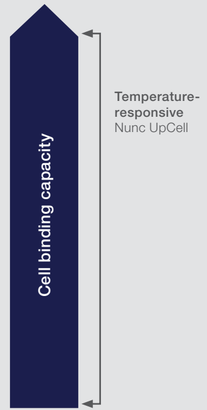
Nunc™ poly-D-lysine or collagen I–coated surface, and Nunc™ Lab-Tek™ II CC^{2}™–modified glass surface for primary cells and sensitive cells

The extracellular matrix (ECM)-coated surfaces imitate the growth environment of cells inside a living body—ideal for cells that don't grow well on the regular TC surface. Collagen I is of animal origin, whereas Nunc poly-D-lysine is fully synthetic. The CC^{2} glass surface mimics poly-D-lysine surface properties, but without the coating material.

Custom coating

If you have any specific need in your research, we can coat cell culture surfaces according to a custom protocol. Contact your technical sales specialist for more information.

Cell culture surfaces



Custom coatings available on request.

Flasks

Nunc cell culture flasks—designed for the way you work

Thermo Scientific™ cell culture flasks are designed for culture consistency, cell health, and reproducibility. Select the surface and ancillary options you're looking for in a tissue culture flask from our comprehensive portfolio. Choose from a variety of surfaces and sizes with culture areas ranging from 25 cm^2 to 500 cm^2 to suit your specific applications and cell types.

Nunc EasYFlask flasks

Nunc™ EasYFlask™ flasks

Designed for convenience

- Angled, extra-wide neck provides easier access to growth surface with cell scrapers or pipettes
- Ergonomic design with 1/3-turn cap enables one-handed operation and avoids wrist strain
- Molded and printed graduations help enable easy and quick measurement of growth media

Nunc standard flasks

Nunc™ standard flasks

Designed with a straight neck and barcoding option for automation cell culture

Nunc T300 flasks

Nunc™ T300 flasks

Designed for durability and ease of use

- One-piece design with straight neck and grip notches
- 300 cm^2 working culture surface and 1,900 mL capacity
- Prominent stacking feet on upper surface enable reliable stacking of multiple flasks in incubators and culture hoods

Nunc TripleFlask flasks

Nunc™ TripleFlask™ flasks

Designed for cell culture expansion without increasing the footprint of the flask

- 3-layer flask providing 3 times the growth surface of a T175 flask for the same footprint, saving space in the incubator
- Barcoding option for automation cell culture

Table 1. Nunc flasks.

Flask type	Surface area (cm^2)	Working volume (mL)	Neck style	Cap type	Barcoding	Cat. No. by surface					
						Nunclon Delta for adherent cells	Nunclon Supra for adherent MSCs, primary cells, and sensitive cells	Non-treated for suspension cells	Nunclon Sphera for spheroid-organoid culture	Poly-D-lysine for primary and sensitive cells	Collagen I for primary and sensitive cells
EasYFlask	25	7	Angled	Filtered		156367	156372	169900	174951	132703*	132706*
				Solid		156340	156374				
	75	25		Filtered		156499	156376	156800	174952	132704*	132707*
				Solid		156472	156378				
	175	55		Filtered		159910	156380	159926		132705*	132708*
				Solid		159920	156382				
	225	70		Filtered		159934					
				Solid		159933					
Standard flask	25	7	Angled	Filtered		136196					
				Solid		163371					
	80	30	Straight	Filtered		178905					
				Solid		153732					
	175	68		Filtered		178883					
				Filtered	•	178983					
				Solid		156502					
T300 flask	300	150	Straight	Filtered		132098					
				Solid		132097					
TripleFlask	500	200	Straight	Filtered		132913		132903			
				Filtered	•	132920					
				Solid		132867					

* Aseptically sterile.

Find out more about Nunc cell culture flasks at thermofisher.com/cellcultureflasks

Dishes and multidishes

Nunc cell culture dishes and multidishes—a better way to handle your cells

Thermo Scientific™ Nunc™ cell culture dishes are available in a wide selection of formats, materials, and surface modifications. Each is designed and produced under the highest quality standards to promote healthy cells and reproducible results. Each selection offers excellent optical quality for manual and automated imaging and is compatible with automated equipment and instruments.

Nunc™ EasYDish™ dishes

- Designed to improve handling, stacking, and transporting of cell cultures in the lab
- Beveled grip makes it easier to grasp and manage dish with gloved hand
- Raised outer edge on the lid helps keep stacked dishes stable

Standard Nunc™ dishes

- Available in round, rectangular, and square formats
- Available with or without air vent

Nunc™ glass-bottom dishes

- Combines the convenience of a standard 35 mm dish with the imaging benefits of coverglass to provide optimum optical characteristics required for high-magnification microscopy and confocal imaging
- Cell culture–treated glass to enhance cell attachment and growth

Nunc™ multidishes

- Designed to prevent evaporation and cross-contamination with one-way lid orientation and rings in lid over each well
- Available with round or rectangular wells

Nunc EasYDish dishes

Standard Nunc dishes

Nunc glass-bottom dishes

Nunc multidishes

Table 2. Nunc dishes and multidishes.

Dish type	Format (mm)	Surface area (cm²)	Air vent	Cat. No. by surface: Nunclon Delta for adherent cells	Nunclon Supra for adherent MSCs, primary cells, and sensitive cells	Non-treated for suspension cells	Nunclon Sphera for spheroid-organoid culture	Nunc UpCell for adherent culture plus trypsin-free cell harvesting	Cell culture–treated glass for high-quality imaging
Round EasYDish	35 x 13	8.8	•	150460	150470				
	60 x 16	21.5	•	150462	150472				
	100 x 17	56.7	•	150464	150474				
	100 x 21	56.7	•	150466	150476				
	150 x 21	145	•	150468	150478				
Round standard dish	35 x 10	8.8		150318					
			•	153066		171099	174943	174904	150680, 150682
	60 x 15	21.5		150326					
			•	150288		150340	174944	174903	
	100 x 15	56.7	•	150350			174945	174902	
	100 x 20		•	172931					
	150 x 20	145	•	168381					
Rectangular dish	128 x 86	84		165218		242811			
Square dish	245 x 245	500		166508		240835			

Multidish type	Well shape	Surface area/well (cm²)	Large packaging	Cat. No. by surface: Nunclon Delta for adherent cells	Nunclon Supra for adherent MSCs, primary cells, and sensitive cells	Non-treated for suspension cells	Nunclon Sphera for spheroid-organoid culture	Nunc UpCell for adherent culture plus trypsin-free cell harvesting	Poly-D-lysine–coated for sensitive cells	Collagen I–coated for sensitive cells
4-well	Round	1.9		176740		179820				
	Rectangle	21.8		167063		267061				
6-well	Round	9.6		140675	140680	150239	174932	174901	152035**	152034**
			•	140685						
8-well	Rectangle	10.5		167064						
12-well	Round	3.5		150628	140681	150200	174931	174900		
24-well	Round	1.9		142475	140682	144530	174930	174899	152025**	
			•	142485						
48-well	Round	1.1		150687	140683	150787		174898		
			•	152640						

** Aseptically sterile.

Find out more about Nunc cell culture dishes at thermofisher.com/cellculturedishes

Find out more about Nunc cell culture multidishes at thermofisher.com/cellculturedishes

Microplates

Nunc microplates—designed for your specific application needs

Whether you're culturing individual cell lines or scaling up for high-throughput screening (HTS), or anything in between, there is a Thermo Scientific™ Nunc™ microplate for your needs. Advances in manufacturing for surface technology, well geometry, and optical flatness mean we have a plate tailored for your specific application.

Nunc™ Edge 2.0 plates

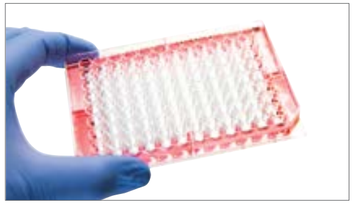
- Designed to eliminate evaporation and improve cell growth consistency across the 96 wells with a built-in reservoir surrounding the wells that can be filled with medium or gel

Standard Nunc™ plates

- Available in clear, black, and white to suit different detection technologies used by plate readers
- Available with 96, 384, and 1,536 wells for HTS applications

Nunc™ optical-bottom plates

- With exceptional imaging quality and minimal background noise and crosstalk between wells, these plates are optimized for fluorescence and luminescence imaging applications



Nunc Edge 2.0 plate

Standard Nunc plates

Nunc optical-bottom plates

Table 3. Nunc microplates.

Microplate type	Bottom	Well shape	Color	Lid	Large packaging	Cat. No. by surface: Nunclon Delta for adherent cells	Nunclon Supra for adherent MSCs, primary cells, and sensitive cells	Non-treated for suspension cells	Nunclon Sphera for spheroid-organoid culture	Nunc UpCell for adherent culture plus trypsin-free cell harvesting	Poly-D-lysine for primary and sensitive cells	Collagen I for primary and sensitive cells	CC² glass for primary and sensitive cells
96-well	Solid	Flat (F)	Clear			168055							
				•		167008	167013		174927	174897	152039†	152038†	
					•	156545							
				•	•	161093		260860					
	Solid with reservoirs (Nunc Edge plate)	Flat (F)	Clear	•		167425		267427					
				•	•	167542		267544					
	Solid	Flat (F)	White	•		136101		236105					
				•	•	136102		236107					
			Black	•		137101		237105					
				•	•	137103		237107					
		Round (U)	Clear			143761		262162					
				•		163320			174925				
				•	•	168136		268200	174929				
		Conical (V)	Clear					249662					
					•			249940					
				•				277143					
				•	•			249952					
	Optical coverglass	Flat (F)	White	•		164590							
			Black	•		164588		265300†					160376
	Optical polymer film	Flat (F)	White	•		165306					152028†	152040†	
								265302‡					
			Black	•		165305					152037†	152036†	
								265301‡					
384-well	Solid	Flat (F)	Clear	•		164688		265202					
								265203					
			White	•		164610							
						165195		262360†					
			Black	•		164564							
								262260‡					
	Solid shallow-well	Flat (F)	Clear					264704‡					
			White					264706‡					
			Black					264705‡					
	Optical coverglass	Flat (F)	Black	•		164586							
	Optical polymer film	Flat (F)	White	•		142762							
			Black	•		142761					152029†	152041†	
								242764‡					
1,536-well	Solid	Flat (F)	Clear					253614‡					
			White					253607‡					
			Black					253601‡					

† Aseptically sterile.
‡ Non-sterile.

For barcoding the plate, go to thermofisher.com/barcodeconfigurator
Find out more about Nunc cell culture plates at thermofisher.com/cellculturepleates

Chamber slides and coverglasses

Nunc chamber slides and chambered coverglasses—excellent cell imaging performance simplified

Efficiency is everything. The Thermo Scientific™ Nunc™ Lab-Tek™ and Lab-Tek™ II chamber slide system and chambered coverglasses simplify your cell imaging workflow by allowing you to culture, modify, stain, and analyze—all in a single device.

Nunc chamber slides

- Chamber slides are designed for growth, fixation, staining, and microscopic examination of cultured cells on a single surface with removable medium chambers

Nunc chambered coverglasses

- Chambered coverglasses with lids are intended for high-magnification live imaging of cells using an inverted microscope

Nunc™ Lab-Tek™ flasks on slides

- Well suited for cell karyotyping using single-cell autoradiography or single-cell immunofluorescence

Nunc chamber slides

Nunc chambered coverglasses

Nunc Lab-Tek flasks on slides

Table 4. Nunc chamber slides and chambered coverglasses.

Chamber slide type	Number of wells	Surface area/well (cm^2)	Chamber—removable	Sealant	Cat. No. by slide material		
					Glass	Permanox™ slides	CC^2 glass
Lab-Tek	1	9.4	Yes, no tool needed	Silicone, medical grade	177372	177410	
	2	4.2			177380	177429	
	4	1.8			177399	177437	
	8	0.8			177402	177445	
	16	0.4			178599		
Lab-Tek II	1	8.6	Yes, tool provided	Biocompatible acrylic adhesive	154453		154739
	2	4.0			154461		154852
	4	1.7			154526		154917
	8	0.7			154534		154941

Chambered coverglass type	Number of wells	Surface area/well (cm^2)	Chamber—removable	Borosilicate coverglass thickness (mm)	Cat. No. by coverglass thickness
Lab-Tek	1	9.4	No	0.13–0.17	155361
	2	4.2			155380
	4	1.8			155383
	8	0.8			155411
Lab-Tek II	1	8.6	No	0.16–0.19	155360
	2	4.0			155379
	4	1.7			155382
	8	0.7			155409

Flask on slide type	Number of wells	Surface area/well (cm^2)	Suggested working volume (mL)	Cat. No. by slide material	
				Glass	TC-treated polystyrene
SlideFlask	1	9.0	2.5–5		170920
Flaskette	1	10.0	2.5–5	177453	

Find out more about Nunc chamber slides and chambered coverglasses at thermofisher.com/chamberslides

Cell culture inserts

Nunc cell culture inserts and carrier plate systems—versatility and convenience for your permeable cell culture applications

When your cell-based research calls for more than the standard culture vessel, the porous membrane-based Thermo Scientific™ Nunc™ cell culture inserts enable the versatility you need by allowing the attached cells to be exposed to different conditions on the apical and basal sides, as well as allowing molecules and cells to migrate, diffuse, or be actively transported across the growth surface. The unique Thermo Scientific™ Nunc™ carrier plate systems simplify procedures that require an air–liquid interface and change of medium by allowing the inserts to be hung in three precise positions in the wells.

Nunc cell culture inserts

- Polycarbonate (PC) inserts have high pore density to allow more exchange of growth medium through the membrane for transport studies and co-culture
- PC porous membrane material is optimized for cell growth and is well suited for barrier assays, and tumor migration and invasion studies

Nunc carrier plate systems

- Ability to adjust the hanging height of inserts in the multiwell plate—optimized for culture at the air–liquid interface with precise position control
- Extends cell feeding interval of air–liquid interface culture by putting more medium in each well with the insert at the highest hanging position
- Ability to lift all the inserts from the multiwell plate at once, saving time when changing medium

Nunc cell culture inserts

Nunc carrier plate system

Cross-section view of a Nunc carrier plate system

Table 5. Choose insert pore size by application.

Cell culture applications		Insert pore size		
		0.4 µm	3 µm	8 µm
Transport studies	Molecules including hormones and growth factors	•	•	
	Drug transport across epithelial (e.g., Caco-2) and endothelial barriers			
	Drug transport across brain microvascular endothelial cells			
Co-culture studies	Cell–cell interactions	•	•	
	Cell–substrate interactions			
Tissue engineering	Angiogenesis	•	•	
	Dermal or epidermal and epithelial tissue models			
Chemotaxis studies	Migration of cells including eosinophils and macrophages		•	•
Invasion studies	Tumor invasion and metastasis models		•	•
	Invasion inhibitors			
	Extracellular matrix effects			

Table 6. Nunc cell culture inserts and carrier plate systems.

Membrane	Plate	Inserts/plate	Surface area/insert (cm^2)	Carrier plate	Cat. No. by membrane pore size		
					0.4 µm	3 µm	8 µm
Polycarbonate	24-well	12	0.5		140620	140627	140629
		24		•	141002	141004	141006
	12-well	12	1.1		140652	140654	140656
				•	141078	141080	141082
	6-well	6	3.1		140640	140642	140644
			4.1		140660	140663	140668

Find out more about Nunc cell culture inserts and carrier plate systems at thermofisher.com/cellcultureinserts

Shaker flasks

Nalgene shaker flasks—your choice for optimal scale-up

Save preparation time and avoid contamination risk with sterile Thermo Scientific™ Nalgene™ single-use PETG Erlenmeyer flasks—well suited for suspension cell culture, medium preparation, mixing, and storage.

Key features

- Made with crystal clear, break-resistant, bisphenol A (BPA)-free PETG
- Sterile with 10^{-6} sterility assurance level (SAL)
- Made for single use to reduce cross-contamination and eliminate need for cleaning
- Collapse when autoclaved—reducing biohazardous waste volume
- Graduated for quick volume assessment
- Validation binder available upon request to help jump-start your validation process
- Options of solid or filtered cap for adequate gas exchange
- Plain or baffled bottom to suit needs for reducing shear stress or improving aeration

Table 7. Nalgene single-use PETG Erlenmeyer flasks.

Bottom style	Volume (mL)	Cap type	Cat. No.
Plain	125	Filtered	4115-0125
		Solid	4112-0125
	250	Filtered	4115-0250
		Solid	4112-0250
	500	Filtered	4115-0500
		Solid	4112-0500
	1,000	Filtered	4115-1000
		Solid	4112-1000
	2,000	Filtered	4115-2000
		Solid	4112-2000
	2,800	Filtered	4115-2800
		Solid	4112-2800
Baffled	125	Filtered	4116-0125
		Solid	4113-0125
	250	Filtered	4116-0250
		Solid	4113-0250
	500	Filtered	4116-0500
		Solid	4113-0500
	1,000	Filtered	4116-1000
		Solid	4113-1000
	2,000	Filtered	4116-2000
		Solid	4113-2000
	2,800	Filtered	4116-2800
		Solid	4113-2800

Accessories

Nunc cell culture accessories—aid your research with simplicity

Complementing the essential cell culture devices, Thermo Scientific™ cell culture accessories bring convenience and compatibility to every step of your cell culture workflow.

Nunc™ conical tubes—a clear advantage in sample processing and tracking

- Nunc™ EZFlip™ conical tubes with proprietary hinged-cap design can be opened and closed with one hand
- Nunc standard conical tubes are available with environment-friendly and recyclable plastic rack
- Nunc™ bioreactor tubes for protein expression, HTS, and suspension cell line development

Nunc™ serological pipettes feature:

- Easy color-coded packaging to simplify size selection
- A PET filter plug to help prevent contamination
- Surfaces free of RNases, DNases, and human DNA
- A wide range of packaging options to suit your recycling needs and reduce impact on the environment

Nunc™ cell scrapers—ultimate flexibility

- Individually wrapped, with a flexible blade for optimal removal of cells
- An alternative solution to cell dissociation enzymes

Table 8. Nunc conical tubes.

Tube type	Volume (mL)	Max RCF (x g)§	Cat. No. by packaging	
			Loose	Racked
Standard conical	15	10,500	339650	339651
	50	17,000	339652	339653
	200	7,000	376813	
	250	10,000	376814	
Bioreactor conical	50	5,000	332260	
EZFlip conical (sterile)	15	8,500	362694	362695
EZFlip conical (non-sterile)	15	8,500	362694NS	362695NS
	50	15,000	362696NS	362697NS

§ Relative centrifugal force (RCF) is determined by centrifuge model, rotor–adapter combination, and centrifugation conditions (e.g., temperature, time, acceleration, deceleration, sample volume, etc.).

Table 9. Nunc serological pipettes.

Volume (mL)	Color code	Cat. No. by packaging		
		Individual (paper and plastic)	Individual (plastic)	Bulk
1		170353N	170364N	170371N
2		170354N	170365N	170372N
5		170355N	170366N	170373N
10		170356N	170367N	170374N
25		170357N	170368N	170375N
50		170358N	170369N	170376N

Table 10. Nunc cell scrapers.

Length (cm)	Cat. No. by packaging	
	50/case	250/case
23	179693PK	179693
32	179707PK	179707

Table 11. Key Nunc products.

Category	Description	Type or packaging	Delta Cat. No.	Supra Cat. No.
Cell culture dishes	Nunc EasYDish Cell Culture Dishes, Nunclon Delta or Nunclon Supra surface treatment	35 mm diameter x 13 mm high, 8.8 cm^2 culture area	150460	150470
		60 mm diameter x 16 mm high, 21.5 cm^2 culture area	150462	150472
		100 mm diameter x 17 mm high, 56.7 cm^2 culture area	150464	150474
		100 mm diameter x 21 mm high, 56.7 cm^2 culture area	150466	150476
		150 mm diameter x 21 mm high, 145 cm^2 culture area	150468	150478
Cell culture flasks	Nunc EasYFlask Cell Culture Flasks, Nunclon Delta or Nunclon Supra surface treatment	25 cm^2 culture area	156367	156374
		75 cm^2 culture area	156499	156378
		175 cm^2 culture area	159910	156382
		225 cm^2 culture area	159934	
Cell culture plates	Nunc Cell Culture Treated Multidishes, Nunclon Delta or Nunclon Supra surface treatment	4-well	176740	
		6-well	140675	140680
		12-well	150628	140681
		24-well	142475	140682
		48-well	150687	140683
	Nunc Edge 2.0 96-Well Microplate	Nunclon Delta surface treatment	167425	
		Non-treated	267427	
	Nunc MicroWell 96-Well Microplate, Nunclon Delta surface treatment	Black	137101	
		White	136101	
Conical tubes	Nunc 15 mL Conical Centrifuge Tubes	Bulk pack	339650	
		Racked	339651	
	Nunc 50 mL Conical Centrifuge Tubes	Bulk pack	339652	
		Racked	339653	
	Nunc 50 mL Conical Bioreactor Tubes	Bulk pack	332260	
Serological pipettes	Nunc Serological Pipettes, individually wrapped, paper/plastic peel	1 mL	170353N	
		2 mL	170354N	
		5 mL	170355N	
		10 mL	170356N	
		25 mL	170357N	
		50 mL	170358N	

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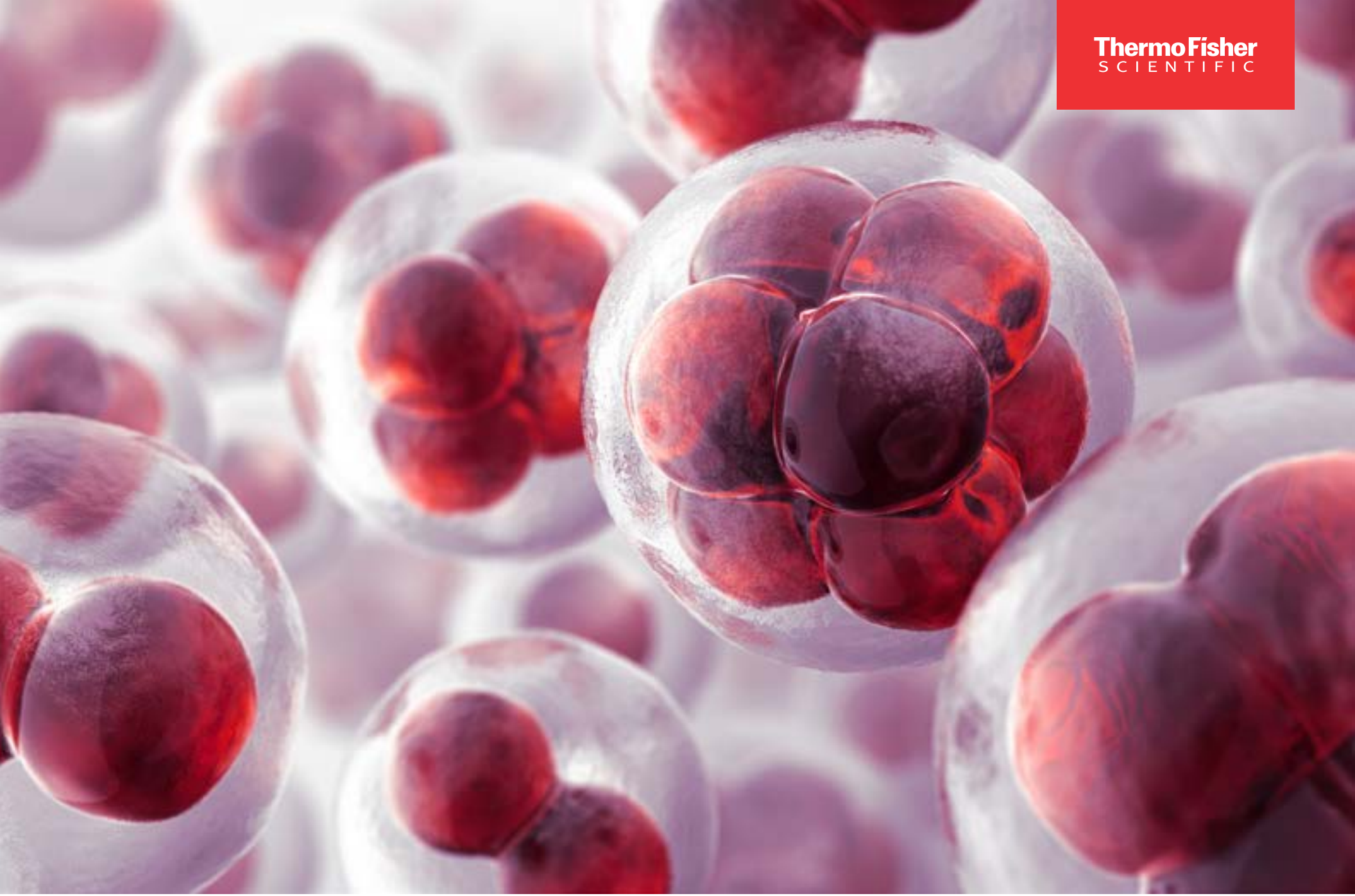

Find out more at **thermofisher.com/cellcultureplastics**