

Cell culture media and reagents

Designed to enable reproducibility and performance for results you can count on every day

gibco

Gibco cell culture media over 60 years of cell culture expertise

Gibco[™] media, sera, supplements, cells, and cell culture reagents are designed to deliver reproducibility and performance, for results you can count on.

Regardless of whether you are performing cell culture in a research lab or production facility, need a special or defined formulation, or are growing cell lines, primary cells, or stem cells, Gibco products offer a reliable solution.

Learn more at thermofisher.com/gibco



Gibco media bottle

Designed to provide exceptional ergonomic features, ease of use, and reduced chance of contamination, the compact design of the Gibco[™] media bottle allows for easy handling and storage, and also reduced packaging.

Learn more at thermofisher.com/gibcobottle



Sustainable solutions

We are committed to delivering products that serve the research needs of our customers, while developing these products in a way that minimizes our use of natural resources and our impact on the environment.

Learn more at thermofisher.com/sustainability



GMP manufacturing

Gibco cell culture products are manufactured in facilities that are compliant with current good manufacturing practices (GMP) for medical devices and adhere to a robust quality management system.

Learn more at thermofisher.com/gibcogmp

Gibco media are a reliable solution



56% of publications in top-tier journals cite the use of Gibco media*

Cell, Nature, Science, New England Journal of Medicine, and BMJ



Gibco media are the most cited media in the **research areas*** of

Cell biology (51%)

Neuroscience (52%)

🔇 Cancer (52%)

Munology (50%)

Constant innovation for cutting-edge cell culture, from our research labs to yours

You need a partner dedicated to helping you confidently forge new paths. Our team of skilled R&D scientists and our unwavering investment in innovation make Gibco[™] cell culture media the trusted choice of boundary-pushing scientists around the world.



Learn more about our innovative cell culture formulations on page 6.

* According to market research conducted by HDMZ in early 2023 from articles published within the last 10 years.

Cell culture media

Time-tested and trusted, Gibco media include products designed to support the growth and maintenance of a variety of mammalian cells and cell lines.

We've developed ready-to-use media products as well as powdered and concentrated liquid formulations to fit your experimental setup and budget.

Discover the Gibco cell culture media for your experiment at thermofisher.com/media

DMEM

Gibco[™] Dulbecco's Modified Eagle Medium (DMEM) is a widely used basal medium for supporting the growth of many different mammalian cells. Cells successfully cultured in DMEM include primary fibroblasts, neurons, glial cells, HUVECs, and smooth muscle cells, as well as cell lines such as HEK293, Cos-7, and PC12.

DMEM/F-12

Gibco[™] Dulbecco's Modified Eagle Medium: Nutrient Mixture F-12 (DMEM/F-12) is a widely used basal medium for supporting the growth of many different mammalian cells including MDCK cells, glial cells, human fibroblasts, human endothelial cells, and rat fibroblasts.

RPMI 1640

Gibco[™] Roswell Park Memorial Institute (RPMI) 1640 Medium is unique from other media because it contains the reducing agent glutathione and high concentrations of vitamins, including certain vitamins not found in Eagle's Minimum Essential Medium (EMEM) or DMEM. Gibco RPMI 1640 Medium is suitable for a variety of mammalian cells, including Jurkat, MCF-7, and PC12 cells, as well as PBMCs, astrocytes, and carcinomas.

MEM

Gibco[™] Minimum Essential Media (MEM), patterned after Eagle's media, is well suited for the growth of a broad spectrum of mammalian cells. Compared to the earlier Gibco[™] Basal Medium Eagle (BME), MEM is formulated with increased concentrations of amino acids. Today there are many other MEM formulations available, including Gibco[™] Glasgow's MEM, MEM α, DMEM, and Temin's Modification.

Serum-free media

Serum-free media formulations are available for many primary cultures and cell lines, including recombinant protein-producing Chinese hamster ovary (CHO) cell lines, hybridoma cell lines, and cell lines acting as hosts for viral production (e.g., HEK293, Vero, MDCK, MDBK).

Other media formulations available:

- IMDM
- Media 199
- Ham's F-12
- Ham's F-10
- Basal Medium Eagle (BME)
- Fischer's Medium
- Leibovitz's L-15
- McCoy's 5A
- Cell freezing media
- Bioproduction media
- Williams' E Medium

Find the right Gibco media formulation to support your research

Customize Gibco[™] catalog products

Add or remove components, create customized packaging options, select QC tests, and more. Formulations available for customization include classical basal media, protein expression media, stem cell media, and cell and gene therapy (CGT) media.

Find the custom media request form at thermofisher.com/custommediaform



Discover the differences between our key custom media manufacturing services



Gibco[™] rapid prototyping





• 1-200 L liquid medium

Research use only (RUO)

- 1–10 kg powder medium
- 1–8 kg Gibco[™] Advanced Granulation Technology[™] (AGT[™]) format medium



Packaging options

Standard packaging available

Product testing

Limited testing available for a fee:

Liquid medium Powder medium

- pH • pH
- Osmolality Osmolality
- Sterility Solubility
- Endotoxin Endotoxin

Results are provided without a CoA.



GMP production



RUO and other intended use options available



Batch volumes

- 10–10,000 L liquid medium
- 1–3,500 kg powder medium
- 50–6,000 kg AGT format medium



Packaging options

Standard and custom packaging options available



Product testing

Price includes the following tests:

Liquid medium

- pH
- pH
- Osmolality

• Sterility

Osmolality

Powder medium

Solubility

Additional tests available. Results are provided with a CoA.

Gibco Media Formulation Tool

We are dedicated to providing quality cell culture media products that meet your research needs. Use the interactive Gibco™ Media Formulation Tool to compare classical basal media side-by-side. First choose your media, then choose specific modifications to find the right match for your experiment.

Try the tool now at thermofisher.com/mediaformulation

Innovative formulations

We go beyond basic formulations to provide optimized and innovative cell culture solutions designed to support your efforts to achieve consistently reproducible results

Take your cell culture to the next level with enhanced formulations of your everyday favorites.

Advanced media

Gibco[™] Advanced media are enhanced basal media formulations of DMEM, DMEM/F-12, MEM, and RPMI 1640. Enriched with normal-serum constituents, these media require 50–90% less FBS supplementation, with equivalent or exceptional cell growth, and no change in morphology or function of many common cell lines.



- **Reproducible results**—Fewer lot-to-lot changes of serum means less variability in your cell culture conditions
- Lower cost—Using less serum and testing fewer lots can help result in reduced expenses for your laboratory

Learn more at <u>thermofisher.com/advanceddmem</u>, thermofisher.com/advanceddmemf12, thermofisher.com/ advancedmem, and thermofisher.com/advancedrpmi

FluoroBrite DMEM

Gibco[™] FluoroBrite[™] DMEM is a DMEM-based formulation with 90% lower background fluorescence than that emitted by standard phenol red–free DMEM. With this alternative to phenol red–free media, researchers can visualize even the weakest fluorescent events in an



environment that is amenable to cell health. FluoroBrite DMEM is:

- Less autofluorescent—Increase the signal-to-noise ratio of your measurements to obtain improved cell images
- A culture and imaging medium—No more PBS washes or use of phenol red–free media

Learn more at thermofisher.com/fluorobrite

Opti-MEM media

Gibco[™] Opti-MEM[™] Reduced Serum Media is formulated for a reduction in serum supplementation by at least 50%. A modification of EMEM, buffered with HEPES and sodium bicarbonate, and supplemented with hypoxanthine, thymidine, sodium pyruvate, L-glutamine, trace elements, and growth factors.



- Easy to use—Most cells grown in serum-supplemented media can be transferred to Opti-MEM media with a minimum of 50% reduction in serum
- Ideal for use during cationic lipid transfections—Opti-MEM media is especially useful in combination with Invitrogen[™] Lipofectamine[™] transfection reagents

Learn more at thermofisher.com/optimem

BenchStable media

Engineered for flexibility and convenience, Gibco[™] BenchStable[™] media enable storage at room temperature, thereby saving your lab's valuable cold storage space. Available in the most used basal media formulations: DMEM, DMEM/F-12, MEM, and RPMI 1640.



- Stable at room temperature—No need to refrigerate means the media temperature is just right when you are ready to use it
- A greener option—BenchStable media have more sustainable packaging and help reduce energy consumption by promoting the efficient use of cold storage compared to traditional media

Learn more at thermofisher.com/benchstable



GlutaMAX Supplement

L-glutamine spontaneously degrades in cell culture media generating ammonia and pyrrolidine carboxylic acid as byproducts. Gibco™ GlutaMAX[™] Supplement is a stabilized form of L-glutamine, the dipeptide L-alanyl-L-glutamine, that prevents



degradation and ammonia buildup even during long-term culture.

- Easy to use-GlutaMAX Supplement is a direct substitute for L-glutamine at equimolar concentrations in your current cell culture media formulation
- Minimizes toxic ammonia buildup-Extremely stable in aqueous solution, the dipeptide does not degrade in storage or during incubation

Learn more at thermofisher.com/glutamax

GlutaMAX media

We offer many media formulations in which the GlutaMAX dipeptide substitutes for L-glutamine. Options include DMEM, MEM, RPMI, Opti-MEM, and other basal media.

Suitable for both adherent and

suspension mammalian cell cultures, including:

- Cultures requiring long periods of incubation without feeding (e.g., cloning assays)
- Cultures used in long-term studies requiring optimum standardization of media (e.g., use of cancer cell lines, long-term cultures passaged over time, toxicity testing)
- · Culture systems sensitive to ammonia (e.g., high-density bioreactors)

Learn more at thermofisher.com/glutamax

TrypLE reagents

Gibco[™] TrypLE[™] reagents are highly purified, recombinant cell-dissociation enzymes that replace porcine trypsin. These reagents are ideal for dissociating attachment-dependent cell lines in both serum-containing and serumfree conditions, and can be directly



substituted for trypsin without protocol changes.

- Gentle on cells-Protect your cells' surface proteins
- Stable at room temperature-No need to freeze means the reagents are ready when you need them
- Animal origin-free-Important if you're looking for a product without animal-derived components

Learn more at thermofisher.com/tryple

Recovery cell freezing medium

Whenever you are banking precious cells, make sure they are ready to get back to work when you are. Gibco[™] Recovery[™] Cell Culture Freezing Medium is a complete cryopreservation technology for mammalian cell culture, offering:



- Improved cell recovery—Increased viability after thawing from cryostorage
- Fast results-More viable cells, so you can start your experiments sooner
- Ready-to-use freezing mix-No need to combine multiple products
- Added safety-No need to handle and mix DMSO

Learn more at thermofisher.com/freezingmedia

Cell culture reagents and supplements

Designed to enable reproducibility, Gibco cell culture reagents are infused with quality, customer-focused innovation, and service excellence from beginning to end. From the most basic formulations to the newest innovations, Gibco reagents and supplements provide exceptional quality, consistency, and performance-for results you can count on every day.



Cell dissociation

Gibco[™] dissociation solutions—including Gibco[™] Trypsin and TrypLE[™] Express solutions—are used widely for tissues and cell monolayers. Available in a wide variety of formats to help meet the diverse needs of researchers performing adherent cell culture.

Learn more at thermofisher.com/celldissociation

Recombinant proteins

Whether conducting basic research or developing next-generation cell therapies, you rely on the quality and integrity of the recombinant proteins used in your experiments. Thermo Fisher Scientific offers a large selection of high-quality Invitrogen[™] and Gibco[™] recombinant proteins, including Gibco[™] PeproTech[™] proteins, to help meet these needs.

Learn more at thermofisher.com/recombinantproteins

Balanced salt solutions

Trust Gibco[™] balanced salt solutions to provide an isotonic buffer system that keeps your cells in the physiological pH range and helps to maintain viability during short-term incubations. Available in many formulations and formats, both liquid and powder.

Learn more at thermofisher.com/balancedsalts

Antibiotics

Proper supplementation of cell culture media with antibiotics can help protect your cells from contamination. We offer a wide range of antibiotics and antimycotics that help control or eliminate cell culture contamination.

Selection guides are available to choose antibiotics for contamination, or selection and cell line development.

Learn more at thermofisher.com/antibiotics

Other Gibco cell culture reagents and supplements:

- 2-Mercaptoethanol
- · Amino acid solutions
- Cholesterol supplements
- HAT Supplement
- HEPES buffers
- HT Supplement
- Insulin-Transferrin-Selenium
- L-glutamine
- MEM Vitamin Solution
- Phytohemagglutinin
- Pluronic[™] F-68 surfactant
- Sodium Bicarbonate
- Sodium Pyruvate
- Trypan Blue Solution
- Water for Injection (WFI) and cell culture-grade water

Thermo Scientific[™], Invitrogen[™], and Gibco[™] products are optimized and evaluated to enable improved productivity.

Explore our wide selection of cell culture products designed to help you achieve successful research outcomes.

FBS

Gibco[™] FBS can help provide the cell health, maintenance, and viability critical for optimal performance and cell growth in your culture medium. Discover the differences that Gibco FBS can deliver for your research and production today.

Learn more at thermofisher.com/fbs

Transfection

Our high-quality products for lipid-based transfection and electroporation are useful across a wide variety of cell types and applications. Invitrogen[™] Lipofectamine[™] products are widely used reagents that provide consistent and highly efficient gene delivery in many cell types. The Invitrogen[™] Neon[™] NxT Electroporation System is an innovative device able to achieve high efficiency transfection and increased cell viability, even in hard-to-transfect cell types.

Learn more at thermofisher.com/transfection

Biological safety cabinets

Thermo Scientific[™] biological safety cabinets (BSCs) use less energy while helping reduce costs. Our BSCs offer the certified performance and protection you can rely on every day.

Learn more at thermofisher.com/bsc

Cold storage

We offer proven cold storage sample protection and preparation solutions for a variety of sample types, from vaccines to cryogenically preserved specimens. Our portfolio ranges from 4°C high-performance lab refrigerators to -196°C cryogenic freezers.

Learn more at thermofisher.com/coldstorage

Cell culture plastics

Thermo Scientific[™] Nunc[™] cell culture plastics offer a solution for every step of your workflow, and are validated with Gibco products across multiple cell lines and applications. Easily find your cell plastics by searching by surface, format, or other application need.

Learn more at thermofisher.com/cellcultureplastics

Cell counters

We offer two high-performance automated cell counters designed to meet the needs of a cell culture lab. Invitrogen[™] Countess[™] 3 and Countess[™] 3 FL Automated Cell Counters contain advanced autofocusing and counting algorithms to allow you to guickly and accurately identify and count cells within a population. Applications include cell counting, viability, and transfection efficiency.

Learn more at thermofisher.com/countess

CO₂ incubators

Protect your valuable cell cultures with Thermo Scientific™ CO_a incubators, which afford proven reliability, exceptional contamination prevention, and optimal growing conditions.

Learn more at thermofisher.com/co2

Liquid handling

Our portfolio of liquid handling instruments offers quality and performance vital to your research-from a full range of manual and electronic pipetting consumables to automated liquid handlers, reagent dispensers, and pipette tips.

Learn more at thermofisher.com/liquidhandling

Cell culture media by research area

Primary cell culture

Get closer to *in vivo* predictions with Gibco cell culture systems. These systems allow you to closely mimic the *in vivo* state and generate more physiologically relevant data. Each lot of primary cells is performance tested for viability and growth potential.

Learn more at thermofisher.com/primarycells

Stem cell culture

An extensive selection of high-quality media products are available for pluripotent stem cells, neural stem cells, mesenchymal stem cells, hematopoietic stem cells, and stem cell therapy applications.

Learn more at thermofisher.com/stemcellculture

Neuronal cell culture

Gibco[™] neuronal and neural cell media are optimized for the growth and support of primary neuronal and neural cell cultures. These media are cited in applications involving primary neurons, glial cells, and disease models.

Learn more at thermofisher.com/neuralculture

Protein expression

Gibco media formulations are available as components of our protein expression systems, supporting the creation of recombinant proteins for further use, including functional and therapeutic studies.

Learn more at thermofisher.com/proteinexpression

Organoid, spheroid, and 3D cell culture

Gibco media products have been used in a range of organoid, spheroid, and 3D culture studies, allowing for a more physiologically relevant understanding of complex biology compared to 2D cell culture.

Learn more at thermofisher.com/3dculture

Cell therapy applications

Gibco[™] Cell Therapy Systems[™] (CTS[™]) media products, designed for use in cell therapy applications, are manufactured to GMP standards and undergo extensive testing to help ensure sterility and safety.

Learn more at thermofisher.com/celltherapysystems

Cell culture scale-up

From basic formulations to our latest innovations, Gibco cell culture products for bioprocessing provide high quality, consistency, and performance for your scale-up needs.

Learn more at thermofisher.com/gibcobioprocessing

Cytogenetics

Specially formulated Gibco media are available for use in standard clinical cytogenetic protocols, with products optimized for analysis of amniotic fluid cells, chorionic villus samples, bone marrow cells, or peripheral blood lymphocytes.

Learn more at thermofisher.com/cytogenetics

Every cell culture requires analysis to check on cell health and growth

Compiling data sets from multiple cell analysis investigations can enable scientists to better understand, predict, and—ultimately—influence the factors that underlie cell health, proliferation, function, and death.

We offer a broad range of cell analysis research solutions, including Invitrogen[™] labeling and detection technologies, antibodies, and immunoassays; Invitrogen[™] EVOS[™] cell imaging systems; and Invitrogen[™] Attune[™] acoustic focusing flow cytometers.

Find cell analysis solutions at thermofisher.com/cellanalysis



Gibco Education

Gibco Education connects you with free-to-use materials, webinars, handbooks, virtual reality trainings, expertise, and the hands-on courses you need to help gain confidence in the lab and progress your career.

Whether you're learning new skills or revisiting familiar techniques, expanding your horizons, or transitioning between disciplines, explore our cross-application resources—from cell culture and transfection basics to protein expression and stem cell innovations.

Learn more at thermofisher.com/gibcoeducation



Gibco virtual learning

Enhance your lab skills with our library of virtual training courses. Explore virtual laboratories and eLearning modules, developed by our technical experts, across a variety of applications.

Browse virtual learning modules at thermofisher.com/gibcovirtuallearning



Gibco cell culture basics

Did you know that understanding cell culture is essential for the life of your work? Ensuring consistently healthy cells can be the critical factor in your experiments producing the outcomes you're hoping for. Gibco cell culture basics connects you to everything from laboratory setup to safety and aseptic techniques, as well as basic methods for passaging, freezing, and thawing cultured cells, and more.

Explore the Gibco[™] cell culture basics virtual lab and test your cell culture knowledge or refresh on best practices.

The Gibco[™] cell culture basics handbook is the ideal lab partner. This companion handbook introduces the fundamentals of cell culture, and is designed and organized to help you master cell culture basics and achieve consistent results. Download a copy to keep as a frequent reference guide.

Find these tools and more at thermofisher.com/cellculturebasics

Cell culture lab checklist

Cell culture media and reagents

Cell types ____

- Classical media formulations
 - DMEM
 - DMEM/F-12
 - \square MEM
 - □ RPMI
 - □ IMDM
 - □ Other: _____

$\hfill\square$ Innovative media formulations

- □ Advanced Media
- Opti-MEM Reduced Serum Media
- □ BenchStable media
- □ FluoroBrite DMEM
- □ GlutaMAX media
- □ Recovery freezing medium

□ Supplements

- □ Antibiotics
- □ L-glutamine
- □ GlutaMAX dipeptide
- □ Cell culture buffers
- □ Other: ___

□ Reagents

Balanced salt solutions

- □ Trypsin
- □ TrypLE Express Enzymes
- Other: _____

Value: _____

Premium: _____

- □ Specialty: ___
- □ Extracellular matrices

Cell culture plastics

□ Flasks		□ Dishes		Serological pipettes	
	25 cm ²		35 cm ²		2 mL
	75 cm ²		60 cm ²		5 mL
	175 cm ²		90 cm ²		10 mL
	225 cm ²		100 cm ²		25 mL
	500 cm ²		150 cm ²		Other:
	Vent or filter cap		Surface		Chamber slides
	Surface	🗆 GI	ass-bottom dishes		Cell culture inserts
□ Plates		□ Co	onical centrifuge tubes		
	4-well		15 mL conical tube		
	6-well		50 mL conical tube		
	12-well		50 mL bioreactor tube		
	48-well		250 mL conical tube		
	96-well		500 mL conical tube		
	Surface				

Surface guide

Thermo Scientific[™] Nunclon[™] Delta Surface A cell culture-treated surface modification that enhances the hydrophilicity of the polystyrene surface of your culture vessel, promoting maximum adhesion for a broad range of cell types.

Thermo Scientific[™] UpCell[™] Surface

Designed for culture passaging, single-cell analyses, and cell transplantation research, the UpCell surface comes with supportive membrane options and enables harvesting of cell sheets and the creation of 3D tissue models.

	Flasks	Plates	Dishes
Nunclon Delta Surface	•	•	•
UpCell Surface		٠	•
Nontreated	•	•	•

Learn more at thermofisher.com/mammaliancellculture

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