

Growing with the Gibco Protein Expression workflow



Cloning

- Clone your way: choose from a comprehensive range of products and services to build your high-quality constructs quickly



Invitrogen™ GeneArt™ Gene Synthesis

- Reliable delivery: Save time and effort by outsourcing your cloning and DNA fragment needs
- Fast synthesis: Turnaround times start at 5 business days
- Flexible, custom process: Obtain the exact sequence you need in the vector of choice
- Optimize discovery: Utilize Invitrogen™ GeneOptimizer tool to improve protein expression and translational efficiency



[Learn more](#)

Thermo Scientific™ FastDigest Restriction Enzymes

- 1 buffer for all 176 enzymes
- Complete digestion in 5–15 minutes
- No star activity due to short incubation times
- Direct loading on a gel with Green Buffer option



[Learn more](#)

Invitrogen™ GeneArt™ Gibson Assembly Cloning Kits

- Elegant: Homologous overlap design allowing up to 15 DNA fragments to build the perfect seamless clone
- Efficient: Cloning efficiencies up to >95% help save time and resources to accelerate your research
- Proven: The Gibson Assembly method has been referenced in thousands of peer reviewed publications
- Versatile: Can be used to build entire genomes de novo
- Flexible: GeneArt Gibson Assembly kits are available complete with competent cells or master mix formats for maximum flexibility



[Learn more](#)

Thermo Scientific™ Competent Cells

- Thermo Scientific™ DH10B, DH5α, and BL21(DE3) competent cells are produced with stringent quality control to enable reliable, consistent performance in cloning workflows.



[Learn more](#)

Expression

- Gibco™ Expi Protein Expression Systems are designed to deliver excellent protein yields and power scientific breakthrough from discovery to production



Gibco™ Expi293™ PRO Expression System

- Unlock new protein targets: Express challenging and low-yield proteins
- Higher yields: Multifold increase in protein yields, up to 5 g/L
- Cost-effective: Higher protein yields at the lowest cost per mg
- Faster expression kinetics: Produce your protein in less time with fewer steps
- High throughput and automation compatibility: Seamlessly integrate with small-scale and automated platforms
- Sustainable: Reduce reagent consumption, plastic consumption, and labor by at least 3x



[Learn more](#)

Gibco™ ExpiCHO™ Expression System Kit

- Milligram to multigram yields of recombinant protein per liter of culture in 5–14 days post-transfection
- Robust and reproducible transfection results, for greater confidence in outcomes and ability to use CHO cells from research to discovery
- Transfection efficiency of > 90% for high-density suspension CHO cell culture, with matching transfection enhancer and culture feed to boost transfection performance and protein expression
- Use of one-third to one-half less plasmid DNA than other transfection reagents
- Flexible, reliable culture and transfection protocols with multiple options that readily fit into current transient expression workflows
- Scalable expression for culture formats from <1 mL in deep well plates up to 5 L when using Nalgene angled-bottom shake flasks



[Learn more](#)

Gibco™ ExpiSf™ Expression System Starter Kits

- Integrated components that work in concert to deliver three times higher protein yields compared to traditional insect expression platforms
- Robust production of high-titer, high-quality P0 recombinant baculovirus in suspension culture format without the need for further virus amplification
- A fast, simplified workflow that allows you to obtain protein in as little as 6–10 days; half the time of traditional protocols
- A chemically defined, yeastolate-free, animal origin-free medium for consistent cell growth and protein expression
- Scalable expression that can be applied to cultures from 24-deep well plates to >3 L shake flasks



[Learn more](#)

Our robust portfolio also includes an Gibco™ Expi™ Expression System designed for structural biology research, standalone Gibco™ expression media, Invitrogen™ GeneArt™ Protein Expression Services, and more.

Purification

- Protein isolation procedure depends on sample type, location of protein of interest, and required protein yield



Protease & Phosphatase Inhibitors

- Thermo Scientific™ Halt™ inhibitor cocktails and Thermo Scientific™ Pierce™ Inhibitor tablets offer protein preservation during extraction and lysate preparation in various cell types, including primary and cultured mammalian cells, plant and animal tissues, and yeast and bacterial cells.

- Available in various formats: cocktails, tablets, and capsules: with or without EDTA.



[Learn more](#)

Cell lysis buffers

- Specificity: designed for specific sample types including mammalian cells, bacteria, plant, yeast, and insect cells
- Efficiency: offer efficient and rapid cell membrane disruption helping ensure maximum recovery of intracellular content
- Preservation: preserve the integrity and functionality of proteins, DNA, RNA, and organelles
- Compatibility: compatible with a variety of downstream applications
- In particular, Thermo Scientific™ M-PER™ Mammalian Protein Extraction I ideal for mammalian cells with a mild detergent for lysis.



[Learn more](#)

Antibody Purification

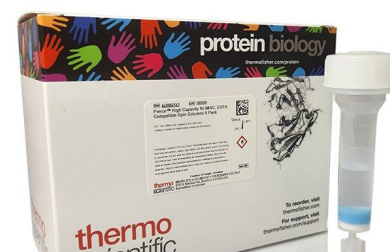
- Affinity supports for the purification of multiple antibodies including Protein A, G, A/G, L, and Alkaline Stable Protein A.
- Various formats are available for purification including magnetic beads, loose resin, spin columns and kits, FPLC cartridges, and 96-well spin plates enable antibody purification from microgram to kilogram scales
- High-performance magnetic beads and resins are designed to maximize protein yield and reduce background



[Learn more](#)

Recombinant Protein Purification

- Purification supports for a variety of fusion tags are available, including 6xHis, GST, DYKDDDDK (FLAG), c-myc, and HA.
- Fusion protein purification from microgram to low kilogram scales available with varied formats including magnetic beads, magnetic agarose, loose resin, spin columns and kits, FPLC cartridges, and 96-well spin plates.
- High-performance magnetic beads and resins are designed to maximize protein yield and reduce background.



[Learn more](#)

Analytics

- Analytical methods used for development and commercial manufacturing of biologics



Mass Spectrometry

- To understand protein function and mechanism of action, it is essential to determine protein complex assembly and structure. We lead the way in accelerating protein structure-function studies with Integrative Structural Biology solutions, which bring together complementary techniques such as mass spectrometry and cryo-electron microscopy (cryo-EM).

- Examples:
 - Thermo Scientific™ Orbitrap Exploris™ 480 Mass Spectrometer
 - Thermo Scientific™ Orbitrap Eclipse™ Tribrid™ Mass Spectrometer



[Learn more](#)

Protein Assay Kits

- BCA Assays
- Bradford Assays
- Fluorescent Protein Assays



[Learn more](#)

Protein Gel Welcome Packs

- Cost-saving product combinations that contain all you need for outstanding protein separation
- Protein gel welcome packs include:
 - Mini or Midi gel tank
 - 2 gel boxes
 - Running buffer
 - Sample buffer
 - Reducing agent
 - Prestained Ladder
 - Mini blot modules options available
 - WedgeWell format gel options available



- Examples:
 - Bis-Tris gels
 - Tris-Glycine gels
 - Tris-Acetate gels
 - Tricine gels

[Learn more](#)

Learn more about protein expression solutions at thermofisher.com/proteinexpression

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