











In this brochure you'll find featured products across the molecular biology workflow, from sample prep to gene expression analysis:



Advanced MP Biomedicals sample prep technologies, including FastPrep kits, lysing matrices and instruments, help to improve and simplify your sample preparation.

invitrogen

by Thermo Fisher Scientific

A complete selection of Invitrogen cloning continuum technologies, including powerful tools like TOPO, GeneArt gene synthesis, Anza and Gateway cloning products, as well as a full complement of PCR reagents and instruments.

appliedbiosystems

oy **Thermo Fisher Scientific**

Efficient and accurate Applied Biosystems gene expression tools, including TaqMan assays, PowerUp SYBR Green master mixes and QuantStudio RT-PCR systems, can support your next discovery.

Visit fishersci.com/MolBioTools or fishersci.ca/MolBioTools for more information on these and other innovative products available through the Fisher Scientific channel.

Anza, Applied Biosystems, Clonase, E-Gel, FAM, Fisher Scientific, Gateway, GeneArt, GeneOptimizer, Gibco, imMedia, Invitrogen, Mach1, OmniMAX, One Shot, OpenArray, pCR, pENTR, Platinum, PowerUp, ProFlex, PureLink, QuantStudio, SimpliAmp, Stbl3, Strings, SuperFi, SuperScript, SYBR, T1, TA Cloning, TOPO, Veriti, VIC, VILO and Zero Blunt are trademarks of Thermo Fisher Scientific Inc. or its subsidiaries.

TaqMan is a registered trademark of Roche Molecular Systems, Inc., used under license.

BigPrep, CoolBigPrep, CoolPrep, CoolTeenPrep, FastDNA, FastPrep, FastRNA, FastRNA Pro, FastPROTEIN, HiPrep, MP Biomedicals, QuickPrep, SuperFastPrep-2, TallPrep and TeenPrep are trademarks of MP Biomedicals, LLC.



Sample Lysis, Extraction and Protein Purification

As a leader in sample preparation, MP Biomedicals offers a complete range of high-quality products for all steps of your research experiment. From lysis to extraction and purification of DNA, RNA and proteins, MP Biomedicals offers the solutions you need to achieve reliable results.

Visit fishersci.com/MPBiomedicals or fishersci.ca/MPBiomedicals to learn more.

Advanced Homogenization and Extraction Product Solutions

MP Biomedicals FastPrep Products

Extracting nucleic acids from samples is easier with FastPrep purification kits, lysing matrices for DNA and RNA isolation, and homogenizers.

FastDNA Products

Description	Cat. No.
FastDNA SPIN Kit for Soil, 50 Preps solate bacterial, fungal, plant and animal genomic DNA from soil and other environmental samples in ess than 60 minutes.	MP116560200
FastDNA SPIN Kit for Feces, 50 Preps Isolate PCR-ready genomic DNA from fresh or frozen human or animal stool samples; works well with host cells as well as bacteria, fungi, viruses, protists and other cells present in fecal samples.	MP116570200
FastDNA 50mL SPIN Kit for Soil, 1 Kit Isolate bacterial, fungi, plant and animal genomic DNA from soil and environmental samples; works well with difficult sources such as eubacterial spores and endospores, gram positive bacteria and yeast.	MP116560600
FastDNA-96 Soil Microbe DNA Kit, 1 Kit Isolate humic-free, PCR-ready genomic DNA from soil samples in approximately 50 minutes.	MP119696200
FastDNA SPIN Kit, 100 Preps Lyse and subsequently isolate DNA from up to 200mg of almost any sample in less than 30 minutes; supports optimal sample homogenization of plant and animal tissues, cultured cells, bacteria, yeast, fungi, insects, and more.	MP116540600
FastDNA Kit, 100 Preps Isolate high-quality genomic DNA from plants, animals, bacteria, yeast, algae, and fungi; can homogenize a wide variety of sample types and releases DNA within 40 seconds.	MP116540400
FastDNA SPIN Kit for Plant and Animal Tissues, 100 Preps Lyse and subsequently isolate DNA from up to 200mg of almost any sample in less than 30 minutes; supports optimal sample homogenization of most tissue samples in 40 seconds or less.	MP116540800

FastPROTEIN Products

Description	Cat. No.
FastPROTEIN Red Matrix, 50 Preps For rapid protein isolation and purification from yeast cultures.	MP116550600
FastPROTEIN Blue Matrix, 50 Preps For rapid protein isolation and purification from bacterial cultures.	MP116550400

FastRNA and FastRNA Pro Products

Description	Cat. No.	
FastRNA Pro Soil-Direct Kit, 50 Preps Isolate total RNA from organic material found in soil samples.	MP116070050	
FastRNA Pro Soil-Indirect Kit, 50 Preps Isolate total RNA from organic material found in soil by removing cellular material from slurried samples.	MP116075050	
FastRNA SPIN Kit for Microbes, 50 Preps Isolate high-quality total RNA from tough-to-lyse bacterial cell cultures and other microbial sources in approximately 15 minutes; isolates both large and small RNA species without the use of phenol or reducing agents.	MP116020050	
FastRNA SPIN Kit for Yeast, 50 Preps Isolate high-quality total RNA from tough-to-lyse yeast strains, fungi, and algae in approximately 15 minutes.	MP116030050	
FastRNA Pro Blue Kit, 50 Preps Isolate total RNA from gram positive and gram negative bacteria for use in RT-PCR analysis and other applications.	MP116025050	
FastRNA Pro Red Kit, 50 Preps Isolate total RNA from yeast and fungi for use in RT- PCR analysis and other applications.	MP116035050	
FastRNA Pro Green Kit, 50 Preps Isolate total RNA from any type of plant and animal tissue or cultured cells for use in RT-PCR analysis and other applications.	MP116045050	



MP Biomedicals Life Sciences

Complete Solutions!

Optimized Workflow

The Right Products for the Job....
When You Need It!

CULTURE LYSIS ISOLATION PURIFICATION



Encapsulated Media PlantCon

FastPrep Instruments
Lysing Matrix Tubes

FastDNA Spin Kit FastDNA Spin Kit for Soil MPure-12
GeneClean Spin Kits

MP Biomedicals Sample Preparation is ideal for your Downstream Applications including: RT-PCR, Nested PCR, Sequencing, Gene Expression, Microarray Analysis, Mass Spec protein profiling and much more!

MERGING LIFE SCIENCE, FINE CHEMICALS AND DIAGNOSTICS TOGETHER

FastPrep Lysing Matrices for DNA and RNA Isolation

FastPrep Lysis Beads and Matrix Tubes for Sample Disruption

These impact-resistant tubes contain a wide variety of materials to meet your lysing, grinding, and homogenization needs. Other options include a 96-well format and 4.5, 15 and 50mL tubes.



Description	Cat. No.
Lysing Matrix A, 100 x 2mL Tubes For samples containing animal or plant tissue, bacteria, yeast, or fungi.	MP116910100
Lysing Matrix B, 100 x 2mL Tubes For samples containing bacteria or bacterial spores.	MP116911100
Lysing Matrix C, 100 x 2mL Tubes For samples containing yeast, yeast spores, fungi, fungal spores, or algae.	MP116912100
Lysing Matrix D, 100 x 2mL Tubes For samples containing animal or plant tissues, bacteria, yeast, or fungi.	MP116913100
Lysing Matrix E, 100 x 2mL Tubes For samples containing soil, feces, pollen, sludge, wastewater, or environmental water.	MP116914100
Lysing Matrix F, 100 x 2mL Tubes For samples containing plant or animal tissues, fixed tissue, bacteria, molds and fungi, or coral emulsions.	MP116915100
Lysing Matrix G, 100 x 2mL Tubes For samples containing plant or animal tissues, yeast, or fungi (including spores).	MP116916100
Lysing Matrix H, 100 x 2mL Tubes For samples containing plant or animal tissues, wood, seeds, very dense soils or clays, bacterial aggregates, whole insects, ticks or fleas, or ancient/dried materials.	MP116917100
Lysing Matrix I, 100 x 2mL Tubes For samples containing plant or animal tissues, wood, seeds, very dense soils or clays, bacterial aggregates, whole insects, ticks or fleas, dried fungal spores/rusts, or ancient/dried materials.	MP116918100
Lysing Matrix J, 100 x 2mL Tubes For samples containing plant or animal tissues, fixed tissue, bacteria, fungi, coral emulsions, or dried fungal spores/rusts.	MP116919100
Lysing Matrix K, 100 x 2mL Tubes For samples containing fungal or yeast spores, non-viable tissues, bones, preserved tissues, or animal by-products.	MP116920100
Lysing Matrix M, 100 x 2mL Tubes For all samples: tough tissues, skeletal muscle, lung or heart tissue, bone, seeds, and spores.	MP116923100
Lysing Matrix S, 100 x 2mL Tubes For all samples: tough tissues, skeletal muscle, lung or heart tissue, bone, seeds, and spores.	MP116925100
Lysing Matrix SS, 100 x 2mL Tubes For all samples: tough tissues, skeletal muscle, lung or heart tissue, bone, seeds, and spores.	MP116921100
Lysing Matrix Y, 100 x 2mL Tubes For samples containing plant or animal tissues, wood, seeds, very dense soils or clays, bacterial aggregates, whole insects, ticks or fleas, or ancient/dried materials.	MP116960100



FastPrep Instruments

When combined with the widest selection of industry-leading lysing matrix materials and complete isolation kits, FastPrep instruments will successfully process any sample type — including difficult samples like plant, root, soil, wastewater, skin, tissue, seeds, and feces — with very short processing times, every time.

Interchangeable sample holders allow flexibility in sample sizes (from 2mL to 250mL) and processing temperature (ambient or cryogenic). Plus purchase an adapter to use tubes, flasks or 96-well plates.







FastPrep Homogenizers

Description	Cat. No.
FastPrep-24 5G Homogenizer - User-friendly interface and touchscreen - More than 70 recommended programs - Includes QuickPrep adapter (other adapters available separately)	MP116005500
FastPrep-24 Homogenizer - High-speed benchtop homogenizer - Choose onboard memory programs or manually set speed and time - Includes QuickPrep adapter (other adapters available separately)	MP116004500
FastPrep-96 Automated Homogenizer - High throughput — process two 96-well plates (192 samples) simultaneously - Includes adapter for 96-well plates (other adapters available separately) - Processing speed: 1,800 oscillations/min. and 1.5 in. stroke	MP116010500
SuperFastPrep-2 Homogenizer - Handheld and portable for lab or field use - Cordless, rechargeable (uses two lithium-ion batteries, included) - Speed: 600 to 4,800 cycles/min.	MP116012500

FastPrep Adapters

Description	Cat. No.
All-Metal QuickPrep Sample Holder (24 x 2mL) — for Standard Tubes	MP116002545
All-Metal TeenPrep Sample Holder (12 x 15mL) — for Medium Tubes	MP116002546
All-Metal BigPrep Sample Holder (2 x 50mL) — for Large Tubes	MP116002547
QuickPrep Adapter (24 x 2mL) — for Standard Tubes	MP116002512
TeenPrep Sample Holder (12 x 15mL) — for Medium Tubes	MP116002526
HiPrep Sample Holder (48 x 2mL) — Double-Decker for High Throughput	MP116002527
TallPrep Sample Holder (24 x 4.5mL) — for Higher-Capacity Tubes	MP116002540
BigPrep Adapter (2 x 50mL) — for Large Tubes	MP116002525
CoolPrep Sample Holder (24 x 2mL) — Cryogenic Adapter for Standard Tubes	MP116002528
CoolTeenPrep Adapter (6 x 15mL) — Cryogenic Adapter for Medium Tubes	MP116002530
CoolBigPrep Adapter (2 x 50mL) — Cryogenic Adapter for Large Tubes	MP116002531

MP Workflow Solutions Bringing Innovation and Ease into the Lab!



Sample Preparation for Nucleic Acid and Protein Extraction

FastPrep instruments are the market leader in sample preparation. Complete and thorough grinding of samples in 40 seconds or less, guaranteed.

Interchangeable sample holders give you flexibility in sample tube processing sizes (2 ml, 4.5 ml, 15 ml, 50 ml or 250 mL) at either cryogenic or ambient temperature.

Optimized Lysing Matrix and all-inclusive Purification Kits make the FastPrep family of instruments truly the most advanced sample preparation systemPeriod!

Give one a try in your lab. Request a demo at www. mpbio.com/demo.

Often Imitated, Never Duplicated!





The Invitrogen brand has provided superior DNA cloning tools for more than 25 years, and continually improves upon old technologies while developing new ones. From restriction enzymes to gene synthesis, this brand offers a comprehensive portfolio of tools and resources that help you save time and money while obtaining high-quality DNA to facilitate your next discovery.

Visit fishersci.com/life or fishersci.ca/life to learn more.

DNA Cloning Technologies

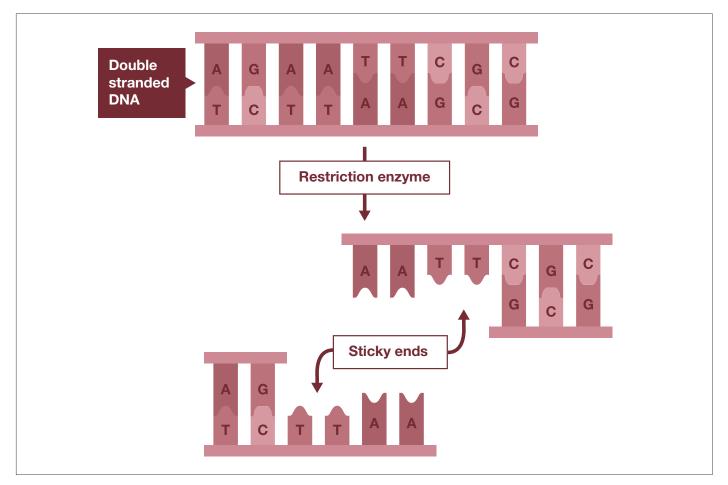
Invitrogen Anza Restriction Enzyme Cloning System

Ideal for quick and simplified restriction enzyme cloning, use one of the starter kits or choose from the complete system of 128 restriction enzymes and five DNA-modifying enzymes.

- One buffer for all restriction and DNA-modifying enzymes
- One digestion protocol for all DNA types
- Complete digestion in 15 minutes
- Overnight digestion without star activity

Description	Cat. No.
Anza 10-Pack Starter Kit Includes 10 Common Restriction Enzymes, Anza Ligase Master Mix, Anza Alkaline Phosphatase, and Buffer	IVGN3006
Anza 5-Pack Starter Kit Includes 5 Common Restriction Enzymes, Anza Ligase Master Mix, Anza Alkaline Phosphatase, and Buffer	IVGN3004

Visit **thermofisher.com/anza** to learn more about the complete Anza Restriction Enzyme Cloning System.





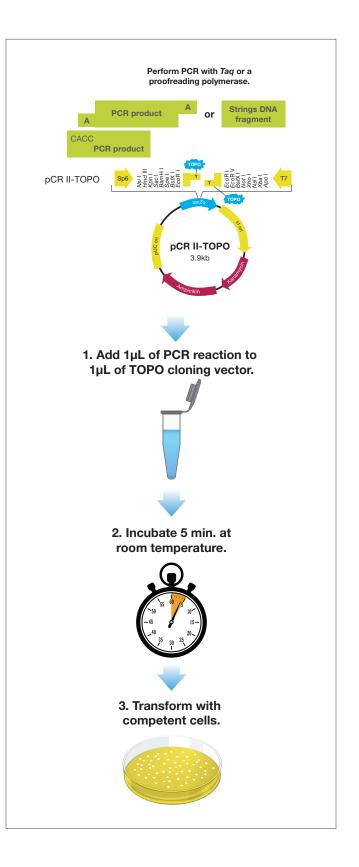
Invitrogen TOPO PCR Cloning Technology

The key to TOPO PCR cloning is the enzyme DNA topoisomerase I, which functions both as a restriction enzyme and as a ligase, eliminating the need for an additional ligation step. Choose kits for the direct insertion of DNA polymerase-amplified sticky or bluntended PCR products into a plasmid vector for subcloning or sequencing.

- Fast and easy from PCR to clones in just three steps
- Efficient obtain up to 95% clones with correct insert
- Proven enabling reliable performance for more than 20 years with over 20,000 citations
- Simple no ligase, post-PCR procedures, or PCR primers containing specific sequences required

Description	Cat. No.
TOPO TA Cloning Kit for Subcloning without Competent Cells, 10 Reactions	45-164-1
TOPO TA Cloning Kit for Sequencing without Competent Cells, 10 Reactions	45-007-1
Zero Blunt TOPO PCR Cloning Kit without Competent Cells, 10 Reactions	45-124-5
Zero Blunt TOPO PCR Cloning Kit for Sequencing without Competent Cells, 10 Reactions	45-015-9
TOPO XL-2 Complete PCR Cloning Kit with One Shot OmniMAX 2 T1 Chemically Competent E. coli Cells, for Cloning Extra-Long PCR Products, 10 Reactions	K805010

Visit **thermofisher.com/TOPO** to learn more about all of the available TOPO cloning solutions.



Invitrogen Gateway Cloning Technology

Invitrogen Gateway recombination cloning technology circumvents traditional restriction enzyme-based cloning limitations — access virtually any protein expression system in just a few simple steps.

- Fast cloning reactions at room temperature
- Cloning reactions achieve better than 95% efficiency
- Easily shuttle your DNA insert between multiple vectors
- No need to re-clone or re-sequence use the same clone from target identification to validation
- Ideal for use in protein expression

Description	Cat. No.
LR Clonase II Plus Enzyme Mix 20 Reactions	12-538-120
BP Clonase II Enzyme Mix 20 Reactions	11-789-020
pCR8/GW/TOPO TA Cloning Kit with One Shot TOP10 E. coli, 20 Reactions	K250020
PENTR 5'-TOPO TA Cloning Kit with One Shot TOP10 Chemically Competent <i>E. coli</i> , 20 Reactions	K59120

Visit **thermofisher.com/gateway** to learn more about Gateway cloning technology and products.



Invitrogen GeneArt Cloning Technology

Ideal for simultaneous, quick, and multi-fragment cloning that offers several advantages over previous kits.

GeneArt Seamless Cloning

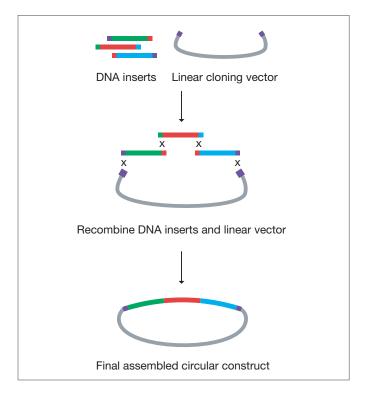
- Directionally clone up to four fragments at one time
- Uses overlapping primers and homologous recombination
- Does not require or leave any extra DNA sequences

GeneArt Type IIs Assembly

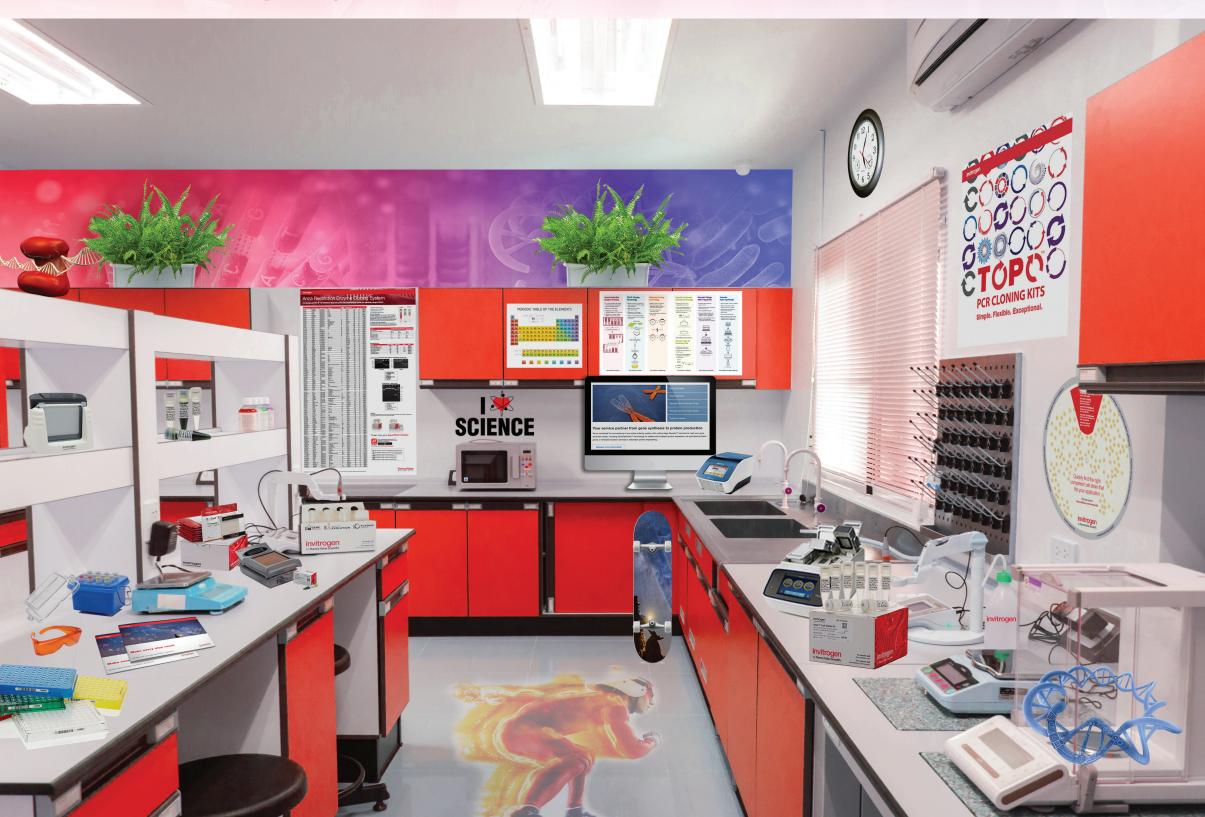
- Directionally clone up to eight fragments at one time
- Great for cloning repetitive or small inserts
- Uses simultaneous cleavage and ligation; not based on recombination

Description	Cat. No.
GeneArt Seamless PLUS Cloning and Assembly Kit 20 Reactions	A14603
GeneArt Type IIs Assembly Kit with Aar I Restriction Enzyme, 10 Reactions	A15916
GeneArt Type IIs Assembly Kit with Bsa I Restriction Enzyme, 10 Reactions	A15917
GeneArt Type IIs Assembly Kit with Bbs I Restriction Enzyme, 10 Reactions	A15918

Visit **thermofisher.com/seamless** to learn more about GeneArt Seamless and Type II assembly.



Identify performance in the lab



Every step counts on the path to scientific discovery. Use your skills to find the hidden objects from the list below and discover premium performance molecular and synthetic biology tools for each step in your experimental workflow.

Find the hidden items

Circle all of the Invitrogen and Applied Biosystems products you find.

- GeneArt Gene Synthesis and tube rack packaging
- Anza 10-pack Starter Kit in labtop cooler
- ProFlex PCR System
- GeneArt web portal
- Platinum SuperFi Green PCR Master Mix
- SuperScript VILO skater
- Competent cell selection wheel
- E-Gel System
- Molecular Biology Handbook

Discover premium performance for your molecular and synthetic biology workflows at **thermofisher.com/everystepcounts**

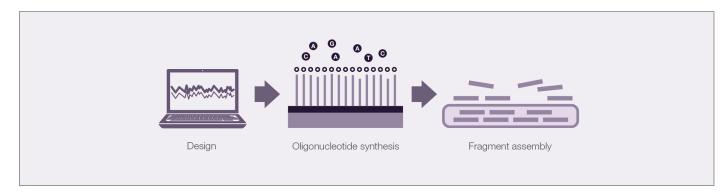
Thermo Fisher SCIENTIFIC

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Invitrogen GeneArt Strings DNA Fragments and Libraries

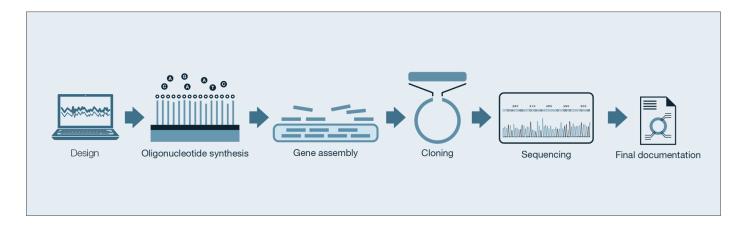
- Ready-to-clone synthetic dsDNA fragments (150 to 3,000 base pairs in length); libraries of pooled fragments (from 200 to 2000 bp) are also available
- No need for starting DNA material
- Compatible with any cloning method of choice
- Sequence-verified and ready to screen
- Free optimization with GeneOptimizer software for maximum protein expression
- Libraries are available with the full IUPAC DNA nucleotide options



Visit fishersci.com/geneartsynthesis to purchase your GeneArt DNA Strings. (Available in U.S. only)

Invitrogen GeneArt Gene Synthesis

- Chemical synthesis, cloning, and sequence verification of virtually any desired genetic sequence, and no need for any starting DNA material
- 100% sequence-verified and ready for downstream applications
- Provided as a bacterial stab and/or purified plasmid containing your synthesized gene
- Free optimization with GeneOptimizer software for maximum protein expression



Visit **fishersci.com/geneartgenesynthesis** to order your GeneArt Gene Sequence today. (Available in U.S. only)

	Anza Restriction	ТОРО		GeneArt Cloning	
	Enzyme Cloning	Technology/TA	Gateway Cloning	and Type IIs	GeneArt Strings
Needs DNA source material (library, plasmid with gene, etc.)	Yes Yes	Yes	Yes Yes	Assembly Kits Yes	No No
Requires knowledge of sequence	Some	Some	Some	Some	Yes
Sequence optimization and easy mutagenesis	No	No	No	No	Yes
Requires vector	Yes	Yes	Yes	Yes	Strings DNA Fragments: Yes Gene Synthesis: No
Online tools available	Vector selection tool	Vector selection tool	Vector selection tool	GeneArt Primer and Construct Design Tool	GeneArt portal for design and optimization
Simplified, traditional cloning	Best choice				
Fast and reliable PCR product or DNA fragment cloning		Best choice			
Shuttle between a variety of host vector systems			Best choice		
Easy assembly of multiple DNA fragments				Best choice	
Optimized sequence, easy mutation, and 100% sequence- verified					Best choice
Recommended additional materials	Competent cells Purification kit Ligation enzymes Clean-up kit E-Gel precast gels DNA markers/ladders	Competent cells Purification kit GeneArt Strings DNA Fragments	Competent cells Purification kit Gateway cloning kit Gateway BP and LR Clonase enzymes	Competent cells Purification kit PCR cloning kit GeneArt Strings DNA Fragments	Competent cells Purification kit Subcloning and plasmid prep services Mutagenesis or gene variants Libraries
The bottom line	Good for sub-cloning into a multiple cloning site Restriction mapping	Good for cloning PCR products and GeneArt Strings DNA Fragments	Good for protein expression in multiple systems, such as bacterial and mammalian	Good for simultaneous, multifragment cloning	Get your gene of interest ready to use Focus on your research while we take care of the cloning



Invitrogen Cloning Essentials

Featuring Invitrogen and Applied Biosystems products essential to your cloning success

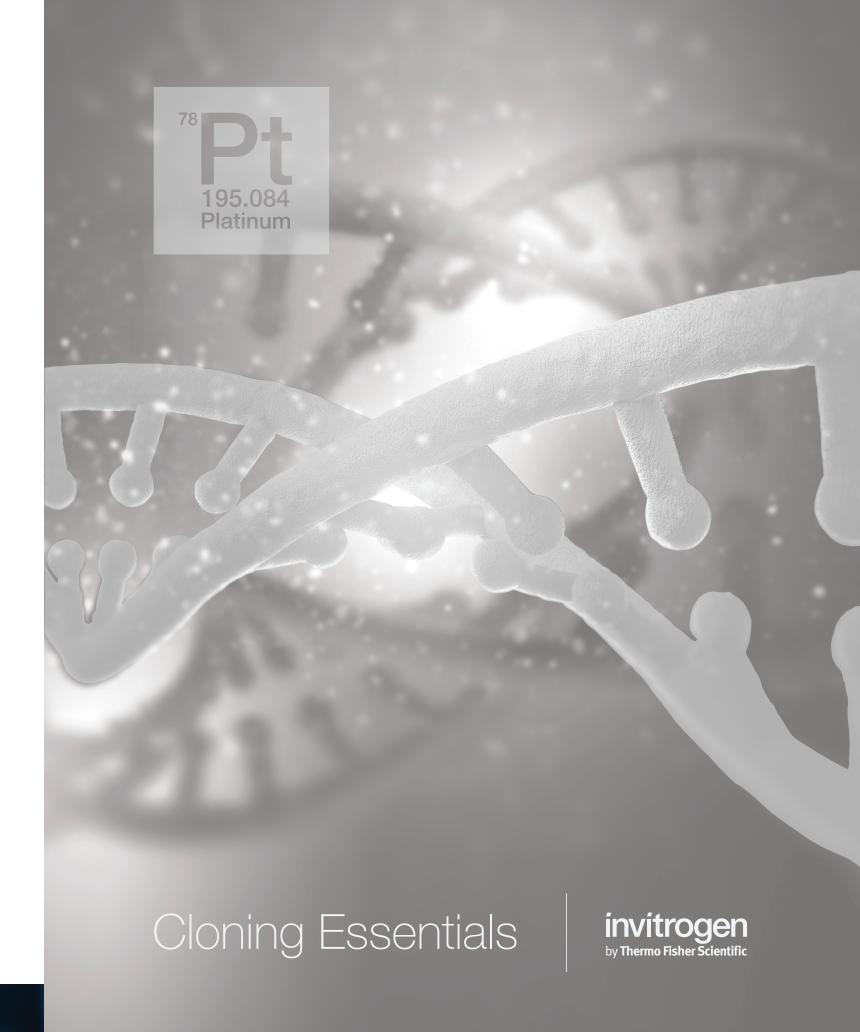
Invitrogen Platinum SuperFi DNA Polymerase

A proofreading DNA polymerase that combines fidelity with hot-start technology for successful PCR every time; ideal for cloning, mutagenesis, and other applications requiring sequence accuracy.

- >100x Taq fidelity
- High specificity and increased yields with platinum, hot-start technology
- Convenient room-temperature reaction setup
- Direct gel loading with green buffer formats

Description	Cat. No.
Platinum SuperFi DNA Polymerase, 100 Units	12-351-010
Platinum SuperFi Green DNA Polymerase, 100 Units	12-357-010
Platinum SuperFi PCR Master Mix, 100 Reactions	12-358-010
Platinum SuperFi Green PCR Master Mix, 100 Reactions	12-359-010







Invitrogen Competent Cells

Choose from a broad portfolio of chemically competent and electrocompetent cells to suit your application, strain, format, or transformation efficiency needs.

Description	Cat. No.
Competent Cell Starter Kit Chemically Competent E. coli (4 Strains), 8 Transformations	A10469
Invitrogen One Shot Mach1 T1R Chemically Competent <i>E. coli</i> Phage-Resistant, 20 Transformations	C862003
One Shot OmniMAX 2 T1R Chemically Competent E. coli Phage-Resistant, 20 Transformations	C854003
Invitrogen One Shot Stbl3 Chemically Competent <i>E. coli</i> 20 Transformations	C737303
One Shot TOP10 Chemically Competent <i>E. coli</i> 20 Transformations	C404003



Visit **thermofisher.com/compcells** to find the right competent cell for your application.

Invitrogen Bacterial Growth Media

Ideal for cloning applications that require special formations to meet your research demands.

- Invitrogen LB and Terrific broth and LB agar are formulated to support the growth of E. coli
- Invitrogen imMedia Growth Medium is pre-mixed, pre-sterilized media for *E. coli*; just add water and microwave to prepare 200mL of media (per pouch) in just five minutes

Description	Cat. No.
Invitrogen Gibco LB Broth 1X, 500mL	10-855-021
Invitrogen LB Agar (Lennox L Agar), 500g	22-700-025
Invitrogen Gibco Terrific Broth, 1L	A1374301
imMedia Growth Medium with Ampicillin, 20 Pouches/Box	Q60020
imMedia Growth Medium with Ampicillin, X-Gal/ IPTG, 20 Pouches/Box	Q60220





Visit thermofisher.com/bacterialmedia to learn more about Invitrogen and Gibco bacterial media offerings.

Applied Biosystems Thermal Cycler Instruments

Great cloning starts with a great PCR product. Applied Biosystems thermal cyclers are known for reliable and accurate amplification that better serves your downstream cloning applications.

ProFlex models are available in your choice of formats

• SimpliAmp offers a compact elegant design with an easy-to-use interface

• Veriti models can be set up for fast or standard PCR

Description	Cat. No.		
ProFlex PCR Systems for 2 x 96-Well Plates (0.2mL Reactions)	44-840-76		
ProFlex PCR Systems for 2 x 384-Well Plates (0.02mL Reactions)	44-840-77		
ProFlex PCR Systems for 3 x 32-Well Plates (0.2mL Reactions)	44-840-73		
ProFlex PCR Systems for 2 x Flat Block (for Chips and Arrays) 44-840-78			
SimpliAmp Thermal Cyclers for 96-Well Plates or 96 x 0.2mL Tubes	A24811		
Veriti 96-Well Thermal Cyclers for 96-Well Plates or 96 x 0.2mL Tubes	43-757-86		
Veriti 60-Well Thermal Cyclers for 60 x 0.5mL Tubes	43-846-38		
Veriti 384-Well Thermal Cyclers for 384-Well Plates (0.02mL)	43-884-44		
Automated Thermal Cyclers (ATC) for 96-Well Plates, Includes Cable (1m)	A31486		



Visit **thermofisher.com/thermalcyclers** to learn more about the Applied Biosystems suite of thermal cyclers and related PCR plastics.

Invitrogen Oligonucleotide Primers

Get a jump-start on your cloning with custom Invitrogen DNA oligos.

- Made to your specifications with rigorous quality control and quick turnaround
- Choose value, standard or plate oligos format

Invitrogen
Oligo Name
Researcher Project Name
Catalog No. A15612
Oligo ID. UOFGSML
Prepared Jan 2013
175.84 ug 6.55 OD
12445 MQ 24.88 nmole
CCCCCGGGGGGTTTTTTTAAAAAAC
CGGGGGTTT

Visit **fishersci.com/oligos** to learn more or to order your custom DNA oligos. (Available in U.S. only)

Invitrogen PureLink Plasmid Purification Kits

Recommended for cloning and vector verification applications where yield and purity are key to successful cloning.

- Produces ready-to-use plasmid DNA typically in about 30 minutes
 Formats work
- with both vacuum and centrifugation platforms

Description	Cat. No.
Invitrogen PureLink Quick Plasmid Miniprep Kit, 50 Preps	K210010
Invitrogen PureLink Quick Plasmid Miniprep Kit, 250 Preps	K210011





Assays, Master Mixes and Instrumentation

The Applied Biosystems brand pioneered the development of realtime PCR in 1995, enabling high-throughput quantitative gene expression. Today, Applied Biosystems TaqMan assays, master mixes and instruments offer industry-leading gene expression performance and results.

Visit fishersci.com/life or fishersci.ca/life to learn more.

Applied Biosystems TaqMan Assays and Array Plates

TaqMan gene expression assays consist of a pair of unlabeled PCR primers and a TaqMan probe, which features an Applied Biosystems FAM or VIC dye label on the 5' end and minor groove binder (MGB) and nonfluorescent quencher (NFQ) on the 3' end. Over 1.8 million predesigned TaqMan gene expression assays covering more than 30 species are available in single-tube, 96-well plate, 384-well microfluidic card, or Applied Biosystems OpenArray formats.

qPCR Gene Expression Assays

Description	Cat. No.
Gene Expression Assay, Single Tube, 75 Reactions	44-488-92
Gene Expression Assay, Single Tube, 250 Reactions	43-311-82
Custom Gene Expression Assay, 360 Reactions	43-313-48
Made-to-Order Assay, 360 Reactions	43-513-72



TaqMan Array Plates

TaqMan array plates contain preselected TaqMan gene expression assays and endogenous controls for the study of specific pathways, biomarkers or disease states. Choose from 96-well standards or fast formats for hundreds of predesigned arrays and plates, or customize your own.

qPCR Gene Expression Assays

	0
Description	Cat. No.
Human AHR Pathway, 1 Standard Plate (20µL Reactions)	44-141-46
Human IL3 Pathway, 1 Standard Plate (20µL Reactions)	44-141-47
Human Androgens, 1 Standard Plate (20µL Reactions)	44-140-83
Human RHO Family GTPases, 1 Standard Plate (20µL Reactions)	44-141-79
Human IL4 Pathway, 1 Standard Plate (20µL Reactions)	44-141-48
Human Huntington Disease Pathway, 1 Standard Plate (20µL Reactions)	44-141-40





Applied Biosystems Master Mixes

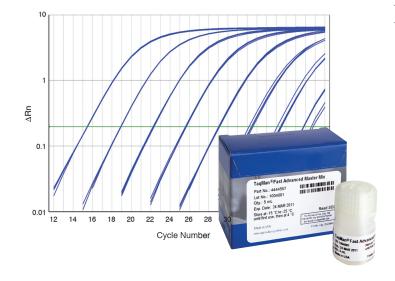
PowerUp SYBR Green, TaqMan Fast Advanced and TaqMan Universal

PowerUp SYBR Green Master Mix is a pre-formulated, optimized, universal 2X master mix for real-time PCR workflows. Coupled with user-supplied primer sets and templates, PowerUp SYBR Green Master Mix is designed to amplify targets for accurate gene expression analysis. TaqMan Fast Advanced Master Mix has been designed to match or exceed the performance of standard master mixes, delivering shorter run times (<40 minutes) with results equal to or better than what is achieved today.

Gene Expression qPCR Master Mixes

Description	Cat. No.
TaqMan Fast Advanced Master Mix, 2 x 5mL	44-449-63
TaqMan Fast Advanced Master Mix, 5 x 5mL	44-449-64
TaqMan Universal Master Mix II (no UNG), 2 x 5mL	44-400-47
TaqMan Universal Master Mix II (no UNG), 5 x 5mL	44-400-48

Description	Cat. No.
PowerUp SYBR Green Master Mix, 1mL	A25741
PowerUp SYBR Green Master Mix, 2 x 1mL	A25779
PowerUp SYBR Green Master Mix, 5 x 1mL	A25780
PowerUp SYBR Green Master Mix, 10 x 1mL	A25918
PowerUp SYBR Green Master Mix, 5mL	A25742
PowerUp SYBR Green Master Mix, 2 x 5mL	A25776
PowerUp SYBR Green Master Mix, 5 x 5mL	A25777
PowerUp SYBR Green Master Mix, 10 x 5mL	A25778
PowerUp SYBR Green Master Mix, 50mL	A25743





Applied Biosystems Real-Time and Digital PCR Systems

QuantStudio Real-Time and Digital PCR Systems

The newly expanded portfolio of QuantStudio Real-Time PCR instruments offers solutions for everyone. Whether you're looking for versatility on a budget, reliable results from limited samples, high throughput for maximum productivity, or absolute answers that take your work to the next level, there's a QuantStudio Real-Time PCR System that's right for your research.



Real-Time and Digital PCR Instruments

Description	Cat. No.
QuantStudio 3 System with Block for 96-Well Plates	A28136
QuantStudio 5 System with Block for 384-Well Plates	A28140
QuantStudio 6 Flex System with Block for 96-Well Plates	44-856-92

Description	Cat. No.
QuantStudio 12K Flex System with Block for 96-Well Plates	44-710-87
QuantStudio 3D System, Reads 3D Digital PCR Chips	44-890-84

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Applied Biosystems Gene Expression

Compare QuantStudio Real-Time PCR & Digital PCR Systems

QuantStudio	3	5	6 Flex	7 Flex	12 Flex	3D
Reactions/Run	96	96 or 384	96 or 384	96 or 384	96 or 384	96, 384 or 12228
Colors	Up to 4	Up to 6 (21 combinations)	Up to 5	Up to 6 (21 combinations)	Up to 6 (21 combinations)	2 (endpoint detection
Available Blocks	• 96-well • 96-well Fast	• 96-well • 96-well Fast • 384-well	• 96-well • 96-well Fast • 384-well	96-well 96-well Fast 384-well TaqMan Array Card	96-well 96-well Fast 384-well TaqMan Array Card	20,000 partitions/ chip
Automation Compatible	No	No	No	Yes	Yes	No
Throughput	Medium	Medium	Medium	High	Very High	Low
Wi-Fi	Yes	Yes	No	No	No	No
Thermo Fisher Cloud	Direct Connection	Direct Connection	Connect via computer	Connect via computer	Connect via computer	Connect via computer

Applied Bioystems qPCR Master Mix Comparison

	SYBR Green Real Time PCR Master Mixes	TaqMan Real-Time PCR Master Mixes
Starting Template	DNA	DNA
Applications	Gene expression, DNA quantitation	Gene expression, DNA quantitation, SNP genotyping, microRNA, Copy number variation, multiplexing
Primer Design Required	Yes	No
Reverse Transcriptase	Yes	Yes
Required?		

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