Gene Synthesis

Fully Controlled Gene Synthesis : From Sequence Design to Structural Validation

Gene synthesis enables the de novo construction of target DNA sequences without the need for a template. It is widely used in research, recombinant protein expression, vaccine development, and in vitro diagnostics (IVD).

We offer one-stop, customizable gene synthesis services, including sequence design, optimization, synthesis, cloning, and validation, delivering high-quality, application-ready gene products.

- Gene Function
- Recombinant Protein & Antibody
- In Vitro Diagnostics
- Vaccine & Immunology
- Nucleic Acid Drugs & Gene Therapy

Advantages

Flexible Customization

Full-sequence customization supported. Choose from in-house standard vectors or specify your own vector, with flexible options for cloning orientation and restriction sites.

Free Codon Optimization

Host-specific codon optimization at no additional cost, tailored for E. coli, mammalian cells, yeast, and other expression systems to enhance expression efficiency.

Comprehensive Quality Control

100% Sanger sequencing for all gene synthesis products, with optional plasmid Nanopore sequencing for full-length and structural verification.

Workflow

1. **Assessment** — Sequence analysis & optimization
2. **Gene Synthesis** — Primer synthesis & fragment assembly
3. **Cloning & Plasmid Prep** — Into standard or custom vectors; orientation & restriction sites flexible
4. **Quality Control** — 100% Sanger sequencing; optional Nanopore full-length verification
5. **Delivery** — Product delivery & support

Deliverables

Standard Deliverables		
DNA	5ug of plasmid DNA	1 tube containing recombinant plasmid glycerol stock
Documentation	Standard gene sequence	Sequence alignment results
	Sequence files of synthetic insert	Plasmid map

Other Services

Custom Subcloning

Clone your sequence into specified sites of your vector.

Plasmid DNA Production

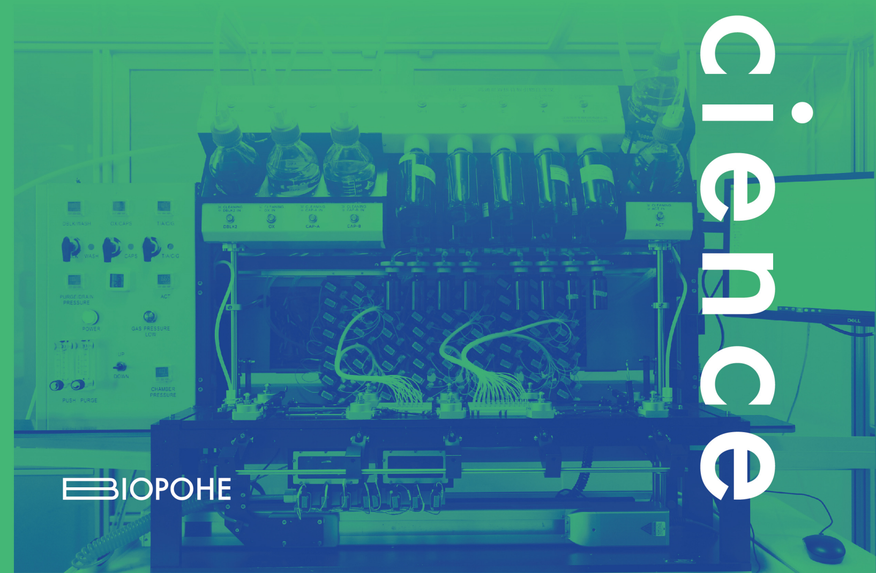
Prepare plasmid DNA from μg to g scale.

OLIGO & GENE SYNTHESIS

Bioscience

Contact US

Bioscience
Shanghai BioScience Co., Ltd.
global@bioscience.com.cn
www.bioscience.com.cn



BIOPOHE

ABOUT US

Shanghai BioPohe Biotechnology Co., Ltd. ("BioPohe") is a wholly owned subsidiary of Shanghai BioScience Co., Ltd., specializing in oligonucleotide (Oligo) synthesis and gene synthesis services.

With more than 30 years of deep expertise in the Oligo synthesis field, BioPohe's founding team possesses a comprehensive understanding of raw materials, core chemistries, and critical workflows. The team has also accumulated extensive experience in the design and synthesis of modified primers, probes, and gene fragments.

BioPohe operates international-standard production lines for synthesis and assembly, equipped with a 500 m^2 Class 100,000 cleanroom and automated DNA synthesis platforms. All raw materials undergo stringent selection, and the company is certified under ISO 9001 and ISO 13485 quality management systems, ensuring stable and traceable quality from Oligos to gene-level products.

Serving customers worldwide, BioPohe provides high-quality synthesis products and customized oligo/gene synthesis solutions for universities, hospitals, research institutes, and pharmaceutical companies.

Why Choose BioPohe?

30+ Years of Expertise

Over 30 years dedicated to R&D and synthesis of nucleic acid products.

Extensive Custom Modifications

- 100+ chemical functional group modifications
- Flexible development of novel/specialty modifications
- Versatile labeling positions: 5', 3', dual-terminal, internal, and base variants
- Full custom compound synthesis service

Rigorous Quality Control

- Mass spectrometry for accurate molecular weight
- HPLC purity analysis
- PAGE electrophoresis verification
- Multiple quantification measurements for precision
- Custom no-template control (NTC) validation on request

Robust Manufacturing Capacity

- 2,000 m^2 Class 100,000 cleanroom in Shanghai
- Multiple production sites across China for reliable supply and fast turnaround
- Standardized, traceable processes suitable for research and industrial applications
- Certified: ISO 9001:2015 & ISO 13485:2016

Advanced Automation

State-of-the-art automated production lines ensure efficiency and consistency

Nationwide Sales & Service

Comprehensive direct sales network throughout China for prompt, localized support

High-Throughput Rapid Delivery Consistent Quality

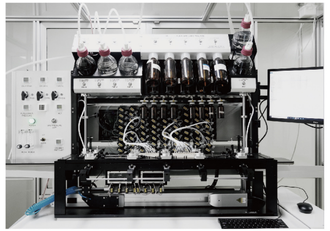
- Standard small-batch primers: Next-day delivery available
- Ultra-large scale capability: Single-batch synthesis from 2 OD to 25,000 OD with no batch-to-batch variation
- Advanced HPLC purification minimizes external contamination and ensures high purity

Professional Systematic Support

- Highly automated synthesis reduces human error and improves accuracy
- Dedicated customer service & technical support team
- Full ERP traceability for fast response to inquiries and special requirements


QUALITY MANAGEMENT SYSTEM CERTIFICATE


MEDICAL DEVICES QUALITY MANAGEMENT SYSTEM CERTIFICATE



Oligo Synthesis

Products

Service Name	Length	Purification	Scale	Shipping method
DNA Oligos	10~60 bases	Desalted /PAGE/HPLC	50nmol 200nmol 500nmol 1μmol 10μmole	Lyophilized Single Tube/ 96-Well Plate
	61~80 bases	Desalted /PAGE		
	81~100 bases	PAGE		
Single Strand RNA	11~110 nt	HPLC		
siRNA	21~27 nt	HPLC		
miRNA	18~25 nt	HPLC		
ASO	15~25 nt	HPLC		

Purification	Applicable Length	Advantages
Desalted Purification	10~80 bases	Fast turnaround time and favorable price
PAGE Purification	10~120 bases	High purity >92%; suitable for long oligos
HPLC Purification	~80 bases	High purity >90%; suitable for modified oligos

Modification Options

Biopohe offers a variety of oligonucleotide modification types, including over 100 modification categories such as common or specialized fluorescent groups, quenching groups, chemical linking groups, spacer arms, nucleotide modifiers, backbone modifications, and dual-quenching probes.

We employ dual detection methods—High-Performance Liquid Chromatography (HPLC) and Mass Spectrometry (MS)—to rigorously control the purity and quality of our products.

Fluorophore			Quencher	Chemical Linker	Spacer	Base	Backbone
YF350	ATTO 532	YF594	Dabcyl	Amino	dSpacer	2'OMe Base	Phosphorothioate
AMCA	VIC	Texas Red	Eclipse	Aminooxy	Spacer C3	2'MOE Base	Phosphorylation
YF405S	HEX	YF640	MGB	Azide	Spacer C9	2'Fluoro Base	
ATTO 425	Quasar570	UltraCY5	BHQ1	Acrydite	Spacer C12	5-Me dC	
FAM	CY3	Quasar 670	BHQ2	Alkyne	Spacer 18	N6-Me dA	
YF488	YF555	YF647A	BHQ3	Biotin	Spacer 20	dI	
TET	NED	CY5.5	BBQ 650	Carboxy		dU	
JOE	TAMRA	YF750	DQ1	Cholesterol		xNA	
YF532	YF568	CY7	DQ2	DBCO		InvddT	
Yakima Yellow	ROX			Digoxin		3'ddC	
				Ferrocent			
				Thiol			
				Bromo			