

# INTEGRATED LABORATORY SOLUTION

A Replicable, Deployable, and Fully Operable Laboratory Framework

## Our Core Modules

Laboratory planning & workflow design

Platform setup (Sequencing & Synthesis)

SOP standardization & quality control system

Technical training & continuous support

## Collaboration Models

### Turnkey Sequencing / Synthesis Laboratories

Synthesis Technology Service Collaboration

Project-based Custom Support

Laboratory Construction & Capability Transfer

## Why Partner With Us

Our own operational sequencing & synthesis laboratories

Multiple successful integrated lab deployments

Proven experience in lab replication and technical transfer

Coverage across research, pharmaceutical, and diagnostic applications

Shanghai  
Bioscience

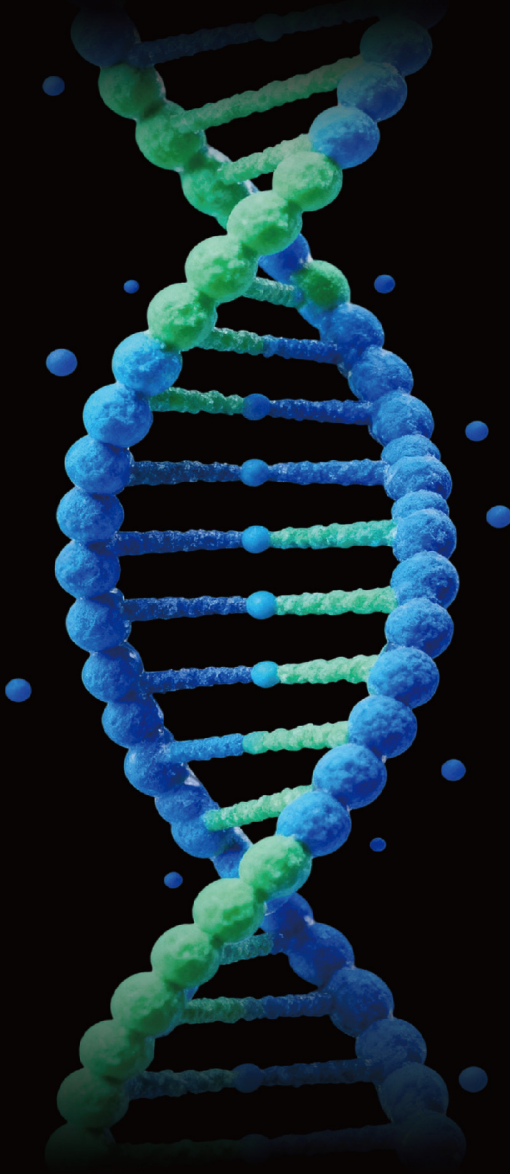
## ABOUT US

Founded in 2005, Shanghai BioScience Co., Ltd. is a platform-based service provider focused on the life sciences services sector, operating 29 offices/branches and managing over 300,000 product categories. With the mission of "Serving Science," the company has built a multi-dimensional product matrix to meet the needs of various research and production scenarios. It has established strategic partnerships with globally renowned enterprises such as Corning, Takara Bio, Danaher, and Thermo Fisher Scientific, while also maintaining close collaborations with over 20 top-tier life science brands in the industry, helping researchers achieve greater progress in the exploration of life sciences. Bioscience has become the exclusive national general distributor for Takara Bio in China.

BioScience Prime® is the collective name for the company's proprietary brands, covering four major categories: laboratory instruments, consumables, reagents, and technical services. Upholding Bioscience's consistent philosophy of innovation and dedication, BioScience Prime® leverages its self-built supply chain and technical service center to provide global life science researchers with high-quality, one-stop laboratory solutions.

# END-TO-END SEQUENCING & SYNTHESIS LABORATORY SOLUTIONS

Sequencing · Synthesis · Laboratory Solutions  
Sanger / Nanopore / Oligo / Gene



Bioscience

## KEY CHALLENGES IN BUILDING A MOLECULAR LABORATORY

Long construction cycles with complex planning of equipment, layout, and workflow

Difficulty standardizing workflows; high operator dependence

Inconsistent data quality and unstable sequencing results

Insufficient training and operational experience, slowing time-to-delivery

## OUR SOLUTION

We Provide a systematic solution including laboratory design, equipment configuration, standardized SOPs, and technical training—helping partners rapidly establish a functional, scalable, and reproducible molecular laboratory system.



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# “SEQUENCING SERVICE PARTNERSHIP PROGRAM” NANOPORE AMPLICON SEQUENCING LAB SOLUTION

The Sequencing Service Partnership Program is built on the extensive experience of BioSune, the sequencing service arm of BioScience. This program provides a complete laboratory setup solution for companies or individuals planning to launch local sequencing services. Centered on Nanopore Amplicon Sequencing, the program delivers end-to-end support—from lab planning and instrument integration to system support and continuous technical enablement.

## WHAT PARTNERS GAIN

Rapid setup of commercially operable sequencing labs  
Low-risk, cost-controlled entry into the sequencing service market  
Stable, reproducible, scalable sequencing output

BioScience acts as technical platform builder and long-term support partner, empowering collaborators to establish a sustainable sequencing service capability.

## I. EXTRACTION MODULE

From sample to nucleic acid—optimized kits ensure standardized and high-yield extraction. Supports diverse sample types (bacteria, cells, tissues, blood, etc.) with validated, high-purity DNA/RNA outputs.



**UE PLASMID MINIPREP KIT (UE-MN-P-250)**



**UE PLASMID MIDIPREP/ MAXIPREP KITS (UE-MD/MX-P-25)**



**UE GENOMIC DNA MINIPREP KIT (UE-MN-MS-GDNA-50)**



**UE BLOOD GENOMIC DNA MINIPREP KIT (UE-MN-BL-GDNA-50)**



**UE BACTERIA GENOMIC DNA MINIPREP KIT (UE-MN-BT-GDNA-50)**



**UE BODY FLUID VIRAL DNA/ RNA MINIPREP KIT (UE-MN-BF-VNA-50)**



**DNA GEL EXTRACTION KIT (UPGRADED) (UE-MN-BT-GDNA-50)**



**PCR CLEANUP KIT (UE-MX-PCR-50)**

## II. AMPLIFICATION MODULE

Our self-developed gradient PCR instruments provide both economical and standard options, supporting routine research amplification, cloning, and pre-sequencing PCR.

Features include precise temperature control, gradient optimization, fast ramp rates, and stable performance.



**ECONOMICAL GRADIENT PCR INSTRUMENT (GP-9604E)**



**TYPICAL GRADIENT PCR INSTRUMENT (GP-9606T)**

## III. LIBRARY PREPARATION MODULE

We offer automated and manual workflows tailored to Nanopore amplicon sequencing. Solutions balance throughput, stability, and deployment cost—ideal for labs at different stages.

### AUTOMATED LIBRARY PREP



#### AUTOMATED LIBRARY PREP SYSTEM (GR48)

- Fully automated workflow: quantification, pipetting, magnetic separation, PCR
- High-precision pipetting & high recovery rate (8-channel + high-force magnets)
- Contamination control with independent negative-pressure PCR chamber + HEPA + heated lid
- Smart temperature control: cooling, heating, and shaking
- Wireless interface, intuitive software, rapid onboarding

Technical Specifications	Details
Throughput	1–96 samples/run
Compatibility	Optimized for Nanopore PCR Barcoding; supports genome library prep, tagmentation workflows
Volume Range	1–200 $\mu$ L
Run Time	PCR product $\rightarrow$ sequencing-ready library: < 6 hours
Success Rate & Reproducibility	CV <10%
Pipetting Accuracy	1 $\mu$ L ( $\leq$ 5%), 20 $\mu$ L ( $\leq$ 1.5%), 100 $\mu$ L ( $\leq$ 1%), 200 $\mu$ L ( $\leq$ 1%)
Contamination Control	Independent chamber, HEPA filter
Instrument Dimensions	166*72*95 cm
Automation Level	Automated quantification, logging, and liquid handling

Suitable for sequencing service labs aiming for commercial-level delivery.

### MANUAL LIBRARY PREP

Designed for labs with smaller sample volumes or teams in the early stage.

- Validated SOP
- Clear QC checkpoints & risk control
- Quick training & easy replication

Parameter	Details
Library Prep Time	3.5~4 h
QC Nodes	Gel band check / concentration check
Yield	>60%
Training Time	Skill transfer completed in 1-2 days

Ideal for low-throughput labs or automation transition periods.

## IV. SEQUENCING MODULE

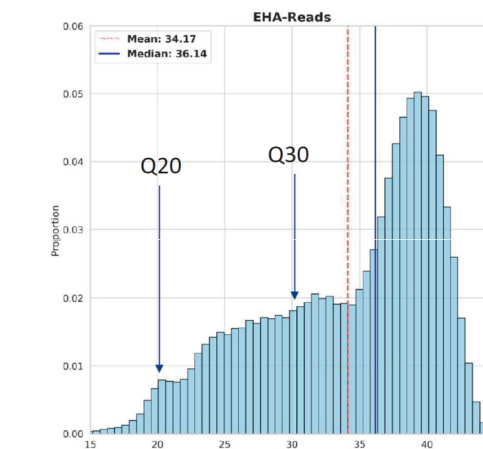


### LABWAVE 4TH-GENERATION NANOPORE SEQUENCER (G-SEQ500)

Designed for long-read, real-time amplicon sequencing with high accuracy and low operational cost.

- Suitable for PCR product sequencing & full plasmid sequencing Single-base resolution
- Single-read accuracy: >99.9% (Q30)
- Scalable throughput
- Easy to deploy for local sequencing services

### High-accuracy mode achieving single-molecule accuracy above Q30



Escherichia coli Genome Sequencing Data (N50 = 4kb)  
Post-run Data Quality Control Mean Quality Score: Q34.17 Median Quality Score: Q36.14

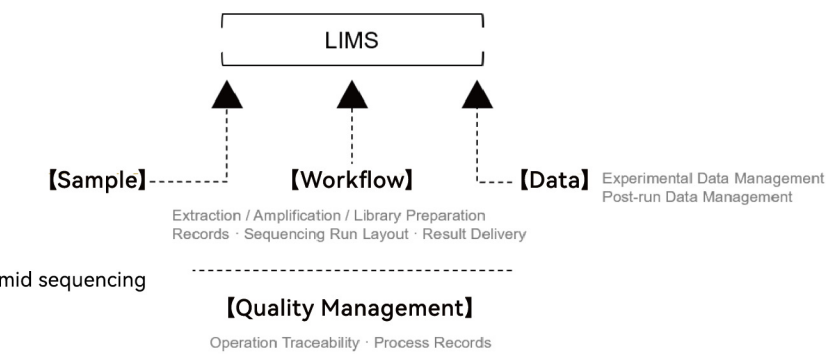
### Amplicon Sequencing Performance

Category	Specification
Read Length	300 bp – 10 kb
Throughput	96/288 barcodes (scalable to 576 samples)
Sample Types	PCR product (purified / unpurified)
Library Prep	Automated or manual (validated SOPs)
Reproducibility	Consensus consistency >95%
Turnaround	24–48 h
Deliverables	FASTQ / BAM / FASTA / AB1 / Frequency tables / Summary.txt

## V. LABORATORY INFORMATION MANAGEMENT SYSTEM (LIMS)

Provides complete workflow tracing from sample intake to final report delivery.

- Designed for sequencing service operations
- Customizable for PCR product sequencing & full plasmid sequencing
- Enhances traceability and delivery standardization
- Scalable for future service expansion



## SYNTHESIS SOLUTION (OLIGO & GENE SYNTHESIS)

An end-to-end, modular, and scalable solution for high-quality oligonucleotide synthesis laboratories.

## I. SYNTHESIS CAPABILITIES

- Oligonucleotide Synthesis:** DNA/RNA oligos, modified bases, fluorophores, click chemistry, phosphorothioate, LNA, etc.
- Gene Synthesis & Design:** Codon optimization, structure prediction, cloning strategy design
- Stable, Reproducible QC System:** Automated synthesis platform with strict QC (MASS, HPLC purity, PAGE, optional NTC validation)

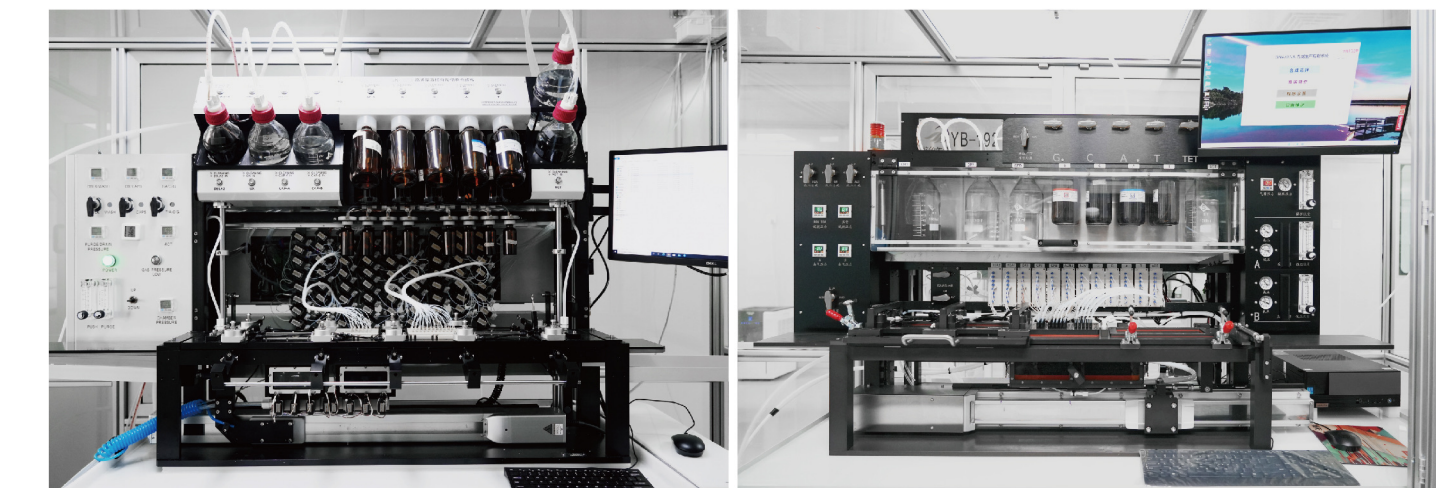


## II. PARTNERSHIP MODELS

- Off-site Production:** We deliver synthesis + purification + QC; customers submit sequences only
- On-site Lab Setup:** Instruments, workflow, SOPs, quality system, complete tech transfer
- Hybrid Model:** Flexible switching based on project phases

## III. TECHNICAL PLATFORM

- Automated oligo synthesizers
- High-resolution mass spectrometry & HPLC platforms
- Standardized lab layout with gas protection & waste systems
- SOPs, batch records, and validation (IQ/OQ/PQ)



## IV. DELIVERABLES

- Final product (dry form)
- Full QC report
- Process development documentation (for on-site labs)
- Tech transfer package (if required)

**Coming soon:**  
Complete Gene Synthesis Laboratory Solution