



ABOUT US



Founded in Singapore in 2002, **1st BASE** delivers high-quality, locally made products to support life science researchers. In 2003, we expanded to Malaysia, enhancing our ability to serve a broader market.

1st BASE offers a wide range of products and services, including biochemicals, buffers, reagents, molecular biology kits, and sequencing services, empowering researchers with reliable tools for accurate results. These offerings complement our existing services, such as peptide synthesis, antibody production, and next-generation sequencing.

In 2006, we expanded internationally across Asia Pacific. Today, our products and services are accessible in Indonesia, Thailand, Vietnam, India, and beyond.

In 2020, **1st BASE** expanded its portfolio by introducing Contract Manufacturing and Kit Manufacturing services, delivering both customized production and ready-to-use kits. This empowers researchers and biotech companies to accelerate development timelines while accessing scalable, project-tailored solutions—further strengthening our position as a trusted partner in scientific innovation.



A Brand Leading the Way in innovation and Excellence in Life Sciences



PRODUCTS

- Nucleic Acid Gel Electrophoresis and Protein Biology Products
- Biochemicals, Buffers, and Reagents
- Molecular Biology Kits
- PCR Reagents and Detection Kits



SERVICES

- Sanger Sequencing and Fragment Analysis
- Next-Generation Sequencing (NGS)
- Molecular Biology Services
- Proteomics and Metabolomics Services
- Peptide Synthesis

DISCOVER THE POWER BEHIND



1st BASE



Wide Range of Choices

Pick up from up to 100 complimentary Universal Primers for Sequencing*

Global Standard for Quality & competency

Internationally Accredited and Compliant with Recognised Standards

* Refer to Sanger Sequencing

From Local Roots to Regional Reach

1st BASE, proudly based in Malaysia and Singapore, has grown into a trusted life science brand across Asia Pacific. We support scientists with reliable products, responsive service, and a strong commitment to advancing research.



02

2003





OUR JOURNEY OF GROWTH & INNOVATION



2002

Launch of 1st BASE Singapore

We established 1st BASE in Singapore, beginning our journey with oligonucleotide synthesis as our first core service.

Launch of 1st BASE Malaysia

We established First BASE Laboratories Sdn. Bhd. in Malaysia, marking our entry into in-house manufacturing of high-quality life science products.

Expansion into Asia Pacific

We expanded our footprint across Asia Pacific, providing enhanced support and solutions to researchers throughout the region.

Acquisition by Integrated DNA Technologies (IDT), USA

1st BASE Oligo business was acquired by IDT, the world's largest oligonucleotide manufacturer, to serve as their first synthesis facility in Asia, providing custom DNA and RNA oligos.

Company Integration in Singapore

1st BASE Pte. Ltd. and BST Scientific Pte. Ltd. merged, forming Axil Scientific Pte. Ltd., driving growth and innovation in life sciences.

Company Integration in Malaysia

First BASE Laboratories Sdn. Bhd. and Axon Scientific Sdn. Bhd. merged, forming Apical Scientific Sdn. Bhd., driving growth and innovation in life sciences.

Certified for Quality and Safety Development, Singapore

Axil Scientific achieved ISO 13485, reinforcing our commitment to quality and workplace safety.

Kit Manufacturing Launch

We launched our PrimeWay Series kits, expanding into the biotechnology and medical products market, with plans for ISO 13485 certification by 2025.

1st BASE Contract Manufacturing Begins in Singapore

Our Singapore facility began 1st BASE Contract Manufacturing, expanding our capabilities to deliver customized solutions at scale.

ISO/IEC 17025 Accreditation

Apical Scientific is an ISO/IEC 17025 accredited laboratory under the Laboratory Accreditation Scheme of Malaysia (SAMM) by the Department of Standards Malaysia for the testing of DNA sequencing, microsatelite analysis, amplicon metagenomic NGS and DNA barcoding of bacteria and fungus.



SANGER SEQUENCING SERVICES

1st BASE Sanger Sequencing delivers high-quality, single-pass reads with fast turnaround and expert support. Services include standard, high-throughput, M13-tailed, and difficult template Sequencing+ PLUS, and ready-to-load options using ABI BigDye v3.1. Suitable for PCR products, plasmids, and challenging templates, it's a reliable choice for accurate, targeted DNA sequencing.



Standard Sequencing

- Single-pass reads (~1,000bp)
- For PCR products or plasmids
- Optional double-pass

High-Throughput (HT)

- Single-pass reads (~1,000bp)
- For PCR products or plasmids
- Optional double-pass

Difficult Template (DTS)

- For high-GC / repeats / long reads
- Free retry if failed

Ready-to-Load Options

- Ready samples or full service
- ABI BigDye v3.1 supported

M13-Tailed Sequencing

- Free M13 primers
- Bi-directional reads
- PCR cleanup included

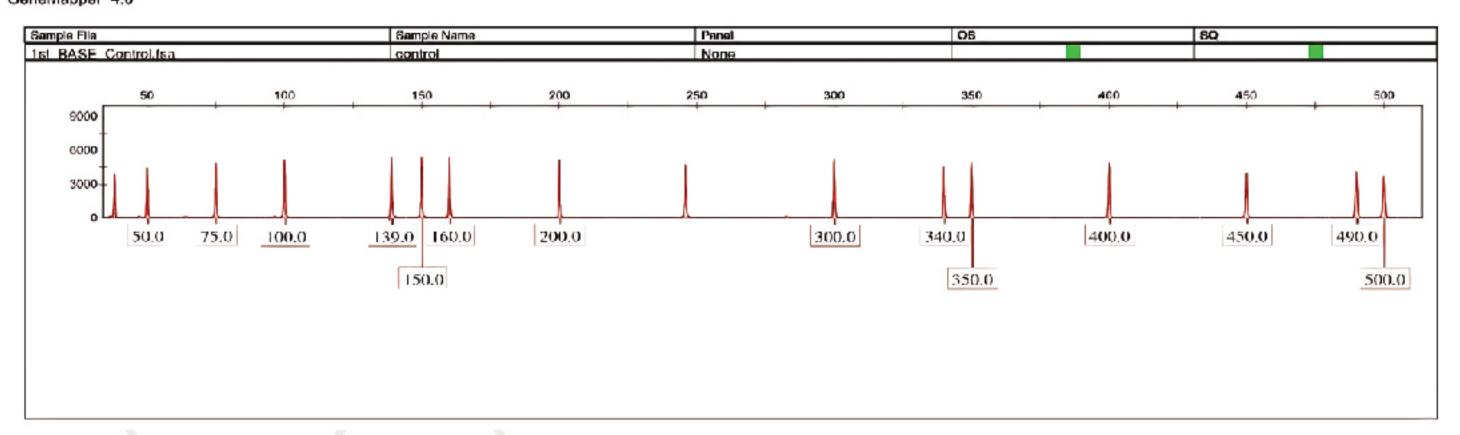
Quality and Support

- Fast turnaround with QC
- Online tracking
- Expert troubleshooting

FRAGMENT ANALYSIS

1st BASE Fragment Analysis provides fast, high-resolution sizing of fluorescently labeled DNA fragments, ideal for STR profiling, SNP genotyping, and mutation detection. With ±0.5 bp accuracy and quick turnaround, it offers reliable data interpretation and flexible sample formats for research and clinical applications.









Sanger Sequencing Services

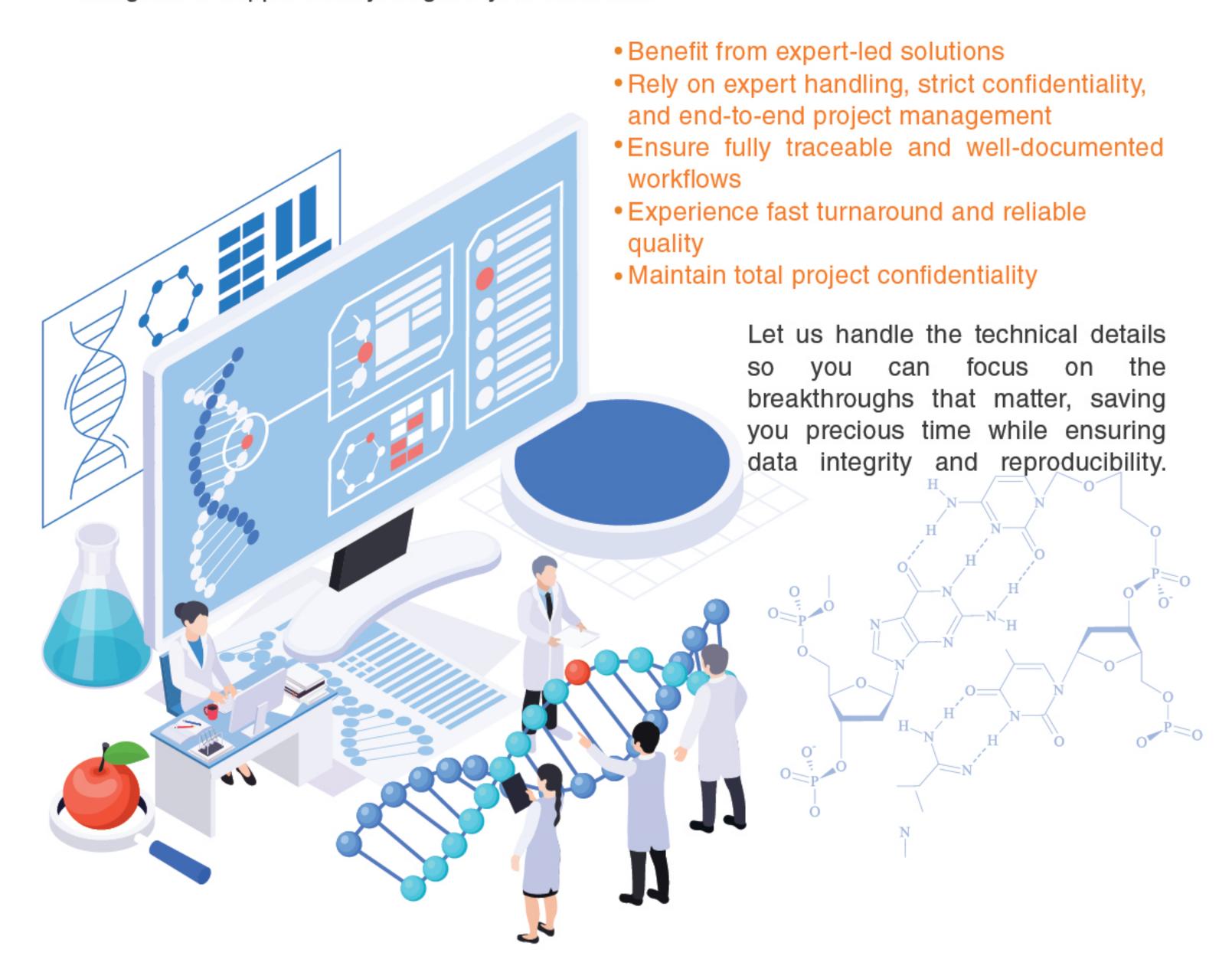
Fragment Analysis





From Start to Finish—We've Got Your Research Covered

Accelerate your discoveries with our comprehensive suite of molecular biology services, designed to support every stage of your research.



DON'T COMPROMISE ON QUALITY.

Choose 1st BASE Molecular Biology Services for the results you can trust.



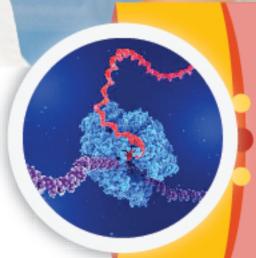


ENTRUST YOUR NGS PROJECT TO OUR EXPERTS



MICROBIAL WHOLE GENOME SEQUENCING (Reference/De Novo)

- Platform: Illumina, PacBio, Oxford Nanopore
- Data Reads: >40x Sequencing Depth



RNA SEQUENCING (Transcriptome Sequencing)

- Platform: Illumina Novaseq X Plus
- Data Read: 6GB/ 12GB/ 15GB or Custom
- Library Preparation: Poly-A Library/ Directional Library (mRNA)
- Others RNA-Seq: sRNA, IncRNA, Whole Transcriptome

AMPLICON SEQUENCING (Metagenomics: 16S/ITS/Custom)

- Platform: Illumina, Oxford Nanopore
- Support Both Short Reads and
- Full Length Amplicon Metagenomic.
- Custom Region such as trnL, 12S, COI



HUMAN WHOLE GENOME SEQUENCING/ WHOLE EXOME SEQUENCING

- Platform: Illumina Novaseq X Plus/ PacBio
- Data Reads: 30X or Custom





SHOTGUN METAGENOMICS

- Platform: Illumina/ Oxford Nanopore
- Data Read: 6GB/ 12GB/ 15GB/ 18GB
- Custom Bioinformatics Analysis to suit your Objectives



ANIMAL & PLANT WHOLE GENOME SEQUENCING

- Platform: Illumina Novaseq X Plus/PacBio
- Data Reads: 30X or Custom

If you're uncertain about the quality of your DNA before proceeding with our NGS services, we offer comprehensive solutions to ensure optimal results:

Rely on our expert Molecular Biology Services for sample preparation:

- NGS-grade genomic DNA extraction
- NGS-grade RNA extraction
- NGS-grade high molecular weight DNA extraction

Choose our validated PrimeWay Nucleic Acid Extraction Kit for diverse sample types:

- Viral DNA/RNA
- Food DNA
- Genomic DNA
- Stool DNA
- Total RNA
- Soil DNA





BI Demo Report

Publications Featuring Our Works



AMPLICON METAGENOMICS SEQUENCING SERVICE

A Powerful Tool for Human, Animal & Environmental Microbiome Studies of any Scale

Amplicon sequencing is a next-generation sequencing (NGS) technique that uses oligonucleotide probes to precisely target and capture specific regions of interest. It is a powerful tool for uncovering biological diversity in environmental samples, and is particularly valuable for identifying fungal and bacterial communities within host organisms or diverse ecological environments.

16S rRNA Amplicon Sequencing

The 16S rRNA amplicon sequencing technique is a microbiome analysis to uncover and study the diversity of Bacteria within a given sample. Choose between the 16S region of V1–V9 for better resolution in your data, or simply choose region V3–V4 for uncovering general diversity in your samples.

ITS Amplicon Sequencing

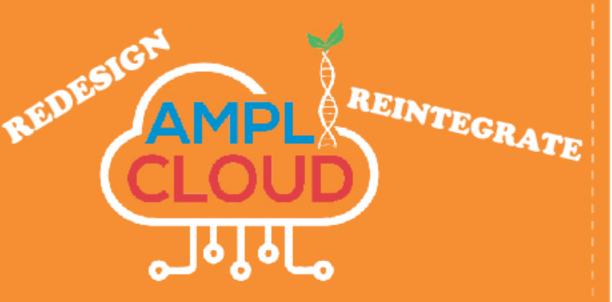
The ITS amplicon sequencing is a sensitive method for Fungal diversity analysis in your environmental samples. Choose between region ITS1 or ITS2 depending on the nature of Fungi within your environmental samples.



Custom Metagenomics Sequencing

This is a service where preparation of custom metagenomic amplicon libraries targeting diverse population of pathogens of any specific gene, Archaea, and Cyanobacteria regions are being sequence. Just provide us your primer sequence of interest to get started.

The Leading Cloud-Based Metagenomic Amplicon Analysis Platform in South East Asia



- Effortless Taxonomic Classification & Diversity Analysis
- Intuitive & Customizable Visualization
- Publication-Ready Figures
- Efficient & Reproducible Workflows

Bioinformatics Deliverables

- 1. Data QC and trimming
- 2. ASV table generation and Taxonomic characterization
- ASV Analysis and Species Annotation, including KRONA results, Heatmap, Taxonomic Abundance and up to 5 Venn diagrams
- Alpha-diversity Analysis, including Alpha Indices table with ANOVA, Rarefaction curve, Rank abundance curve
- Beta-diversity Analysis, including Ordination (CCA, RDA, DPCoA, NMDS, MDS, PCoA), Unifrac distance analysis, UPGMA (Unweighted Pair-group Method with Arithmetic Means)
- Phylogenetic Trees, including ASV co-occurrence networks and Metacoder
- 7. Statistics Between Groups: DESeq2, ANOSIM, LEfSE
- Metagenome Functional Prediction using Picrust2 (only applicable for 16S)







MOLECULAR BIOLOGY KIT Always Your Choice!

Bacterial and Fungal DNA Barcoding Kits ClassRoom PCR Teaching Kit SEPa Nucleic Acid Isolation Reagent Kits

PrimeWayNucleic Acid Extraction Kits

Explore our full range of 1st BASE Molecular Biology Kit below.

Find the Right Molecular Biology Kit for Your Research Needs -

Molecular Biology Kit	Product No & Size	Sample Type	Yield/ Recovery	Duration
Bacterial DNA Barcoding	KIT-1100 (50 preps)	Cut agar, Cell pellet from ≤ 2 mL fresh liquid culture	50 – 100 μL	a) Nucleic acid extraction: Overnight b) PCR amplification: ~ 45 mins
Fungal DNA Barcoding	KIT-1200 (50 preps)	Cut agar, Cell pellet from ≤ 2 mL fresh liquid culture	50 – 100 μL	a) Nucleic acid extraction: Overnight b) PCR amplification: ~ 45 mins
ClassRoom PCR Teaching Kit	KIT-7389 (10 preps)	DNA Template	N/A	≤ 3 hours
Plant DNA	KIT-9101-125ml (120 preps)	200 mg pulverized plant tissues	50 – 100 μL	2 ½ to 3 hours
Plant RNA	KIT-9102-125ml (40 preps)	200 mg pulverized plant tissues	100 – 200 μL	a) ~2 hours with overnight incubation b) 35 mins
Viral DNA/RNA	KIT-9010 (10/50/250 preps)	Serum, Plasma, Body Fluids, Cell Culture Supernatant, Viral Transport Medium, Swabs	<1 µg	30 mins
Plasmid II DNA	KIT-9041 (10/50/250 preps)	Bacteria Culture	Up to 40 μg	25 mins
Gel Extraction/ PCR Purification II	KIT-9051 (10/50/250 preps)	Gel/ PCR mixture	Up to 95%	Gel Extraction: 20 mins PCR Purification: 10 mins
Soil DNA	KIT-9060 (10/50/250 preps)	Soil, Manure, Water Sample	100 µg	< 60 mins
Stool DNA	KIT-9070 (10/50 preps)	Animal & Human Stool, Gut Content	Up to 50 μg	≤ 60 mins
Food DNA	KIT-9080 (10/50 preps)	Solid Food, Thick/Concentrated, Liquid Food, Liquid Food with Bacteria, Gel/Gum/Gelatine	100 µg	≤ 30 mins (exclude lysis incubation)

Get the Details - SCAN ME!



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MOLECULAR BIOLOGY KIT **Always Your Choice!**

Bacterial and Fungal DNA Barcoding Kits

ClassRoom **PCR Teaching Kit**

SEPa Nucleic Acid Isolation Reagent Kits

PrimeWay Nucleic Acid Extraction Kits

Explore our full range of 1st BASE Molecular Biology Kit below.

Find the Right Molecular Biology Kit for Your Research Needs -

Molecular Biology Kit	Product No & Size	Sample Type	Yield/ Recovery	Duration
Total RNA	KIT-9021 (10/50/250 preps)	Animal Tissue, Bacteria Cultured Cells, White Blood Spots, Yeast, Insects, Plant	Up to 70 μg	< 60 mins
Genomic II DNA	KIT-9022 (10/50/250 preps)	Animal Tissue, Cultured Cells, Mouse/Rat Tail, Bacteria, Yeast, Fungi from Cut Agar, Whole Blood/Buffy Coat, Nucleated Blood, Dried Blood Spot, White Blood Cells, Insect, Buccal Swab, Saliva, Alcohol-Fixed Tissue, Sperm, Feather/Nails/Hair	Up to 40 µg	~ 25 mins/ prep

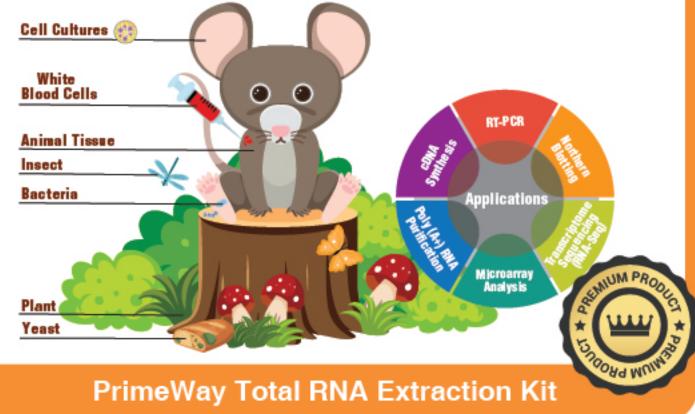
PrimeWay KIT

We uphold the highest quality in our DNA/RNA extraction products, backed by a dedicate team that goes beyond expectations.

The PrimeWay Total RNA Extraction Kit provides a fast and reliable method for isolating high-quality RNA from a wide range of samples, including bacteria, yeast, animal and plant tissues, and blood cells. Using a silica-based spin column with optional On-Column DNase treatment, it ensures efficient DNA removal. The purified RNA is ideal for downstream applications such as cDNA synthesis, RT-PCR, Northern blotting, RNA purification, microarray analysis, and RNA-Seq.

Versatility

Well-suited for a broad range of samples and applications



YOUR RESEARCH, OUR BUSINESS

The PrimeWay Genomic II DNA Extraction Kit isolates high-quality DNA from up to 16 sample types using a spin-column system. It ensures consistent quality for applications such as genotyping, PCR, restriction analysis, and Southern blotting. The kit is also NGS-validated for seven sample types, including cultured cells, bacteria, yeast, and blood components.

Versatility

Multiple Sample Types with a Single Kit. Cultured Cells **APPLICATIONS** Fungi; Yeast **Animal Tissue** Bacteria Feathers/ Nails/ Hair

PrimeWay Genomic II DNA Extraction Kit

Get the Details - SCAN ME!





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YOUR EVERYDAY PCR NEEDS

Our REDiant II PCR Mastermix and exTEN II PCR Mastermix are formulated with density reagents and inert tracking dyes to enable easy visual control during PCR set-up and direct loading of the reaction product into the gel. Achieve robust amplification with minimal optimization of reaction conditions with an added convenience and minimal pipetting and handling errors.



Product	Taq II PCR	REDiant II PCR	exTEN II PCR
	Mastermix (2X)	Mastermix (2X)	Mastermix (2X)
Amplicon Size	6kb	6kb	10kb
End Product	Sticky ends	Sticky ends	Mix of Sticky & Blunt ends
Direct Loading to Gel	No	Yes, contains density reagent and red inert tracking dye which migrates at the same rate as 1kb DNA fragment in a 1% agarose gel	Yes, contains density reagent and two tracking dyes which migrates at the same rate as 4kb and 50bp DNA fragment in a 1% agarose gel
Product No	BIO-5181-200 (200rxn)	BIO-5187-200 (200rxn)	BIO-5188-200 (200rxn)
	BIO-5181-1000 (1000rxn)	BIO-5187-1000 (1000rxn)	BIO-5188-1000 (1000rxn)
Stand-alone	BIO-5111-500U	BIO-5116-500U	N/A
Enzyme	BIO-5111-2500U	BIO-5116-2500U	

DNA Electrophoresis

Ensuing PCR, gel electrophoresis is commonly performed as an analytical procedure. Gel electrophoretic methods have also been used as a preparative technique before blotting, cloning, DNA sequencing, and other various downstream applications.

Light Up Your Gels with 1st BASE DNA Stains Excellent Sensitivity Achieve bright, clear and defined bands bp Floro*Red Floro+Green across different fragment sizes Flexible Use Applicable to: 5,000 -5,000 dsDNA, ssDNA and RNA 3,000 3,000 ---Precast or post-gel staining protocols Agarose and polyacrylamide gels 1,000 ---Safe For You Non-mutagenic and non-cytotoxic as shown by Ames and Cell Staining Tests Easy Disposal Environmentally-friendly. Dispose as Product Series: Product Series: BIO-5171 BIO-5172 regular trash or down the drain Institutional regulations may vary.







HIGH QUALITY BUFFERS FOR LIFE SCIENCE RESEARCH



Careful selection of reagents and buffers for optimal research results. Suitable for your various life science research needs:



Electrophoresis of Nucleic Acids and Proteins



Isolation and Purification of Biomolecules



Cell and Tissue Culture

• Ready-to-use Running Buffers

Choose from our range of TAE and TBE buffers available at different concentration. We also supply a comprehensive selection of various other buffer in convenient packaging and varying grade.

Ultra-pure (Grade

Materials with a purity exceeding USP monographs. These include ready-to-use reagents of high quality suited for most laboratory applications, meeting requirement such as ultra-low levels of trace metal contaminants.



Biotechnology Grade

Materials with purity equivalent to ultra-pure grade and are ideal for molecular biology applications. This grade is primarily focused on tests for enzymatic, nuclease and bacterial impurities.

Suitable for Every Budget and Scale

- Freshly prepared finest and ultra-pure reagents suitable for biomolecular work
- O-Use of Type 1 water which ensures that reagents are contaminant-free
- Available in easy-to-use 500mL, 1-litre and 4-litre packaging
- Concentrated stock solutions for easy single step dilution
- O-Ready-to-use solutions for greatest time saving
- Readily available stock
- Customised formulation and packaging of reagents upon request
- Buffer sterilisation by 0.2µm filtration and/ or autoclaving





CELL CULTURE MEDIA

Cell culture media provide essential nutrients, growth factors, and a balanced environment, including controlled osmotic pressure and pH, to support optimal cell growth and function. At **1st BASE**, our cell culture products are manufactured in cGMP-compliant facilities under a stringent quality management system, ensuring consistent reliability and superior quality. We also offer custom media solutions, from specialized nutrient formulations and component adjustments to tailored packaging and QC requirements, giving your cells the precise conditions they need to thrive.



- Animal Origin-Free
- Endotoxin Tested
- **pH** 7.1-7.5
- Sterility Tested for Bacteria, Fungus and Mycoplasma

Product Name	Product No	Packaging
DMEM low glucose with L-GIn , Sodium Pyruvate and Phenol Red	CUL-1010	500mL, 1000mL
DMEM, high glucose, with L-Gln and Sodium Pyruvate	CUL-1100	500mL, 1000mL
DMEM, high glucose, with L-Alanyl-L-Glutamine and Sodium Pyruvate	CUL-1101	500mL, 1000mL
DMEM, high glucose, with L-Gln, without Sodium Pyruvate	CUL-1110	500mL, 1000mL
DMEM, high glucose without L-Gln and Sodium Pyruvate	CUL-1120	500mL, 1000mL
DMEM/Ham's F-12 with L-Gln, Sodium Pyruvate and HEPES	CUL-1200	500mL, 1000mL
RPMI 1640 with L-Gln and Phenol Red	CUL-1500	500mL, 1000mL
RPMI 1640, without L-Gln and Sodium Pyruvate	CUL-1510	500mL, 1000mL
1X Dulbecco's Phosphate Buffered Saline (D-PBS), without Ca and Mg	BUF-2046	500mL, 1000mL
1X Phosphate Buffered Saline, pH 7.2, Sterile Filtered	BUF-2048	500mL, 1000mL





STREAMLINE YOUR PROTEOMICS WORKFLOW

From Start to Finish, We've Got You Covered!





Product Name	Product No.	Size
1X RIPA Buffer, Biotechnology Grade	BIO-5210-1X100ml	100mL

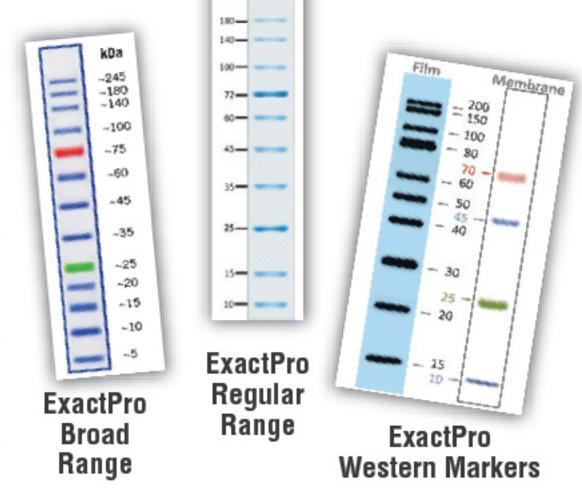
Acrylamide/Bis-acrylamide Solution

		,	
	Product Name	Product No.	Size
Industry investor lies Incomplete Inco	Acrylamide/Bis-acrylamide Solution, 30%, (37.5:1)	BUF-5230-500ml	500mL
And the MAY 1989 And the MAY	Acrylamide/Bis-acrylamide Solution, 30%, (29:1)	BUF-5231-500ml	500mL
English Street	Acrylamide/Bis-acrylamide Solution, 40%, (37.5:1)	BUF-5235-500ml	500mL
	Acrylamide/Bis-acrylamide Solution, 40%, (29:1)	BUF-5236-500ml	500mL

ExactPro Prestained Protein Ladders >----

1st BASE comprehensive range of protein ladders includes Prestained Protein Ladders in both Broad Range (5kDa – 245kDa) and Regular Range (9kDa – 180kDa), as well as Western Markers (15kDa – 200kDa). Designed to meet the diverse needs of protein research and analysis, these ladders offer unparalleled accuracy and convenience.

Product Name	Product No.	Size
ExactPro Broad Range (5 - 245kDa) Prestained Protein Ladder	BIO-5150-500ul	500µL
ExactPro Broad Range (9 - 180kDa) Prestained Protein Ladder	BIO-5151-500ul	500µL
ExactPro Western Marker (15 - 200kDa)	BIO-5155-250ul	250µL



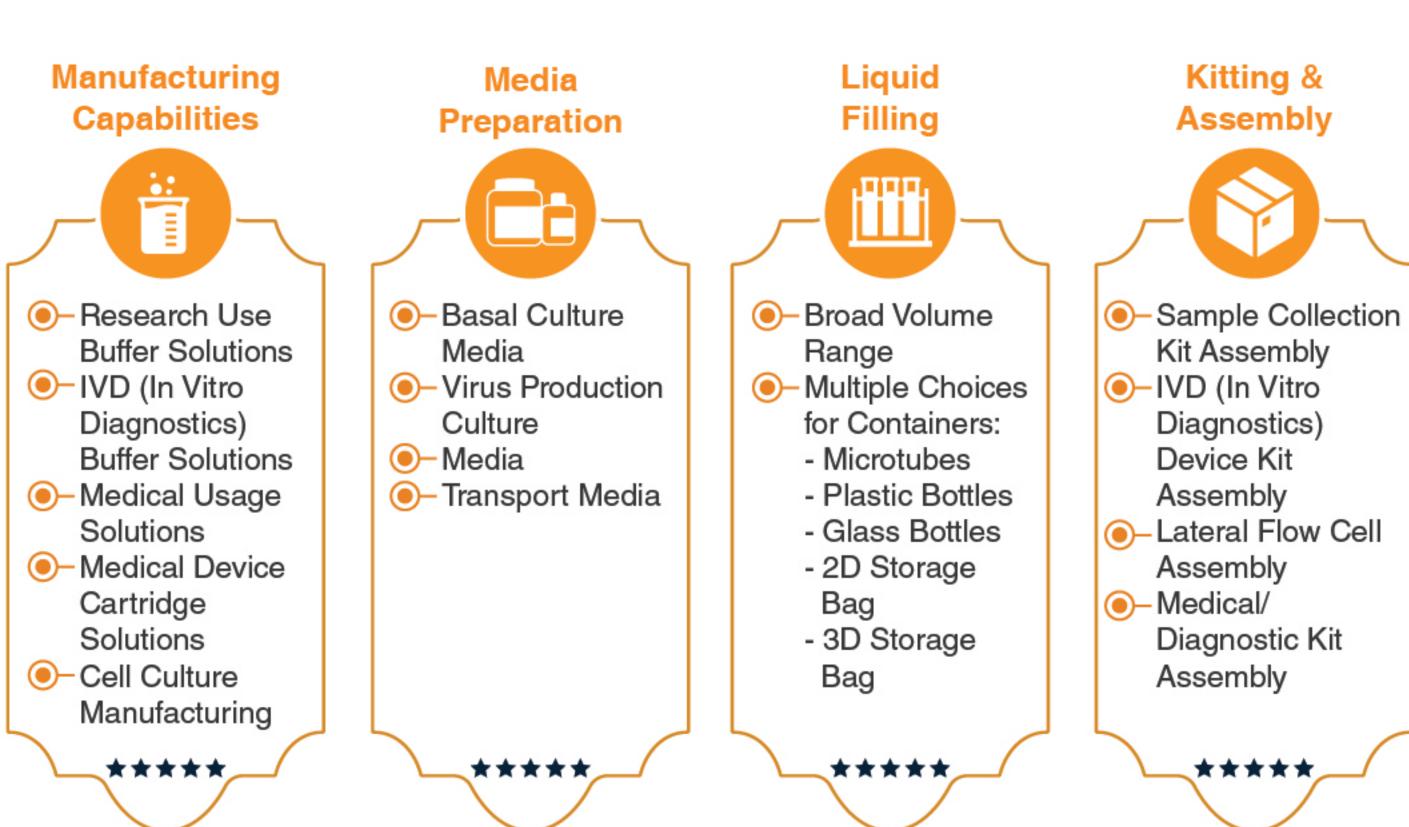




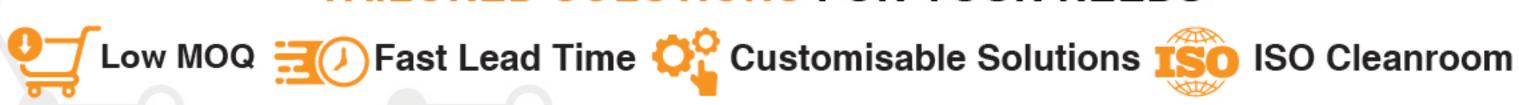
CONTRACT MANUFACTURING SERVICES

Supported by cutting-edge technology, a skilled team, and substantial production capacity in our Singapore facility, 1st BASE Contract Manufacturing Services confidently undertake projects of various scales. Our goal is to deliver a diverse range of customised solutions that caters to your unique requirements.





TAILORED SOLUTIONS FOR YOUR NEEDS









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Recognized Standards & Safety Certifications







