



# Convert Limitations to **Success** with **1st BASE** Molecular Biology Services

1st BASE specializes in developing start-to-finish research solutions to overcome research limitations such as space constraints, high overhead costs, lack of expertise or limited access to the latest research technologies. We work hand in hand with you to understand your research needs.

Do not let the lack of resources and facilities hamper the progress of your research. Allow our team of seasoned technical experts assist you with a wide range of Molecular Biology Services.

You can rely on our continuous support to ensure the best approaches are selected for the success of your research projects. Every project will also be carefully documented for traceability, accountability and reproducibility.



# 1st BASE Molec

## PCR

Product No.	Description
MBS-2001	<b>PCR Optimization</b> using customer-supplied primer sequences. Includes primer synthesis, all PCR reagents and Purification. Customer to provide template DNA and positive control template. Terms and conditions apply. - Minimum setup fee will apply should project failed.
MBS-2002	<b>PCR Optimization</b> using in-house designed primer sequences. Includes primer design with synthesis, all PCR reagents and Purification. Customer to provide template DNA and if possible positive control template.
MBS-2003	<b>PCR Reaction.</b> Includes all PCR reagents and Purification. Customer to provide purified gDNA. Price per sample.

## qPCR

Product No.	Description
MBS-2101	<b>qPCR Optimization</b> using customer-supplied primer and/ or probe sequences. Includes primer synthesis, generate standard curve per gene (1 non-template control, 4 to 5 data points – serial dilutions of template, duplicates). Terms and conditions apply. - Minimum setup fee will apply should project failed.
MBS-2102	<b>qPCR Optimization</b> using in-house designed primer and/ or probe sequences. Includes primer synthesis, generate standard curve per gene (1 non-template control, 4 to 5 data points – serial dilutions of template, duplicates). Terms and conditions apply.
MBS-2103	<b>qPCR reaction</b> , duplicate reactions for each run. Price per run. Deliverables: qPCR raw data (Ct value, amplification curve or/ and melt curve)
MBS-2104	<b>Data analysis</b> for qPCR project. Price per project

## Primer / Genome Walking

Product No.	Description
MBS-8001	<b>Single Pass Primer Walking &gt; 7kb</b> , price per project
MBS-8002	<b>Bi-directional Primer Walking &gt;7kb</b> , price per project
MBS-8005 (N=1kb)	<b>Genome Walking, price per project. Up to 1kb upwards &amp; downwards flanking the known GOI.</b> <b>Includes:</b> <ul style="list-style-type: none"> <li>■ Validation of the presence of GOI</li> <li>■ RE digestion of gDNA</li> <li>■ Ligation of overhang primers</li> <li>■ PCR, Cloning, Sequencing</li> </ul>

## Species Barcoding

Product No.	Description
MBS-5001	<p><b>Bacterial Species Barcoding, 16 sRNA, partial sequence. Choose either v1-v3, v3-v4, v4, v4-v6, v4-v5 or v7-v9.</b></p> <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>■ Extraction of gDNA, PCR amplification and Purification</li> <li>■ Bidirectional PCR product sequencing</li> <li>■ Data analysis (BLAST to show the top 10 matches from database).</li> </ul>
MBS-5002	<p><b>Bacterial Species Barcoding, full length of 16s rRNA (~ 1400 bp)</b></p> <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>■ Extraction of gDNA, PCR amplification and Purification</li> <li>■ Bidirectional PCR product sequencing</li> <li>■ Data analysis (BLAST to show the top 10 matches from database).</li> </ul>
MBS-5003	<p><b>Plant Species Barcoding, rbcL (~ 600 bp) and matK (~ 850 bp)</b></p> <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>■ Extraction of gDNA, PCR amplification and Purification</li> <li>■ Bidirectional PCR product sequencing</li> <li>■ Data analysis (BLAST to show the top 10 matches from database).</li> </ul>
MBS-5004	<p><b>Fungal Species Barcoding, ITS (~ 700 bp)</b></p> <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>■ Extraction of gDNA, PCR amplification and Purification</li> <li>■ Bidirectional PCR product sequencing</li> <li>■ Data analysis (BLAST to show the top 10 matches from database).</li> </ul>
MBS-5005	<p><b>Animal Species Barcoding, COI (~ 700 bp)</b></p> <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>■ PCR amplification and Purification</li> <li>■ Forward Single Pass Sequencing of cloned DNA</li> <li>■ Data analysis (BLAST to show the top 10 matches from database).</li> </ul>
MBS-5006	<p><b>Eukaryote Species Barcoding, 18s rRNA (~ 1800 bp)</b></p> <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>■ PCR amplification and Purification</li> <li>■ Primer walking of Cloned DNA</li> <li>■ Data analysis (BLAST to show the top 10 matches from database).</li> </ul>
MBS-5101	<p><b>Bacterial Species Barcoding from mixed isolates, v4-v6 region of 16s rRNA (~ 600 bp).</b></p> <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>■ Cloning and 8 positive clones send for Forward Single Pass Sequencing</li> <li>■ Data analysis (Alignment &amp; BLAST to show the top 10 matches from database).</li> </ul>
MBS-5102	<p><b>Bacterial Species Barcoding from mixed isolates, 16 sRNA, full-length sequence (~ 1400 bp)</b></p> <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>■ Cloning and 8 positive clones send for Forward Single Pass Sequencing</li> <li>■ Data analysis (Alignment &amp; BLAST to show the top 10 matches from database).</li> </ul>
MBS-5104	<p><b>Fungal Species Barcoding from mixed isolates, ITS (~ 700 bp)</b></p> <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>■ Cloning and 8 positive clones send for Forward Single Pass Sequencing</li> <li>■ Data analysis (Alignment &amp; BLAST to show the top 10 matches from database).</li> </ul>
MBS-500x -Proviso	<p><b>Species Barcoding - Pure gDNA isolate from fungus, plant, animal or Eukaryote.</b></p> <ul style="list-style-type: none"> <li>■ Minimum setup fee will apply when there is no PCR result</li> </ul>

# Maximize your Research Output

## PCR Product Cloning & Subcloning

Product No.	Description
MBS-3001	<b>Subcloning Service (up to 1.5kb)</b> <b>Includes:</b> Subcloning of an insert from its original holding plasmid or a gene synthesis product into customer supplied vector, colony PCR screening and DNA sequencing for confirmation. - Minimum setup fee will apply when no positive clone obtained after picking of up to 24 clones with control. surcharge of primer walking will apply for insert >1.5kb.
MBS-3002	<b>PCR Product Cloning Service (up to 1.5kb)</b> <b>Includes:</b> Cloning of unpurified PCR product into pJET1.2/ Blunt vector, colony PCR screening and DNA sequencing for confirmation. - Minimum setup fee will apply when no positive clone obtained after picking of up to 8 clones with control. surcharge of primer walking will apply for insert >1.5kb.
MBS-3003	<b>PCR Product Cloning Service (3kb to 5kb)</b> <b>Includes:</b> Cloning of a purified/ unpurified PCR product into pJET1.2/ Blunt vector, colony PCR screening and DNA sequencing for confirmation. - Minimum setup fee will apply when no positive clone obtained after picking of up to 8 clones with control. surcharge of primer walking will apply for insert >5kb.
MBS-3005	<b>Additional screening</b> for positive clone. Price per screen (24 colony picked).
MBS-3006	<b>PCR Product Cloning Service PLUS (up to 1.5kb)</b> <b>Includes:</b> Cloning of unpurified PCR product into pJET1.2/ Blunt, colony PCR screening and pick 5 positive colony PCR products for sequencing. Sequencing charges separately. - Minimum setup fee will apply when no positive clone obtained after picking of up to 8 clones with control. surcharge of primer walking will apply for insert >1.5kb.

## Fragment Assembly

Product No.	Description
MBS-8004 (N = No. of Fragments)	<b>Fragment Assembly</b> , price per base. Total of fragments = N <b>Includes:</b> ■ Fragment Assembly ■ Cloning ■ Sequencing of insert

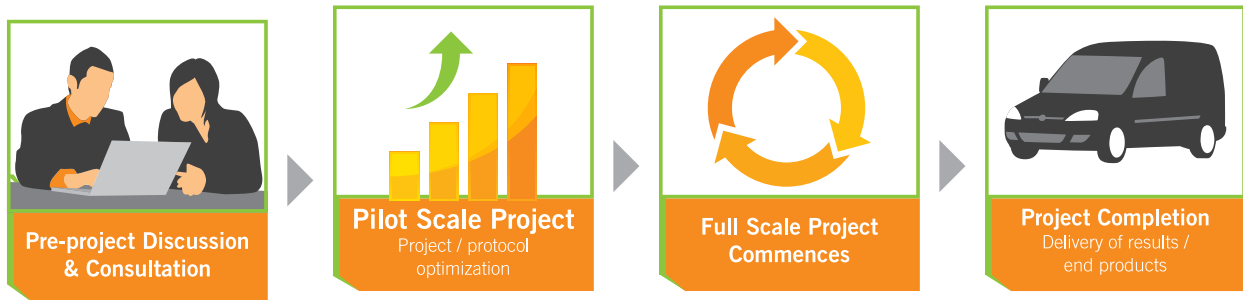
## Site-Directed Mutagenesis

Product No.	Description
MBS-8006	<b>Site-directed Mutagenesis (SDM)</b> , price per mutation (any mutation within 50 bases). <b>Includes:</b> ■ Design and synthesis of PCR primers ■ Mutagenesis of target gene, subclone to customer provided vector ■ Sequencing result

## DNA / RNA Preparation and Analysis Services

Product No.	Description
MBS-4001	<p><b>Custom Bacterial Plasmid Miniprep Service</b></p> <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>Transformation into E.coli cells, Culture of Bacteria and Plasmid purification using commercial kits.</li> <li>Final Product: Minimum DNA yield of 2 to 10ug per experiment</li> </ul>
MBS-4002	<p><b>Custom Bacterial Plasmid Miniprep Service</b></p> <ul style="list-style-type: none"> <li>Transformation into E.coli cells, Culture of Bacteria and Plasmid purification using commercial kits.</li> <li>Final Product: Minimum DNA yield of 50 to 500ug per experiment</li> </ul>
MBS-4003	<p><b>Custom Bacterial Plasmid Maxiprep Service</b></p> <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>Transformation into E.coli cells, Culture of Bacteria and Plasmid purification using commercial kits.</li> <li>Final Product: Minimum DNA yield of 100 to 1000ug per experiment</li> </ul>
MBS-4004	<p><b>Plasmid Preparation Service</b></p> <p><b>Bacterial stab culture</b>, price per tube. Shipped in blue ice condition.</p>
MBS-4005	<p><b>Plasmid Preparation Service</b></p> <p><b>Bacterial glycerol stock</b>, price per tube. Shipped in dry ice condition.</p>
MBS-6001	<p><b>DNA Preparation</b></p> <p>Standard Genomic DNA (gDNA) Extraction up to 100mg of starting material. Price per sample. Genomic DNA (gDNA) Extraction. Minimum setup fee will apply when extraction failed due to bad quality of sample.</p>
MBS-6002	<p><b>DNA Analysis &amp; Preparation</b></p> <p>DNA digestion using Restriction Enzyme (RE) Price per sample.</p>
MBS-6003	<p><b>DNA Analysis &amp; Preparation</b></p> <p>Desphosphorylation of linearized destination vector and purification</p>
MBS-6006	<p><b>DNA Analysis &amp; Preparation</b></p> <p>Blunting and Phosphorylation of Double-stranded DNA (100 – 2500 bp) and PCR clean-up</p>
MBS-6007	<p><b>DNA LabChip Analysis</b></p> <p>DNA, double-stranded, fragmented, size 25 to 7500 bp. Price per chip (up to 11 samples).</p>
MBS-6008	<p><b>DNA LabChip Analysis</b></p> <p>Purification of Genomic DNA (gDNA) to remove impurities that inhibits PCR. Price per purification.</p>
MBS-6100	<p><b>RNA LabChip Analysis</b></p> <p>Total RNA (25 to 500 ng/uL), <b>Eukaryotic, 18S and 28S</b>, size 25 - 6000 bp. Price per chip (up to 12 samples).</p>
MBS-6101	<p><b>RNA LabChip Analysis</b></p> <p>Total RNA (25 to 500 ng/uL), <b>Prokaryotic, 16S and 23S</b>, size 25 - 6000 bp. Price per chip (up to 12 samples).</p>
MBS-6102	<p><b>RNA LabChip Analysis</b></p> <p>Total RNA (25 to 500 ng/uL), <b>Eukaryotic (Plant), 18S and 25S</b>, size 25 - 6000 bp. Price per chip (up to 12 samples).</p>
MBS-6103	<p><b>RNA Preparation</b></p> <p>Standard RNA Extraction up to 100mg of starting material. Price for per sample. RNA Extraction. Minimum setup fee will apply when extraction failed due to bad quality of sample.</p>
MBS-6104	<p><b>RNA Preparation</b></p> <p>Reverse Transcription PCR: First-strand cDNA (cDNA/RNA heteromer) synthesis, using customer provided purified total RNA.</p>
MBS-7100	<p><b>Blood Sample Preparation</b></p> <p>Genomic DNA (gDNA) extraction. Price per sample.</p>
MBS-7200	<p><b>Saliva Sample Preparation</b></p> <p>Genomic DNA (gDNA) extraction. Price per sample.</p>

## Custom Research Services Workflow



## 1st BASE Molecular Biology Services Proviso

1st BASE will not accept any samples that are or suspected to be pathogenic in nature. Customers need to declare if their pathogenic samples are no longer infective and/ or they have inactivated their pathogenic samples prior to project acceptance.

### How to Order?

Visit [www.base-asia.com/molecular-biology-services](http://www.base-asia.com/molecular-biology-services) to find out more about services available as well as sample preparation guidelines.

You may also find our Service Order Forms from [www.base-asia.com/molecular-biology-services/how-to-order](http://www.base-asia.com/molecular-biology-services/how-to-order).

## Sample Submission Format for Bacterial and Fungal Species Barcoding Services

No.	Description	Images	Shipment Condition
1	Cut agar* (5mm square) contains bacteria/ fungus in 1.5mL centrifuge tube. Triplicates. *as little agar as possible		Room Temperature
2	Spin down 1 - 2mL of overnight liquid culture in 1.5mL centrifuge tube. The size of the cell pellet is about 50µL. Triplicates.		Dry Ice
3	Apply <125µL of liquid culture directly on FTA card (Note: the FTA card can be provided at separate charge).		Room Temperature

\*Biosafety Declaration Form is required for every Bacterial/ Fungal Species Barcoding order. You may obtain the form from your sales representative or download the form from the link below:

[www.base-asia.com/downloads/products/MBS/MBS\\_BioSafety\\_Declaration\\_Form\\_V2.docx](http://www.base-asia.com/downloads/products/MBS/MBS_BioSafety_Declaration_Form_V2.docx)

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