

# Molecular Biology Products

(detailed information and prices on request)

Extraction and Isolation of DNA
<p style="text-align: center;"><b>DNA Isolation from Bacteria</b></p> <p>The gBAC Mini Genomic DNA Kit has been optimized for purifying total DNA (including genomic and viral DNA) from gram negative and gram positive bacterial cells.</p>
<p style="text-align: center;"><b>DNA Isolation from Blood</b></p> <p>IBI offers multiple DNA isolation kits from blood, small ones for everyday use and 96-well format for high-throughput applications.</p>
<p style="text-align: center;"><b>DNA Isolation from Buccal Swap</b></p> <p>The IBI gSwab Mini Genomic DNA kit is ideal for isolating genomic, mitochondrial and viral DNA from buccal swabs and saliva samples.</p>
<p style="text-align: center;"><b>DNA Isolation from Cultured Cells</b></p> <p>IBI offers multiple DNA isolation kits from cultured cells, small ones for everyday use and 96-well format for high-throughput applications.</p>
<p style="text-align: center;"><b>DNA Isolation from Plants</b></p> <p>IBI offers two kits for DNA Isolation from plants for a variety of downstream applications.</p>
<p style="text-align: center;"><b>DNA Isolation from Tissue</b></p> <p>IBI offers three kits for DNA Isolation from tissue for a variety of downstream applications.</p>
<p style="text-align: center;"><b>DNA Isolation from Yeast</b></p> <p>The gYEAST Genomic DNA Reagent Kit has been optimized to provide superior yield and purity. The kit offers a simple and gentle reagent DNA precipitation method for isolating high molecular weight genomic, mitochondrial, or viral DNA from <i>Saccharomyces cerevisiae</i> and a variety of other fungus species.</p>
<p style="text-align: center;"><b>PCR Clean-Up and Gel Extraction</b></p> <p>IBI offers multiple PCR clean-up and gel extraction kits for DNA, small ones for everyday use and the 96-well format for high-throughput applications. PCR and gel extraction kits are available for small DNA fragments (50 bp - 200 bp), standard DNA fragments (100 bp - 10 kbp), and large DNA fragments (&gt; 8 kbp).</p>
<p style="text-align: center;"><b>Plasmid DNA Extraction</b></p> <p>IBI offers four sizes of endotoxin-free plasmid extraction kits: 96-Well, mini, midi, and maxi kits. The purified plasmid DNA is suitable for transfection, sequencing reactions, ligation, PCR, <i>in vitro</i> transcription, micro-injection, restriction enzyme digestion, and gene gun.</p>

### **Total DNA, RNA and Protein Isolation**

IBI offers two different kits that simultaneously extract DNA, RNA and protein from the same sample.

### **Viral Nucleic Acid Isolation**

The Viral Nucleic Acid Extraction Kit was designed specifically for purification of viral DNA and RNA from cell-free samples; such as serum, plasma, body fluids, and the supernatant of viral infected cell cultures.

## **Extraction and Isolation of RNA**

### **miRNA Isolation**

The miRNA Isolation Kits are designed for the purification of microRNA (miRNA) and other small cellular RNAs from tissue samples and cultured cells. Purification of miRNA allows research into significant biological pathways for gene regulation.

### **RNA Isolation from Bacteria**

IBI offers two different kits for extracting RNA from gram positive and gram negative bacteria.

### **RNA Isolation from Blood**

IBI offers three different kits for extracting RNA from whole blood including the Total RNA Blood and Cultured Cell Kit, Isolate DNA/RNA Reagent Kit, and Tri-Isolate Total RNA Extraction Kit.

### **RNA Isolation from Cultured Cells**

IBI offers three different kits for extracting RNA from cultured cells including the Total RNA Blood and Cultured Cell Kit, Isolate DNA/RNA Reagent Kit, and Tri-Isolate Total RNA Extraction Kit.

### **RNA Isolation from Plants**

IBI offers two different kits for extracting RNA from plants including the Total RNA Plant Mini Kit and Tri-Isolate Total RNA Extraction Kit.

### **RNA Isolation from Tissue**

IBI offers three different kits for extracting RNA from tissue including the Total RNA Tissue Mini Kit, Isolate DNA/RNA Reagent Kit, and Tri-Isolate Total RNA Extraction Kit.

### **RNA Isolation from Yeast and Fungus**

The rYeast Total RNA Mini Kit was designed for total RNA purification from yeast and a wide variety of other fungus species.

### **Vacuum Manifold for use with IBI 96-well Extraction Kits**



User-friendly manifold made of anodized aluminium for vacuum based DNA or RNA extraction in 96-well plates. Connects to house vacuum systems or pumps, usable with a maximum vacuum up to 71 cm Hg (-13.7 psi). Dimensions (l x w x h) = 17 x 12 x 8 cm.

### **Saliva Collection Kits**



Easy collection and storage of saliva samples, optimized for epigenetic studies. Kits include large funnel with cap, saliva stabilization solution (2 ml) in collection vial (5 ml), label for collection vial and sealable bag for sample storage and transport.

# PCR Reagents

IBI enzymes are 100 % pure and nuclease free. This provides a very robust and specific amplification. The KleenGreen loading dye allows easy monitoring of the electrophoresis progress and provides a low inhibition of the PCR reaction. The dyes also prevent colour smearing on a gel, do not interfere with band visualization, and are great for photos and publications. IBI KleenGreen PCR products can be added directly to an agarose gel.

## IBI Taq DNA Polymerase



IBI Taq DNA Polymerase is a highly purified enzyme that offers a very specific and robust amplification. IBI utilizes a proprietary purification process that results in contaminant- and nuclease- free Taq polymerase. IBI Taq DNA Polymerase is isolated from *Thermus aquaticus* YT1 and expressed in *E.coli*.

## IBI Taq 2X Master Mix



IBI Taq Master Mixes are premixed solutions ready for routine PCR. The master mixes contain IBI Taq DNA polymerase, which is a contaminant- and nuclease-free enzyme that provides robust specific amplification. IBI Taq KleenGreen 2X Master Mix contains reaction buffer, dNTPs, MgCl<sub>2</sub>, KleenGreen loading dye, and a density agent.

## IBI Taq HotStart DNA Polymerase



IBI Taq HotStart DNA Polymerase is a chemically modified hot start enzyme excellent for preventing or minimizing non-specific DNA amplification. The novel modifying reagent creates a faster activation time, an improvement over similar chemically modified hot start enzymes. The alkaline activation condition makes for greater activity and better specific amplification which minimizes primer-dimers. The superior stability of IBI Taq HotStart also means longer shelf life.

## IBI Taq HotStart Master Mix



The master mixes contain IBI Taq HotStart DNA Polymerase, reaction buffer, MgCl<sub>2</sub>, dNTPs, KleenGreen loading dye, and a density agent.

## IBI KleenGreen 2X qPCR Master Mix



IBI KleenGreen qPCR 2X Master Mix is a premixed solution ready for fast and standard qPCR. This master mix contains IBI Taq HotStart DNA Polymerase, KleenGreen dye, reaction buffer, and dNTPs. A ROX reference dye is supplied separately for use with some thermocyclers.

## UltraPure dNTPs



IBI UltraPure dNTP (Deoxynucleotide) Solution is a premixed, equimolar solution of ultrapure dATP, dCTP, dGTP, and dTTP. The high purity of IBI UltraPure dNTP Solution contributes to increased amplification sensitivity and product yield. IBI dNTPs are ideal for standard and sensitive PCR applications.

# Agarose



## **3:1 Super Sieve Agarose**

The 3:1 Super Sieve Agarose is designed for use in the separation of DNA fragments smaller than 1500 bp. This agarose is recommended for all analytical applications, especially when DNA is recovered for use in enzymatic procedures (e.g. restriction, ligation etc.).

## **Basic Agarose**

The high-quality Basic Agarose products are certified for use in standard electrophoresis procedures including nucleic acid, analytical, and preparative electrophoresis.

## **Low Melting Point Agarose**

The Low Melting Point Agarose is designed for preparative DNA and RNA electrophoresis, cloning of tissue culture cells and viral plague assays, and fragment recovery following electrophoresis. The lower gelling point and melting point when compared to Standard Agarose from IBI (see below) allows quick and thorough digestion during extraction procedures and easy in-gel manipulations.

## **PFGE Agarose (Pulse Field Gel Electrophoresis)**

IBI Pulse Field Gel Electrophoresis (PFGE) Agarose is designed for PFGE, standard electrophoresis and blotting, as well as cell and enzyme immobilization. The low sulfate content and strong intercatenary interactions between the linear polymer structure of the agarose provides high gel strength and a high exclusion limit.

## **Standard Agarose**

IBI Standard Agarose products are molecular biology certified for use in standard electrophoresis procedures including nucleic acid, analytical, and preparative electrophoresis and blotting. IBI Standard Agarose is highly refined and purified with strict testing parameters to insure lot-to-lot consistency.

## **Ultra Sieve Agarose**

IBI Ultra Sieve Agarose is designed for molecular screening of small DNA fragments and PCR products up to 1200 bp. IBI Ultra Sieve Agarose has excellent gel strength with clear, sharp, finely resolved bands.

# Dry Culture Growth Media for Microorganisms



## Bacteriological Agar

IBI's Bacteriological Agar is used as a solidification agent in the preparation of microbiological culture media. Granulated agar is a water soluble colloidal extract from certain species of marine red algae; including *Gelidium*, *Pterocladia*, and *Gracilaria*. The majority of microorganisms cannot digest agar, thus making it an excellent solidifying agent.

## Blood Agar Base #2

IBI's Blood Agar Base #2 is recommended for the cultivation of a wide variety of microorganisms. When prepared with 5 - 10 % blood, the media can be used to cultivate fastidious microorganisms and study hemolytic reactions.

## LB Agar Lennox

IBI's LB Agar Lennox is used in molecular genetic studies. It is a nutritionally rich media for the growth and maintenance of pure cultures of recombinant strain of *E. coli*. The inclusion of casein peptone and yeast extract supplies essential growth factors to the *E. coli* bacterial culture; such as nitrogen, carbon, sulfur, minerals, and vitamins. Sodium chloride provides essential electrolytes. Agar is used as a solidification agent.

## LB Lennox Broth

IBI's LB Lennox Broth is used in molecular genetic studies. It is a nutritionally rich media for the growth and maintenance of pure cultures of recombinant strains of *E. coli*. The inclusion of casein peptone and yeast extract supplies essential growth factors to the *E. coli* bacterial culture, such as nitrogen, carbon, sulfur, minerals, and vitamins. Sodium chloride provides essential electrolytes.

## LB Miller Broth

IBI's Luria Broth (LB Miller) is used in molecular genetic studies, as well as maintaining and propagating *E. coli* in molecular and microbiology procedures. The inclusion of casein peptone and yeast extract provides essential growth factors for the bacteria, such as nitrogen, sulfur, minerals, and vitamins. Sodium chloride provides essential electrolytes.

## Miller LB Agar

IBI's Miller LB Agar is used in molecular genetic studies, as well as maintaining and propagating *E. coli* in molecular and microbiology procedures. The inclusion of casein peptone and yeast extract provides essential growth factors for the bacteria, such as nitrogen, sulfur, minerals, and vitamins. Sodium chloride provides essential electrolytes. Agar is used as a solidification agent.

### **Potatoe Dextrose Agar**

IBI's Potatoe Dextrose Agar is used for the isolation, identification, and cultivation of fungi. It is also used in the cultivation and isolation of yeasts and molds from dairy and food products. Lowering the pH to  $3.5 \pm 0.1$  inhibits bacterial growth and aids in the isolation of fungi.

### **Terrific Broth**

IBI's Terrific Broth is used with Glycerol in cultivating recombinant strains of *E. coli*. Terrific Broth is a highly enriched medium for improving yield in plasmid bearing *E. coli*. Recombinant strains have an extended growth phase in the medium. The addition of tryptone and yeast extract in the medium will allow higher plasmid yield per volume. Glycerol is used as a carbohydrate source in this formulation. Unlike glucose, glycerol is not fermented to acetic acid.

### **Todd-Hewitt Broth**

IBI's Todd-Hewitt Broth is intended for the cultivation and serological typing of Group A hemolytic streptococci. Todd-Hewitt Broth is formulated according to Updyke and Nickels modification of the medium originally described by Todd-Hewitt. Todd-Hewitt broth is composed of beef heart infusion, yeast extract, and casein, which are excellent nutritional components. The formation of protease is prevented which allows the production of type specific M protein. Dextrose is a source of carbon and energy and is fermented by the streptococci. The acid by-products of the fermentation are neutralized by the presence of sodium carbonate and sodium phosphate.

### **Trypto Soy Agar**

IBI's Trypto Soy Agar is a general growth medium prepared with or without blood or other enrichments. It is used for the isolation of different strains of fastidious microorganisms.

### **Tryptone**

IBI's Tryptone is a pancreatic digest of casein and used as a nitrogen source in culture media. It is capable of supporting growth of fastidious and non-fastidious microorganisms. Non-detectable concentrations of carbohydrates allows its use in differentiating bacteria on the basis of their ability to ferment various carbohydrates. It can be used for indole production because of its high tryptophane concentration. It is also recommended as a casein peptone in media used for detecting bacteria in dairy products, drinking and/or waste water, and in antibiotic test media.

### **Tryptose Phosphate Broth**

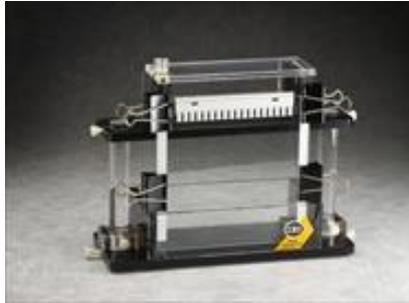
IBI's Tryptose Phosphate Broth is a medium recommended for the cultivation of fastidious microorganisms. Tryptose Phosphate Broth is a buffered broth which can support the growth of fastidious streptococci and meningococci. The addition of 0.1 % agar concentration can aid in the recovery of obligate anaerobes. Tryptose peptone and dextrose are a source of carbon, organic nitrogen, and energy. Sodium chloride contributes to osmotic equilibrium and disodium phosphate is a buffering agent.

### **Yeast Extract**

IBI's Yeast Extract is used in preparing microbiological culture media. Yeast extract is the water soluble portion of autolyzed yeast. The autolysis is carefully controlled to preserve the naturally occurring B-complex vitamins. It is an excellent stimulator of bacterial growth and is used in culture media in place of, or in addition to, beef extract.

## Also available from IBI Scientific

### Electrophoresis Systems



IBI offers a wide range of horizontal and vertical systems to be used with single and multiple agarose or SDS gels.

### Acrylamides



IBI offers a variety of acrylamide products for use in polyacrylamide gel electrophoresis including 30 % and 40 % acrylamide solutions, acrylamide powders, bisacrylamide powder and solution, ammonium persulfate, and TEMED (Tetramethylethylenediamine).

### Dyes and Stains



IBI's dyes and stains include a variety of products for use in nucleic acid electrophoresis, protein electrophoresis, blotting, and other life science research applications. IBI's standard of high quality reagents ensures repeatability every time you use them.

### Bradford Protein Assay Kit



IBI provides the Bradford Protein Assay Kit which is used to measure total protein concentration. The Bradford Protein Assay system is based on a complex formation between basic and aromatic amino acid residues with coomassie blue stain. The protocol can measure 1 to 10  $\mu$ g of protein.

### Protein Molecular Weight Markers

IBI provides two different molecular weight protein markers: IB01200 for proteins of 15 - 150 kDa, and IB01210 for 14 - 212 kDa.

## Also available from IBI Scientific

### Acrylic Laboratory Products



#### Waste Containers

IBI Waste Containers are designed and manufactured to provide years of worry-free service. Made of heavy duty 1/2" (1,27 cm) thick cast acrylic, these containers are rugged and of superior manufacturing quality.



#### Containers for Beta Emitting Samples

IBI Beta-Gard™ boxes are made of heavy duty 1/2" (1,27 cm) thick cast acrylic. They are designed to store and transport Beta emitting samples. Designed to hold most tube racks, small bottles and vials, the IBI storage containers provide a safe and easy way to transport Beta emitting samples safely.



#### Beta Shields

IBI Scientific Beta-Gard™ shields are manufactured using the highest quality materials to ensure safety and years of worry-free service. All IBI radiation shields are constructed of 1/2" (1,27 cm) thick cast acrylic which provides the best protection against Beta radiation.



#### Pipette Holders

IBI offers various stands and racks for pipettes of different sizes to help organize the Life Science Research Laboratory of today and to have tools readily and easily accessible during critical procedures.



#### Racks for Serological Pipettes

Each shelf of the high quality racks is individually manufactured to create the notched front for easy access of shorter pipettes. The IBI racks have an additional acrylic plate at the bottom to add stability and rigidity.