Amplification Technology

Electrophoresis

Enzymes

Hybridization

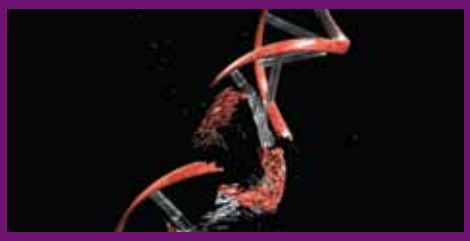
Protein Chemistry

Tissue Culture

# Molecular Diagnostics

Fisher Scientific

Fisher BioReagents®





**Molecular diagnostics is the fastest-growing field of laboratory science, utilizing the principles and techniques of molecular biology to study the underlying molecular defects in inherited and acquired disease.** Molecular diagnostics impacts many medical disciplines including oncology, infectious diseases, clinical immunology, clinical hematology, clinical microbiology, predictive genetic testing, molecular virology, pharmacogenetics, and tissue pathology.

Selecting the best reagents and kits for your protocols will give your molecular diagnostics research a better chance to succeed by eliminating variables that may alter the results of your experiments. **Fisher BioReagents products are ultrapure and functionally tested for molecular biology applications.** This guide is designed to help you select the right products for your specific test procedures.

# New Products

## New!

Fisher BioReagents Absolute Ethanol (200 proof) is an ultrapure molecular biology grade ethanol used for the purification and precipitation of biomolecules such as nucleic acids and proteins. Also, it is used in histology to prepare staining and destaining reagents and for dehydrating tissues prior to embedding.

| Cat. No. | Size |
|---|---|
| **Absolute Ethanol (200 proof), Molecular Biology Grade** | |
| **BP2818-100** | 100mL |
| **BP2818-500** | 500mL |
| **BP2818-4** | 4L |

## New!

Ultrapure Isopropanol, Molecular Biology Grade, can be used in fundamental applications such as purification and precipitation of nucleic acids and proteins, and preservation of biological specimens.

| Cat. No. | Size |
|---|---|
| **Isopropanol, Molecular Biology Grade** | |
| **BP2618-500** | 500mL |
| **BP2618-1** | 1L |
| **BP2618-212** | 2.5L |
| **BP2618-4** | 4L |

## New!

**Addition of 15 Antibiotics and Antimycotics**

| Catalog No. | Product Description | Size |
|---|---|---|
| **BP2950-1** | Bacitracin | 1g |
| **BP2951-1** | Cefotaxime Sodium Salt | 1g |
| **BP2952-1MU** | Hygromycin B | 1mu |
| **BP2949-5** | Nystatin | 5g |
| **BP2953-1** | Paromomycin sulfate | 1g |
| **BP2955-5** | Penicillin G Sodium Salt | 5g |
| **BP2959-50** | Penicillin/Streptomycin Mixture | 50mL |
| **BP2960-50** | Penicillin/Streptomycin/Glutamine Mixture | 50mL |
| **BP2961-50** | Penicillin/Streptomycin/Neomycin Mixture | 50mL |
| **BP2962-100** | Phleomycin | 100mg |
| **BP2954-1** | Polymixin B Sulfate | 1g |
| **BP2956-100** | Puromycin dihydrochloride | 100mg |
| **BP2963-1** | Rapamycin | 1mg |
| **BP2957-1** | Spectinomycin dihydrochloride pentahydrate | 1g |
| **BP2958-1** | Vancomycin hydrochloride | 1g |

See page 15 for the rest of our antibiotics portfolio.

## New!

Water, Molecular Biology Grade is ideal for many fundamental procedures such as PCR, electrophoresis, DNA sequencing, and buffers for enzymatic analyses.

| Cat. No. | Size |
|---|---|
| **Water (0.1 micron filtered), Molecular Biology Grade** | |
| **BP2819-100** | 100mL |
| **BP2819-1** | 1L |
| **BP2819-4** | 4L |
| **BP2819-10** | 10L |
| **BP2819-20** | 20L |

**Isolation of RNA and/or DNA from biological samples is a key preliminary step to subsequent molecular diagnostic testing. Quality, purity, and concentration of the isolated nucleic acids can be optimized with careful selection of sample source and extraction method.** Indeed, most protocols can be classified into one of a few categories that involve either liquid- or solid-phase extraction. In general, solid phase extraction procedures are more commonly used because of their ease of use, ability to process large batches of samples, high reproducibility, and adaptability to automation. For example, isolating clean, intact RNA is essential for the successful analysis of gene expression by Northern hybridization, RNase protection, or RT-PCR. The RNA must be free of DNA and other cellular macromolecules such as polysaccharides and proteins that can interfere with labeling and hybridization. Fisher BioReagents offers a variety of RNA and DNA isolation products specialized for different sample types and for specific downstream applications.

## Conventional Guanidinium Method

Many investigators still use the conventional, single-step technique of Chomczynski and Sacchi (1987) to isolate total RNA from eukaryotic cells. In this method, cells are lysed using guanidinium thiocyanate, and the RNA is extracted from the homogenate with phenol:chloroform at a reduced pH. The total RNA is of high quality, and the yield is about 5µg/mg of starting tissue. Many of the reagent chemicals used in this traditional RNA purification protocol are available through Fisher BioReagents.

**Table 1**
Fisher BioReagents products for conventional RNA purification protocol

| Cat. No. | Description |
|---|---|
| **BP2438** | Phosphate Buffered Saline, 1X Solution |
| **BP221** | Guanidine Thiocyanate |
| **BP327** | Sodium Citrate Dihydrate |
| **BP176** | 2-Mercaptoethanol |
| **BP333** | Sodium Acetate Anhydrous |
| **BP1751I** | Phenol, Saturated, pH 4.3 |
| **BP1145** | Chloroform |
| **BP1150** | Isoamyl Alcohol |

## Spin Column Chromatography

The SurePrep™ family of RNA purification kits utilizes spin column chromatography with a proprietary resin that separates RNA from other cellular macromolecules without the use of phenol or chloroform. SurePrep RNA purification kits are suitable for a wide variety of sample types, including cultured animal cells, tissue samples, blood, urine exfoliated cells, bacteria, yeast, and leukocytes from mammalian blood samples.

*The SurePrep solid-phase extraction protocol includes the three essential steps for the successful isolation of intact RNA:*

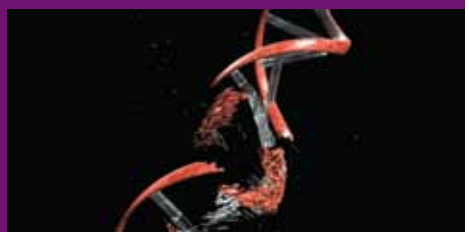
1. Effective disruption of cells or tissue
2. Inactivation of endogenous RNase activity
3. Removal of contaminating DNA and proteins

**Table 2**
SurePrep RNA purification kit selection guide

| Cat. No. | Description | Recommended Applications |
|---|---|---|
| **BP2800-50** | TrueTotal RNA Purification Kit | Total RNA isolation including miRNA and siRNA from a variety of samples. |
| **BP2801-25** | Small RNA Purification Kit | Enrichment of small RNA by removing large RNA species for studying gene expression level and function of miRNA and siRNA. |
| **BP2802-50** | RNA/DNA/Protein Purification Kit | Separation and purification of total RNA, genomic DNA, and protein from single sample in <20 min. using the same column. |
| **BP2803-50** | Urine Exfoliated Cell RNA Purification Kit | Isolation and purification of total RNA from urinary tract exfoliated cells obtained from urine sample. |
| **BP2804-50** | Urine Bacterial RNA Purification Kit | Bacterial total RNA isolation and purification from either human urine samples or from animal urine samples. Isolates RNA from both gram positive and gram negative bacteria. |
| **BP2805-50** | Nuclear or Cytoplasmic RNA Purification Kit | Isolate and purify both cytoplasmic and nuclear RNA from cultured cells or animal tissue. Enrich for cytoplasmic or nuclear RNA depending on the downstream application. |
| **BP2806-50** | RNA/Protein Purification Kit | Isolate and purify total RNA and protein simultaneously from a single sample using the same column in <20 min. |
| **BP2807-50** | Leukocyte RNA Purification Kit | Isolation and purification of white blood cells total RNA from mammalian blood samples. |
| **BP2809-50** | RNA Cleanup and Concentration Kit | Purifies, cleans, and concentrates RNA isolated using other methods such as phenol: chloroform extraction or after enzymatic reactions. |

# Amplification Technology

Polymerase Chain Reaction (PCR)



**The Polymerase Chain Reaction (PCR) is the best known and most widely applied method for amplifying the amount of the nucleic acid target.** Molecular diagnostics requires techniques to detect extremely low concentrations of nucleic acids and to determine sequence variations that are minute changes in complex genomes. PCR is an in vitro method for exponentially amplifying the target DNA. PCR requires (1) a thermostable DNA polymerase, (2) deoxynucleotides of each base (termed dNTPs), (3) the target sequence, and (4) a pair of oligonucleotide primers complementary to opposite strands flanking the target sequence. Due to the commercial availability of thermostable DNA polymerases, kits, and instrumentation, the PCR method has been widely adopted in research and is routinely used in the clinical laboratory.

## exACTGene® PCR Kits

**Superior performance and reliability for routine PCR**

Use the exACTGene complete PCR kit for the full benefits of the exACTGene system.

- Positive controls: a set of positive controls (500 bp and 6kb) are provided for troubleshooting PCR parameters
- Color-coding scheme: a unique color-coding scheme for reagent tubes is designed for ease-of-use
- Dual reaction buffers: extra flexibility is provided by including separate tubes of buffer A (with $Mg^{2+}$), buffer B (without $Mg^{2+}$), and $MgCl_2$ solution

| Description | Cat. No. | Size |
|---|---|---|
| exACTGene Complete PCR Kit (250 U *Taq* DNA Polymerase, 10X Buffer A, 10X Buffer B, $MgCl_2$, dNTPs, three Control Primers, and DNA Template) | **FB6100** | 200 rxns |
| exACTGene PCR Core Reagent Set A | **FB6210** | 80 rxns |
| (*Taq*† DNA Polymerase, 10X Buffer A, and dNTPs) | **FB6225** | 400 rxns |
| exACTGene PCR Core Reagent Set B | **FB6245** | 80 rxns |
| *Taq*† DNA Polymerase, 10X Buffer B, $MgCl_2$, and dNTPs) | **FB6260** | 400 rxns |
| exACTGene Complete PCR Kit components *Taq*† DNA Polymerase (5U/uL) | **FB6111** | 250U |
| 10X Buffer A (plus Mg) | **BP6112** | 1mL |
| 10X Buffer B (minus Mg) | **BP6113** | 1mL |
| $MgCl_2$ (25mM) | **BP6114** | 1mL |
| PCR Nucleotide Mix (10mM each dNTP) | **BP25652K** | 200µL |
| Control Lambda DNA Template (1ng/uL) | **BP6115** | 100µL |
| Control Primer 1 (20µM) | **BP6116** | 100µL |
| Control Primer 2 (20µM) | **BP6117** | 100µL |
| Control Primer 3 (20µM) | **BP6118** | 100µL |

## exACTGene Deoxynucleotide Triphosphates (dNTPs)

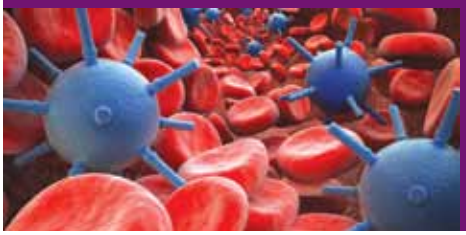
- Ultrapure dNTPs (>99% triphosphate)
- Ideal for use in PCR, DNA labeling, and DNA sequencing

| Description | Cat. No. | Concentration | Size |
|---|---|---|---|
| **exACTGene dNTPs (Ultrapure grade, >99% triphosphate)** | | | |
| exACTGene dATP | **BP2590-250** | 100mM | 250µL |
| exACTGene dCTP | **BP2592-250** | 100mM | 250µL |
| exACTGene dGTP | **BP2591-250** | 100mM | 250µL |
| exACTGene dTTP | **BP2593-250** | 100mM | 250µL |
| exACTGene PCR dNTP Mix | **BP2595-200** | 10mM soln. of dATP | 200µL |
| | **BP2595-1** | dCTP, dGTP, and dTTP | 1000µL |
| exACTGene dNTP Set | **BP2594-250** | 100mM of each dNTP | 250µL ea. |
| | **BP2594-500** | | 500µL ea. |

## *Taq* DNA Polymerase

Fisher Scientific's licensed *Taq* DNA Polymerase—the best choice for performing routine PCR on your cDNA and genomic DNA templates

| Description | Cat. No. | Size |
|---|---|---|
| *Taq* DNA Polymerase and 10X Buffer A with $MgCl_2$ (100mM Tris-HCl, pH 9.0 [at 25°C]; 500mM KCl; 15mM $MgCl_2$) | **FB6000-10** | 100U |
| | **FB6000-15** | 5 x 100U |
| | **FB6000-20** | 25 x 100U |
| | **FB6000-25** | 500U |
| | **FB6000-30** | 5 x 500U |
| | **FB6000-35** | 2500U |
| | **FB6000-40** | 5 X 2500U |
| *Taq* DNA Polymerase and 10X Buffer B without $MgCl_2$ (100mM Tris-HCl, pH 9.0 [at 25°C]; 500mM KCl and 25mM $MgCl_2$ solution in a separate vial) | **FB6000-45** | 100U |
| | **FB6000-50** | 5 x 100U |
| | **FB6000-55** | 25 x 100U |
| | **FB6000-60** | 500U |
| | **FB6000-65** | 5 x 500U |
| | **FB6000-70** | 2500U |
| | **FB6000-75** | 5 x 2500U |



**Electrophoresis is the most commonly used technique for DNA and RNA analysis, and the results of electrophoretic separations provide the basis of interpretation of many clinical assays.**

Both DNA and RNA are negatively charged and will migrate toward the anode (positive electrode) when an electric field is applied across an appropriately buffered solution. Separation of different nucleic acids occurs when mixtures are allowed to travel through a neutral sieving polymer matrix (agarose or polyacrylamide) under an electrical field. Separation is based primarily on molecular weight, with smaller molecules traveling faster through the polymer matrix than larger ones. Separation also occurs based on physical conformation, or shape, of the molecule, but this can also complicate size-based separation. For example, because RNA generally has a high degree of secondary structure, electrophoresis of RNA is usually performed under denaturing conditions to eliminate these structures. In contrast, electrophoresis of DNA is performed under nondenaturing or denaturing conditions depending on the application.

Fisher BioReagents® offers three different grades of agarose that are functionally tested and pre-qualified for specific applications. Agarose grades used in electrophoresis of nucleic acids:

**Genetic Analysis Grade**—agarose that yields biologically active DNA or RNA. Testing includes enzymatic performance measurements.

**Molecular Biology Grade**—suitable for analytical separation of DNA or RNA.

**PCR Grade**—the original agarose for analytical separation of PCR amplicons (<1kb).

| Cat. No. | Agarose | Agarose Separation Ranges |
|---|---|---|
| **BP160** | Low EEO/Multipurpose | 500bp to 23kb |
| **BP165** | Low Melting/Nucleic Acid Recovery | 200bp to 25kb |
| **BP1356** | Broad Separation Range for DNA/RNA | 500bp to 25kb |
| **BP1360** | Low Melting <1kb DNA/RNA | 50bp to 1kb |
| **BP2410** | Intermediate Melting | 15bp to 1.2kb |

**Agarose Selection Guide**

| Type of Agarose | Low EEO | Low Melting >200 bp | Low Melting <1000 bp | Wide Separation Range | PCR Grade |
|---|---|---|---|---|---|
| **Cat. No.** | **BP160** | **BP165** | **BP1360** | **BP1356** | **BP2410** |
| Recovery of DNA and RNA | x | x | x | x | x |
| Southern and Northern Blots | x | | | | |
| DNA/RNA separation 50bp to 1kb | | | x | | x |
| DNA/RNA separation >1kb | x | x | | x | |
| PCR fragment analysis | x | x | x | x | x |
| In-gel reactions (ligation, transformations, PCR) | | | x | | |
| Colony lifts | x | | | | |
| Available pack sizes | 100g and 500g | 25g | 100g | 100g and 500g | 100g |
| Agarose grade | Molecular biology | Molecular biology | Genetic analysis | Genetic analysis | PCR |

# Electrophoresis

## Nucleic Acid

**Fisher BioReagents buffers meet the needs of every budget and scale.**

- Economical powders come in various package sizes
- Concentrated stock solutions provide convenience in one step of easy dilution
- Ready-to-use solutions offer the biggest time savings of all

### Buffers

Two buffers commonly used for DNA agarose electrophoresis are Tris-acetate with EDTA (TAE; 40mM Tris-acetate, 1mM EDTA) and Tris-borate with EDTA (TBE, 89mM Tris-borate, 2mM EDTA). Because the pH of these buffers is neutral, the phosphate backbone of DNA has a net negative charge and migrates toward the anode. TAE and TBE have different properties which makes one more suitable than the other for a specific purpose.

The denaturing system chosen depends on the purpose of the RNA experiment and the size of the RNA fragment being separated. Formaldehyde denaturation is suitable if RNA samples are to be recovered. Formamide denaturation is suitable if the RNA needs to retain its biological activity.

| Buffer | Suggested Uses | Properties |
|---|---|---|
| TAE | DNA recovery. | Low buffering capacity. |
| | Electrophoresis of large DNA (>12kb). | Recirculation may be necessary for extended run times (>6 hr). |
| TBE | Electrophoresis of small DNA (<1kb). | Decreased DNA mobility. |
| | Increased resolution of small DNA (<1kb). | High buffering capacity – no recirculation required for extended run times. |
| MOPS | Electrophoresis of formaldehyde denatured RNA. | Buffer is low in ionic strength. Recirculation of buffer may be necessary. |

### Buffers for Nucleic Acid Applications

| Cat. No. | Concentration | Size |
|---|---|---|
| **TBE** | | |
| **BP2430-1** | 1X | 1L |
| **BP2430-4** | 1X | 4L |
| **BP2430-20** | 1X | 20L |
| **BP1396-86** | 5X | 1L* |
| **BP1333-1** | 10X | 1L |
| **BP1333-4** | 10X | 4L |
| **BP1333-20** | 10X | 20L |
| **BP1334-1** | 10X | 1L** |
| **TAE** | | |
| **BP2434-4** | 1X | 4L |
| **BP2434-20** | 1X | 20L |
| **BP1335-500** | 10X | 500mL |
| **BP1335-1** | 10X | 1L |
| **BP1335-4** | 10X | 4L |
| **BP1335-20** | 10X | 20L |
| **BP1330-1** | 25X | 1L |
| **BP1332-500** | 50X | 500mL |
| **BP1332-1** | 50X | 1L |
| **BP1332-4** | 50X | 4L |
| **BP1332-20** | 50X | 20L |
| **BP1331-1** | 25X | 1L** |
| **MOPS** | | |
| **BP308-100** | Powder | 100g |
| **BP308-500** | Powder | 500g |
| **BP2900-500** | 10x Buffer Solution | 500mL |
| **BP2900-1** | 10x Buffer Solution | 1L |
| **Water** | | |
| **BP2484-50** | Nuclease-Free | 50mL |
| **BP2484-100** | Nuclease-Free | 100mL |
| **BP2470-1** | DNA-Grade | 1L |
| **BP561-1** | RNA-Grade | 1L |
| **Formaldehyde** | | |
| **BP531-25** | 37% by weight | 25mL |
| **BP531-500** | 37% by weight | 500mL |

**Pre-weighed powder in poly bottle. Dissolve in water.*

*** Pre-weighed powder in foil pack. Dissolve in water.*

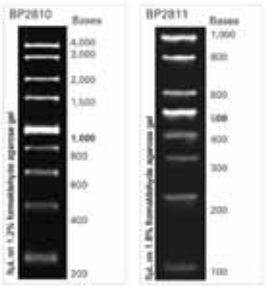
## Molecular Weight Standards

To achieve the most accurate qualitative and quantitative analysis via agarose gel electrophoresis, the appropriate DNA or RNA standard is required.

Fisher BioReagents provides a wide range of standards, including routine DNA ladders for quick size and quality assessment as well as exACTGene DNA ladders that allow for quantitative analysis.

### RiboLadders™ RNA Standards

| Cat. No. | Application | Size Range | Number of Bands | Number of Loadings |
|---|---|---|---|---|
| | Sizing unknown RNA fragments | | | |
| **BP2810-50** | Small RNA fragments | 0.1 – 1kb | 8 | 50 |
| **BP2811-50** | Large RNA fragments | 0.2 – 4kb | 9 | 50 |

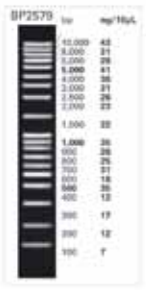


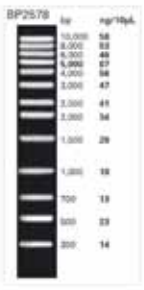
### exACTGene® and Routine DNA Ladders

exACTGene DNA ladders are ideal for qualitative analysis, quantitative estimation of DNA mass, and size assessment. Ready to use and stable at room temperature.

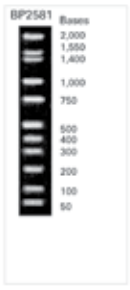
| Cat. No. | Application | Size Range | Number of Bands | Number of Loadings |
|---|---|---|---|---|
| **BP2570-100** | PCR fragment analysis | 25-650 bp | 14 | 100/10uL |
| **BP2571-100** | PCR fragment analysis, small DNA digests | 25-1000 bp | 12 | 100/10uL |
| **BP2572-100** | Quick check of PCR or enzyme digestion results | 50-2000 bp | 8 | 100/10uL |
| **BP2573-100** | General purpose, small DNA fragments | 100-1000 bp | 10 | 100/10uL |
| **BP2574-100** | Fast run times, small DNA fragments | 100-2000 bp | 11 | 100/10uL |
| **BP2575-100** | Clone identification | 100-2686 bp | 14 | 100/10uL |
| **BP2576-100** | Large size PCR or cloning | 300-5000 bp | 10 | 100/10uL |
| **BP2577-100** | Small and large cloning application | 100-5000 bp | 16 | 100/10uL |
| **BP2578-100** | General purpose, large digested DNA | 300-10,000 bp | 13 | 100/10uL |
| **BP2579-100** | General purpose, wide size range | 100-10,000 bp | 19 | 100/10uL |
| **BP2580-100** | General purpose, extra-large fragments | 300-24,000 bp | 15 | 100/10uL |
| | Routine DNA ladders are designed for qualitative analysis and size assessment | | | |
| **BP2581-200** | Small fragments, quick size assessment | 50-2000 bp | 11 | 200/5uL |
| **BP2582-200** | Quick size assessment of broad size range | 50-10,000 bp | 16 | 200/5uL |

**exACTGene® DNA Ladders**



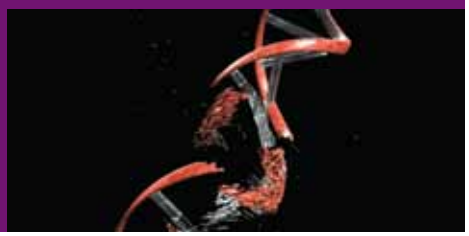


**Routine DNA Ladders**



# Enzymes

## Restriction Enzymes



**Nucleic acid enzymes are critical tools for the techniques used in molecular diagnostics.**

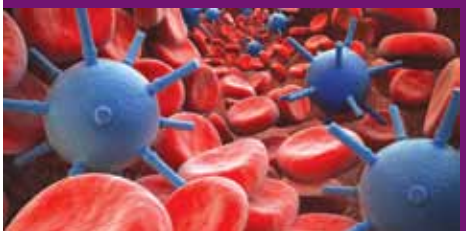
Common enzymes that act on nucleic acids include polymerases that synthesize longer polymers of DNA or RNA and nucleases that degrade DNA or RNA into shorter fragments. Our ability to manipulate nucleic acids in vitro with these enzymes has made modern molecular biology possible.

### Restriction Enzymes

**Quality assurance—tested for activity and functional purity**

Activity unit definition: One unit of restriction enzyme is defined as the amount of enzyme required to produce a complete digest of one microgram of substrate DNA in 60 minutes at the appropriate assay temperature in a 50µL reaction volume.

| Description | Source | Concentration | Quantity | Cat. No. |
|---|---|---|---|---|
| *Aat* II | *Acetobacter aceti* | 3–5 units/µL | 50 units | **BP3300-1** |
| *Acc* I | *Acinetobactor calcoaceticus* | 3–10 units/µL | 100 units | **BP3302-1** |
| *Acc* III | *Acinetobactor calcoaceticus* | 10 units/µL | 200 units | **BP3304-1** |
| *Acc*65 I | *Acinetobactor calcoaceticus* | 10 units/µL | 1500 units | **BP3306-1** |
| *Alu* I | *Arthrobacter luteus* | 10 units/µL | 500 units | **BP3308-1** |
| *Alw*44 I | *Acinetobacter lwoffi* RFL 44 | 10 units/µL | 1000 units | **BP3310-1** |
| *Apa* I | *Acetobacter pasteurianus* | 8–12 units/µL | 5000 units | **BP3312-1** |
| *Ava* I | *Anabaena variabilis* | 8–12 units/µL | 200 units | **BP3314-1** |
| *Ava* II | *Anabaena variabilis* | 1–10 units/µL | 100 units | **BP3316-1** |
| *Bal* I | *Brevibacterium albidum* | 2–10 units/µL | 50 units | **BP3318-1** |
| *Bam*H I | *Bacillus amyloliquefaciens* H | 10 units/µL | 2500 units | **BP3320-1** |
| | | 10 units/µL | 12,500 units | **BP3320-5** |
| *Ban* II | *Bacillus aneurinolyticus* | 8–12 units/µL | 1000 units | **BP3322-1** |
| *Bcl* I | *Bacillus caldolyticus* | 40–80 units/µL | 5000 units (HC) | **BP3324-5** |
| *Bgl* I | *Bacillus globigii* | 10 units/µL | 1000 units | **BP3325-1** |
| *Bgl* II | *Bacillus globigii* | 10 units/µL | 500 units | **BP3326-1** |
| *Bsp*1286 I | *Bacillus sphaericas* (IAM 1286) | 10 units/µL | 500 units | **BP3328-1** |
| *Bsr*BR I | *Bacillus stearothermophilus* | 10 units/µL | 2000 units | **BP3330-1** |
| *Bss*H II | *Bacillus stearothermophilus* H3 | 10 units/µL | 100 units | **BP3332-1** |
| *Bst*98 I | *Bacillus stearothermophilus* | 8–12 units/µL | 500 units | **BP3334-1** |
| *Bst*E II | *Bacillus stearothermophilus* | 10 units/µL | 2000 units | **BP3336-1** |
| *Bst*O I | *Bacillus stearothermophilus* | 10 units/µL | 2000 units | **BP3338-1** |
| *Bst*X I | *Bacillus stearothermophilus* XI | 8–12 units/µL | 250 units | **BP3340-1** |
| *Cfo* I | *Clostridium formicoaceticum* | 10 units/µL | 3000 units | **BP3342-1** |
| *Cla* I | *Caryophanon latum L* | 10 units/µL | 500 units | **BP3344-1** |
| *Csp* I | *Clostridium species* | 10 units/µL | 500 units | **BP3346-5** |
| *Csp*45 I | *Clostridium sporogenes* | 10 units/µL | 2500 units | **BP3348-1** |
| *Dde* I | *Desulfovibrio desulfuricans* | 8–12 units/µL | 200 units | **BP3350-1** |
| *Dpn* I | Recombinant *E. coli* strain | 10 units/µL | 200 units | **BP3352-1** |
| *Dra* I | *Deinococcus radiophilus* | 10 units/µL | 2000 units | **BP3354-1** |
| *Eco*R V | *Escherichia coli* J62 pLG74 | 10 units/µL | 2000 units | **BP3356-1** |
| *Eco*47 III | *Escherichia coli* RFL 47 | 2–5 units/µL | 50 units | **BP3358-1** |
| *Eco*52 I | *Escherichia coli* RFL 52 | 1–5 units/µL | 50 units | **BP3360-1** |
| *Eco*R I | *Escherichia coli* RY 13 | 8–12 units/µL | 5000 units | **BP3362-1** |
| | | 40–80 units/µL | 50,000 units (HC) | **BP3362-7** |
| *Fok* I | *Flavobacterium okeanokoites* | 2–10 units/µL | 100 units | **BP3364-1** |
| *Hae* II | Recombinant *E. coli* strain | 10 units/µL | 1000 units | **BP3366-1** |
| *Hae* III | *Haemophilus aegyptius* | 10 units/µL | 2500 units | **BP3368-1** |
| *Hin*c II | *Haemophilus influenzae* Rc | 10 units/µL | 200 units | **BP3370-1** |



## Restriction Enzymes

**Quality assurance—tested for activity and functional purity**

Activity unit definition: One unit of restriction enzyme is defined as the amount of enzyme required to produce a complete digest of one microgram of substrate DNA in 60 minutes at the appropriate assay temperature in a 50µL reaction volume.

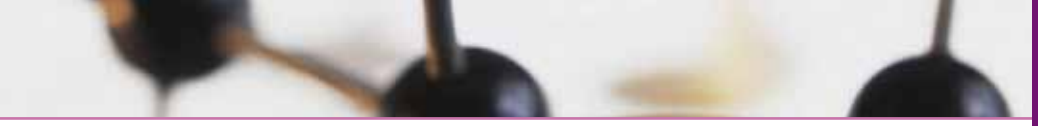
| Description | Source | Concentration | Quantity | Cat. No. |
|---|---|---|---|---|
| *Hind* III | *Haemophilus influenzae* Rd | 10 units/µL | 5000 units | **BP3372-1** |
| | | 10 units/µL | 15,000 units | **BP3372-5** |
| *Hinf* I | *Haemophilus influenzae* Rf | 10 units/µL | 1000 units | **BP3374-1** |
| *Hpa* I | *Haemophilus parainfluenzae* | 3–10 units/µL | 100 units | **BP3376-1** |
| *Hpa* II | *Haemophilus parainfluenzae* | 10 units/µL | 1000 units | **BP3378-1** |
| *Mlu* I | *Micrococcus luteus* | 10 units/µL | 1000 units | **BP3382-1** |
| *Msp* I | *Moraxella species* | 10 units/µL | 2000 units | **BP3384-1** |
| *Nae* I | *Nocardia aerocolonigenes* | 4 units/µL | 250 units | **BP3386-1** |
| *Nar* I | *Nocardia argentinensis* | 10 units/µL | 200 units | **BP3388-1** |
| *Nco* I | *Nocardia corallina* | 10 units/µL | 200 units | **BP3390-1** |
| *Nde* I | *Neisseria denitrificans* | 10 units/µL | 500 units | **BP3392-1** |
| *Nde* II | *Neisseria denitrificans* | 10 units/µL | 200 units | **BP3394-1** |
| *Nhe* I | *Neisseria mucosa heidelbergensis* | 10 units/µL | 250 units | **BP3396-1** |
| *Not* I | *Nocardia otitidis-caviarum* | 10 units/µL | 200 units | **BP3398-1** |
| *Nru* I | *Nocardia rubra* ATCC 15906 | 10 units/µL | 200 units | **BP3400-1** |
| *Nsi* I | *Neisseria sicca* | 10 units/µL | 250 units | **BP3402-1** |
| *Pst* I | Recombinant *E. coli* strain | 10 units/µL | 3000 units | **BP3404-1** |
| *Pvu* I | *Proteus vulgaris* | 2–10 units/µL | 100 units | **BP3406-1** |
| *Pvu* II | *Proteus vulgaris* | 8–12 units/µL | 1000 units | **BP3408-1** |
| *Rsa* I | *Rhodopseudomonas sphaeroides* | 10 units/µL | 1000 units | **BP3410-1** |
| | | 40–80 units/µL | 5000 units (HC) | **BP3410-5** |
| *Sac* I | *Streptomyces achromogenes* | 10 units/µL | 1000 units | **BP3412-1** |
| *Sac* II | *Streptomyces achromogenes* | 10 units/µL | 500 units | **BP3414-1** |
| *Sal* I | *Streptomyces albus* G | 10 units/µL | 2000 units | **BP3416-1** |
| *Sau*3A I | *Staphylococcus aureus* 3A | 3–10 units/µL | 100 units | **BP3418-1** |
| *Sca* I | *Streptomyces caespitosus* | 8–12 units/µL | 1000 units | **BP3422-1** |
| *Sfi* I | *Streptomyces fimbriatus* | 10 units/µL | 250 units | **BP3424-1** |
| *Sma* I | *Serratia marcescens* | 8–12 units/µL | 1000 units | **BP3426-1** |
| *Sna*B I | *Sphaerotilus natans* ATCC 139280 | 2–10 units/µL | 100 units | **BP3428-1** |
| *Spe* I | *Sphaerotilus natans* ATCC 13923 | 10 units/µL | 200 units | **BP3430-1** |
| *Sph* I | *Streptomyces phaeochromogenes* | 10 units/µL | 200 units | **BP3432-1** |
| *Ssp* I | *Sphaerotilus natans* | 10 units/µL | 500 units | **BP3434-1** |
| *Stu* I | *Streptomyces tubercidicus* | 10 units/µL | 400 units | **BP3436-1** |
| *Sty* I | Recombinant *E. coli* strain | 10 units/µL | 2000 units | **BP3438-1** |
| *Taq* I | *Thermus aquaticus* YT1 | 10 units/µL | 1000 units | **BP3440-1** |
| *Tru*9 I | *Thermus ruber* 9 | 8–12 units/µL | 200 units | **BP3442-1** |
| *Tth*111 I | *Thermus thermophilus* 111 | 8–12 units/µL | 500 units | **BP3444-1** |
| *Vsp* I | *Vibrio species* | 8–12 units/µL | 500 units | **BP3446-1** |
| *Xba* I | *Xanthomonas badrii* | 8–12 units/µL | 2000 units | **BP3448-1** |
| | | 40–80 units/µL | 10,000 units (HC) | **BP3448-7** |
| *Xho* I | *Xanthomonas holcicola* | 10 units/µL | 3000 units | **BP3450-1** |
| *Xho* II | *Xanthomonas holcicola* | 5–10 units/µL | 100 units | **BP3452-1** |
| *Xmn* I | *Xanthomonas manihotis* 7AS1 | 10 units/µL | 500 units | **BP3454-1** |

## Modifying Enzymes and Proteins

Quality tested for activity and function

- Binding Proteins
- Kinases
- Ligases
- Nucleases
- Phosphatases
- Polymerases
- Reverse Transcriptases
- RNase Inhibitor
- Topoisomerases
- Transferases

| Description | Source | Concentration | Quantity | Cat. No. |
|---|---|---|---|---|
| Alkaline Phosphatase Calf Intestinal (CIAP) | Calf Intestinal mucosa | 1 unit/µL | 1000 units | **BP3217-1** |
| AMV Reverse Transcriptase | Purified Avian Myeloblastosis Virus particles | 5-10 units/µL | 300 units | **BP3207-1** |
| | | | 1000 units | **BP3207-5** |
| DNA Polymerase I | Recombinant *E. coli* strain | 5-10 units/µL | 500 units | **BP3200-1** |
| DNA Polymerase I Large (Klenow) Fragment | Recombinant *E. coli* strain | 5-10 units/µL | 150 units | **BP3201-1** |
| | | | 500 units | **BP3201-5** |
| DNase I (RNase Free), Optizyme® | Recombinant yeast strain | 2 units/µL | 1000 units | **BP3226-1** |
| | | | 2000 units | **BP3226-2** |
| Exonuclease III | Recombinant *E. coli* strain | 150-200 units/µL | 5000 units | **BP3213-1** |
| M-MLV Reverse Transcriptase | Recombinant *E. coli* strain | 200 units/uL | 10,000 units | **BP3208-1** |
| | | | 50,000 units | **BP3208-5** |
| Mung Bean Nuclease | Mung bean sprouts | 50-100 units/µL | 2000 units | **BP3214-1** |
| Ribonuclease A | Bovine pancreas | | 100mg | **BP2539-100** |
| | | | 250mg | **BP2539-250** |
| | | | 1g | **BP2539-1** |
| Ribonuclease H | Recombinant *E. coli* strain | 0.5-2 units/µL | 50 units | **BP3215-1** |
| Ribonuclease Inhibitor, Human Placental, Optizyme® | Human placenta | 20-40 units/uL | 2500 units | **BP3224-1** |
| Ribonuclease Inhibitor, Porcine, Optizyme® | Porcine | 20-40 units/uL | 2500 units | **BP3225-1** |
| Ribonuclease Inhibitor, Recombinant, Optizyme® | Recombinant *E. coli* strain | 20-40 units/µL | 2500 units (HC) | **BP3222-1** |
| | | | 10,000 units | **BP3222-5** |
| RQ1 RNase-Free DNase | Bovine pancreas | 1 unit/µL | 1000 units | **BP3223-1** |
| S1 Nuclease | Fungal alpha amylase powder | 20-100 units/µL | 10,000 units | **BP3216-1** |
| SP6 RNA Polymerase | Recombinant *E. coli* strain | 10-20 units/µL | 1000 units | **BP3204-1** |
| Single-Stranded DNA Binding Protein | *E. coli* | — | 100µg | **BP3218-1** |
| T3 RNA Polymerase | Recombinant E. coli strain | 10-20 units/µL | 1000 units | **BP3206-1** |
| | | 80 units/µL | 2500 units (HC) | **BP3206-5** |
| T4 DNA Ligase | Recombinant *E. coli* strain | 1-3 units/µL | 100 units | **BP3210-1** |
| | | | 500 units | **BP3210-5** |
| T4 DNA Polymerase | Recombinant *E. coli* strain | 5-10 units/µL | 100 units | **BP3202-1** |
| | | | 500 units | **BP3202-5** |
| T4 Polynucleotide Kinase | Recombinant *E. coli* strain | 5-10 units/µL | 100 units | **BP3212-1** |
| | | | 1000 units | **BP3212-5** |
| T7 RNA Polymerase | — | 10-20 units/µL | 1000 units | **BP3205-1** |
| | | | 5000 units | **BP3205-5** |
| | | 80 units/µL | 10,000 units (HC) | **BP3205-7** |
| Terminal Deoxynucleotidyl Transferase | Calf thymus | 15-30 units/µL | 300 units | **BP3203-1** |
| | | | 1500 units | **BP3203-5** |
| Topoisomerase I | Wheat germ | 2-10 units/µL | 200 units | **BP3221-1** |



# Hybridization

## Nucleic Acid Blotting

**Nucleic acid blotting techniques can be used to characterize tissues and cultured cells with respect to gene integrity and copy number (Southern blot) and gene expression (Northern blot), often providing valuable information for the clinical evaluation of patient samples.**

Many of the techniques involved with Southern blotting and Northern blotting are similar. For example, negatively charged purified nucleic acids are separated according to size by electrophoresis through an agarose gel matrix. The RNA or denatured DNA is then transferred and immobilized onto a nitrocellulose or nylon membrane. The nucleic acids on the membrane are then hybridized to a specific labeled "probe". Hybridization between the immobilized nucleic acids and labeled probe allows detection of specific DNA or RNA sequences within a complex mixture of nucleic acids.

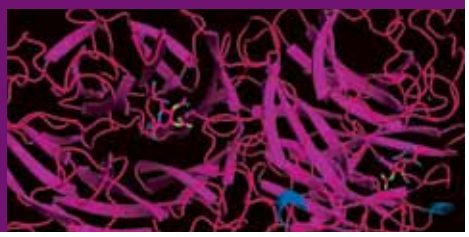
Obtaining optimal results for traditional nucleic acid analysis tools such as Northern and Southern blotting techniques requires careful selection of reagents. When your experiments require exact buffering conditions, you can depend on the reliability of Fisher BioReagents buffers. All Fisher BioReagents buffers are manufactured from high quality raw materials under ISO 9001:2000 certified manufacturing and testing processes.

**Buffers for Nucleic Acid Hybridization**

| Part No. | Product Description | Pack Size | Application |
|---|---|---|---|
| **BP520-5** | Denhardt's Reagent, 50X Powder | 150mg | Used as a blocking agent in DNA hybridizations |
| **BP515-5** | Denhardt's Reagent, 50X Solution | 5mL | Used as a blocking agent in DNA hybridizations |
| **BP2514-250** | Deoxyribonucleic Acid Sodium Salt (ssDNA, from salmon sperm) | 250mg | Used in several biochemical research applications |
| **BP2514-1** | | 1g | |
| **BP2514-5** | | 5g | |
| **BP2514-10** | | 10g | |
| **BP1580-100** | Dextran | 100g | May be used with polyethylene glycol under certain conditions in the fractionation of proteins, cells, viral particles, and other macromolecules |
| **BP1585-100** | Dextran Sulfate Sodium Salt | 100g | Accelerates the rate of hydridization of DNA or RNA bound to membranes and may be used in Southern and Northern blotting procedures |
| **BP1585-500** | | 500g | |
| **BP1575-50** | Hybridization Cocktail (50% Formamide) | 50mL | Formulated for use in Southern and Northern transfers, dot blots, and in situ DNA and RNA hybridizations |
| **BP1325-1** | Saline-Sodium Citrate (SSC), 20X Solution | 1L | Used as a buffer in Southern transfer protocols |
| **BP1325-4** | | 4L | |
| **BP1325-20** | | 20L | |
| **BP1328-1** | Saline-Sodium Phosphate-EDTA (SSPE), 20X Solution | 1L | Used in bacterial screening and hybridization procedures |
| **BP1328-4** | | 4L | |
| **BP1328-20** | | 20L | |

# Protein Chemistry

## Protein Electrophoresis



Protein electrophoresis is a method of analyzing a mixture of proteins, primarily from samples of blood serum, body fluids, and tissue samples, by means of gel electrophoresis. The evaluation and identification of proteins through electrophoresis helps researchers understand protein structure and functionality in pathogenic conditions, as well as identifying therapies for diseases.

### Protein Electrophoresis Reagents from Fisher BioReagents

### EZ Run Products

- EZ Run Gel Solution
- EZ Run Protein Standards

### Additional Reagents

- Acrylamide, Bis-Acrylamide, and Catalysts
- Detergents/Denaturing Agents
- Loading and running buffers

### EZ-Run Protein Gel Solution

- Ready to use
- Superior resolution
- Wide separation range on same mini-gel
- No stacking gel required
- Proprietary gel chemistry
- Stable for two years at room temperature
- Compatible with all conventional staining methods
- Suitable for post-electrophoresis applications such as Western blot transfer and MALDI analysis

**EZ Run Protein Gel Solution Separation Range**

| EZ Run Gel % | MW Separation Range (kDa) |
|---|---|
| 10 | 10-220 |
| 12.5 | 3-200 |
| 15 | 2-100 |

**EZ Run Protein Gel Solution List**

| Description | Size | Catalog No. |
|---|---|---|
| 10% EZ-Run Protein Gel Solution with buffer | 100mL | **BP7710-100** |
| 10% EZ-Run Protein Gel Solution with buffer | 500mL | **BP7710-500** |
| 12.5% EZ-Run Protein Gel Solution with buffer | 100mL | **BP7712-100** |
| 12.5% EZ-Run Protein Gel Solution with buffer | 500mL | **BP7712-500** |
| 15% EZ-Run Protein Gel Solution with buffer | 100mL | **BP7715-100** |
| 15% EZ-Run Protein Gel Solution with buffer | 500mL | **BP7715-500** |
| 20X Running Buffer for EZ-Run Protein Gel Solution | 500mL | **BP7700-500** |

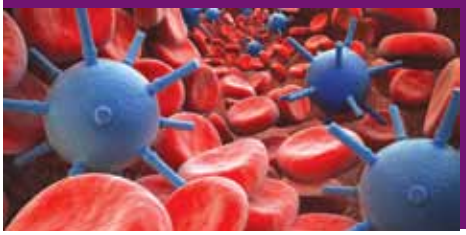
### EZ-Run Protein Standards

*Designed to assist in characterizing unknown proteins in polyacrylamide gels and immunoblots*

- Highly purified markers and ladders provide compact and clear bands
- Prestained standards are indispensable in monitoring protein separation and transfer efficiency
- Reference bands allow quick gel progress assessment
- Unstained standards are most suitable for precise sizing of proteins
- All standards are supplied in loading buffer and are ready to use

**EZ Run Protein Standards List**

| Description | MW Range | No. of Bands | Reference Band | Source | Quantity | Catalog No. |
|---|---|---|---|---|---|---|
| Unstained Protein Standards | 14.4-116.0 kDa | 7 | | Native proteins | 500uL | **BP3600-500** |
| | | | | | 2 x 500uL | **BP3600-1** |
| | 10.0-200.0 kDa | 14 | 50 kDa | Recombinant proteins | 500uL | **BP3602-500** |
| | | | | | 2 x 500uL | **BP3602-1** |
| Prestained Protein Standards | 20.0 - 118.0 kDa | 6 | | Native proteins | 500uL | **BP3601-500** |
| | | | | | 2 x 500uL | **BP3601-1** |
| | 11.0 - 170.0 kDa | 10 | 72 kDa | Recombinant proteins | 500uL | **BP3603-500** |
| | | | | | 2 x 500uL | **BP3603-1** |



## Additional Protein Electrophoresis Reagents from Fisher BioReagents

### Acrylamide, Bis-Acrylamide, and Catalysts

| Description | Quantity | Catalog No. |
|---|---|---|
| Acrylamide | 100g | **BP170-100** |
| | 500g | **BP170-500** |
| | 5kg | **BP170-5** |
| Acrylamide Solution, 40% | 1L | **BP1402-1** |
| Bis-Acrylamide | 25g | **BP171-25** |
| | 100g | **BP171-100** |
| Bis-Acrylamide solution, 2% | 250mL | **BP1404-250** |
| Acrylamide:Bis Acrylamide, Dry Powder Mix, 19:1 (5% Cross-linker) | 100g | **BP1364-100** |
| Acrylamide:Bis Acrylamide, Dry Powder Mix, 29:1 (3.3% Cross-linker) | 100g | **BP1366-100** |
| Acrylamide:Bis Acrylamide, Dry Powder Mix, 37.5:1 (2.6% Cross-linker) | 100g | **BP1368-100** |
| Acrylamide:Bis-Acrylamide, 40% Solution, 19:1 (5% Cross-linker) | 1L | **BP1406-1** |
| Acrylamide:Bis-Acrylamide, 40% Solution, 29:1 (3.3% Cross-linker) | 1L | **BP1408-1** |
| Acrylamide:Bis-Acrylamide, 40% Solution, 37.5:1 (2.6% Cross-linker) | 1L | **BP1410-1** |
| Ammonium Persulfate | 25g | **BP179-25** |
| | 100g | **BP179-100** |
| Sodium Persulfate | 1kg | **BP2637-1** |
| TEMED | 130mL (100g) | **BP150-100** |
| | 26mL (20g) | **BP150-20** |

### Detergents/Denaturing Agents

| Description | Quantity | Catalog No. |
|---|---|---|
| 2-Mercaptoethanol | 100g (89.74mL) | **BP176-100** |
| Sodium Dodecyl Sulfate (SDS) Solution, 10% | 200mL | **BP2436-200** |
| | 1L | **BP2436-1** |
| Sodium Dodecyl Sulfate (SDS) Solution, 20% | 200mL | **BP1311-200** |
| | 1L | **BP1311-1** |
| Urea | 10kg | **BP169-10** |

### Loading and Running Buffers

| Description | Quantity | Catalog No. |
|---|---|---|
| Protein Gel-Loading Dye for SDS-PAGE, 2X | 1mL | **BP637-1** |
| | 5mL | **BP637-5** |
| Tris Glycine Running Buffer, 10X | 1L | **BP1306-1** |
| | 4L | **BP1306-4** |
| Tris-Glycine Powder, 10X | Preweighed to make 1L | **BP1307-1** |
| Tris Glycine SDS Running Buffer, 10X | 1L | **BP1341-1** |
| | 4L | **BP1341-4** |
| Tris-Glycine-SDS Powder, 10X | Preweighed to make 1L | **BP1342-1** |
| Tris-Glycine-SDS Powder, 5X | Preweighed to make 1L | **BP1398-92** |

### Antibiotics and Microbiology Media

The Fisher BioReagents microbiology media feature a selection of carefully formulated powder and premixed media for diverse microbiological research applications.

### Microbial Cultures

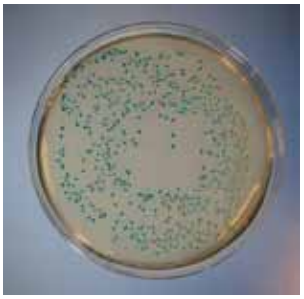
The Fisher BioReagents product line features a selection of carefully formulated powder and premixed media optimized for different types of microbial cells and growth conditions. Select media are offered in the format of pre-weighed pouches to eliminate the time-consuming step of weighing fine powder. For those research laboratories that require the most stringent consistency and quality control, we offer select media in a ready-to-use liquid format. Our offering ranges from basic LB formulations to enriched media for more demanding strains.

| Catalog No. | Media/Additive | Description/Application | Size |
|---|---|---|---|
| **BP1423-500** | Agar, Granulated | Used as a solidifying agent | 500g |
| **BP1423-2** | | | 2kg |
| **BP1424-100** | Casamino Acids | Acid-hydrolyzing casein for microbiological media requiring completely hydrolyzed protein as a nitrogen source | 100g |
| **BP1424-500** | | Low concentration of sodium chloride and iron permit production of various toxins | 500g |
| **BP1424-2** | | | 2kg |
| **BP1425-500** | LB Agar, Miller (Granular) | Contains 10g of tryptone, 5g of yeast extract, 10g of sodium chloride, 15g of granulated agar per liter | 500g |
| **BP1425-2** | | | 2kg |
| **BP1427-500** | LB Broth, Lennox (Powder) | Contains 10g of tryptone, 5g of yeast extract, 5g of sodium chloride per liter | 500g |
| **BP1427-2** | | | 2kg |
| **BP1426-500** | LB Broth, Miller (Granular) | Contains 10g of tryptone, 5g of yeast extract, 10g of sodium chloride per liter | 500g |
| **BP1426-2** | | | 2kg |
| **BP1420-100** | Peptone | Contains nitrogen in a form readily available to bacteria | 100g |
| **BP1420-500** | | | 500g |
| **BP1420-2** | | | 2kg |
| **BP1421-100** | Tryptone | Pancreatic digest of casein is used as a nitrogen source for bacteria | 100g |
| **BP1421-500** | | | 500g |
| **BP1421-2** | | | 2kg |
| **BP1422-100** | Yeast extract | Water-soluble portion of autolyzed fresh yeast is used in bacteriological culture media | 100g |
| **BP1422-500** | | | 500g |
| **BP1422-2** | | | 2kg |

### TransMax Competent Cells

TransMax competent cells are produced according to rigorous quality control standards to ensure dependable performance and lot-to-lot consistency. Transformations are performed, at least in triplicate, to verify efficiency specifications using pUC19 plasmid DNA.

ChromoMax IPTG/X-Gal Solution is suitable for use with all commercially available competent cells that utilize lacZ blue/white screening. In our laboratories the new formulation was used for screening of transformed TransMax™ Competent Cells, resulting in clearly differentiated blue and white colonies.



| Description | Size | No. of Applications | Catalog No. |
|---|---|---|---|
| ChromoMax IPTG/ X-Gal Solution | 1mL | ~10 plates | **BP4200-1** |
| | 10mL | ~100 plates | **BP4200-10** |
| | 5 x 10mL | ~500 plates | **BP4200-50** |

**Fisher BioReagents Antibiotics and Antimycotics**

## Optimized for Cell Culture

In many life science laboratories, the in vitro culturing of bacterial, plant, and animal cells is a routine task. High quality antibiotics and antimycotics from Fisher BioReagents can be used to ensure successful growth of cells by eliminating unwanted bacterial strains and fungi while maintaining the health and vitality of the desired cells.

## Advantages

- **High quality** - antibiotics and antimycotics meet rigorous quality control tests, including verification of potency, purity, and solubility using microbiological and chromatographic methods.
- **Built for selection** - excellent choice of antibiotics for selection of antibiotic resistance genes in both bacterial and mammalian cells.
- **High purity and stability** - our ultrapure antibiotics ensure successful growth of target cells and reproducible results

## Applications

- Plant cell culture
- Mammalian cell culture
- Tissue culture
- Genetic marker selection

**Additional antibiotics available through Fisher BioReagents** *(See Page 2 for new products)*

| Cat. No. | Description | Pack Size |
|---|---|---|
| **BP606-10** | Actinomycin D (Red Crystals) | 10mg |
| **BP606-5** | Actinomycin D (Red Crystals) | 5mg |
| **BP2643-1** | Amikacin (From Kanamycin A, White Crystalline Powder) | 1g |
| **BP2643-250** | Amikacin (From Kanamycin A, White Crystalline Powder) | 250mg |
| **BP928-250** | Amphotericin B (Yellow Powder) | 250mg |
| **BP2645-20** | Amphotericin B (Yellow Solution/250µg/mL) | 20mL |
| **BP2645-50** | Amphotericin B (Yellow Solution/250µg/mL) | 50mL |
| **BP1760-25** | Ampicillin Sodium Salt (Crystalline Powder) | 25g |
| **BP1760-5** | Ampicillin Sodium Salt (Crystalline Powder) | 5g |
| **BP902-25** | Ampicillin Trihydrate (Off-white Powder) | 25g |
| **BP2502-5** | Antibiotic A23187 (Off-white Crystalline Powder) | 5mg |
| **BP2647-100** | Blasticidin S Hydrochloride (White Powder) | 100mg |
| **BP2647-25** | Blasticidin S Hydrochloride (White Powder) | 25mg |
| **BP2647-50** | Blasticidin S Hydrochloride (White Powder) | 50mg |
| **BP2648-1** | Carbenicillin (Disodium Salt, White Powder) | 1g |
| **BP2648-250** | Carbenicillin (Disodium Salt, White Powder) | 250mg |
| **BP2648-5** | Carbenicillin (Disodium Salt, White Powder) | 5g |
| **BP904-100** | Chloramphenicol (Crystalline Powder) | 100g |
| **BP2516-1** | Doxorubicin Hydrochloride (Reddish-orange Powder) | 1mg |
| **BP2516-10** | Doxorubicin Hydrochloride (Reddish-orange Powder) | 10mg |
| **BP2516-5** | Doxorubicin Hydrochloride (Reddish-orange Powder) | 5mg |
| **BP2516-50** | Doxorubicin Hydrochloride (Reddish-orange Powder) | 50mg |
| **BP2653-1** | Doxycycline Hydrochloride (Yellow Powder) | 1g |
| **BP2653-5** | Doxycycline Hydrochloride (Yellow Powder) | 5g |

| Cat. No. | Description | Pack Size |
|---|---|---|
| **BP920-25** | Erythromycin (White Crystalline Powder) | 25g |
| **BP673-1** | G418 Sulfate (White to Off-white Powder) | 1g |
| **BP673-5** | G418 Sulfate (White to Off-white Powder) | 5g |
| **BP918-1** | Gentamycin Sulfate (White Powder) | 1g |
| **BP2527-1** | Ionomycin (Calcium Salt) | 1mg |
| **BP2527-10** | Ionomycin (Calcium Salt) | 10mg |
| **BP2527-5** | Ionomycin (Calcium Salt) | 5mg |
| **BP906-5** | Kanamycin Sulfate (White Powder) | 5g |
| **BP2734-1** | Ketoconazole (White Powder) | 1g |
| **BP2734-100** | Ketoconazole (White Powder) | 100mg |
| **BP2734-50** | Ketoconazole (White Powder) | 50mg |
| **BP2734-500** | Ketoconazole (White Powder) | 500mg |
| **BP2668-1** | Miconazole (Free Base) | 1g |
| **BP2668-5** | Miconazole (Free Base) | 5g |
| **BP2531-10** | Mitomycin C | 10mg |
| **BP2531-2** | Mitomycin C | 2mg |
| **BP2531-20** | Mitomycin C | 20mg |
| **BP2669-25** | Neomycin Sulfate (White Powder) | 25g |
| **BP2669-5** | Neomycin Sulfate (White Powder) | 5g |
| **BP914-100** | Penicillin-G Potassium Salt | 100g |
| **BP2679-1** | Rifampicin (Bright Orange Powder) | 1g |
| **BP2679-25** | Rifampicin (Bright Orange Powder) | 25g |
| **BP2679-250** | Rifampicin (Bright Orange Powder) | 250mg |
| **BP2679-5** | Rifampicin (Bright Orange Powder) | 5g |
| **BP2541-1** | Staurosporine | 1mg |
| **BP2541-100** | Staurosporine | 100µg |
| **BP2541-500** | Staurosporine | 500µg |
| **BP910-50** | Streptomycin Sulfate (White to Light Yellow Powder) | 50g |
| **BP912-100** | Tetracycline Hydrochloride (Yellow Powder) | 100g |

Fisher Scientific

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