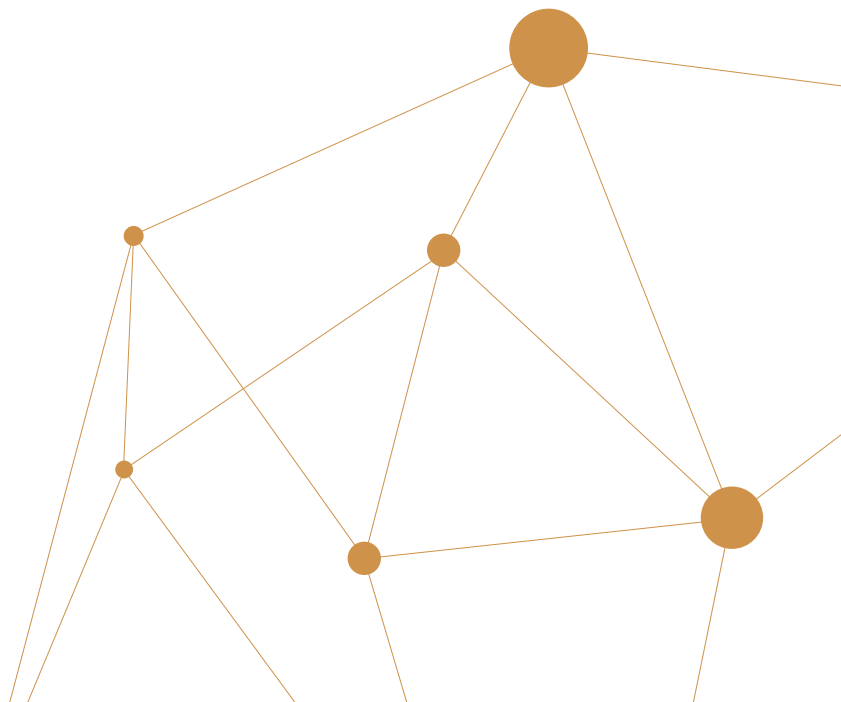




Buffers & Chemicals

01. Buffers & Solutions

02. Chemicals



01. Buffers & Solutions

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Buffers

Overview

Bioneer directly produces and supplies buffers and chemicals, which are essential in biotechnology research.

All the products supplied are produced under strict quality control system and are supplied to customers through high quality inspection.

Ordering Information

Cat. No.	Product Description	Specification	
C-9002	5X TBE	1 gal	<i>For agarose & acrylamide gel electrophoresis</i> Trizma base Boric acid 0.5 M EDTA (pH 8.0) Store at room temperature
C-9003	20X SSC	500 ml	<i>For hybridization</i> Sodium chloride Sodium citrate pH 7.0 (Adjust with HCl) Autoclaved Store at room temperature
C-9004	50X TAE	500 ml	<i>For agarose gel electrophoresis</i> Trizma base Acetic acid 0.5 M EDTA (pH 8.0) Autoclaved Store at room temperature
C-9005	TE (pH 8.0)	500 ml	10 mM Tris-HCl (pH 8.0) 1 mM EDTA Autoclaved Store at room temperature
C-9006	1 M Tris-HCl (pH 8.0)	500 ml	Trizma base pH 8.0 (Adjust with HCl) Autoclaved Store at room temperature
C-9006-1	1 M Tris-HCl (pH 7.6)	500 ml	Trizma base pH 7.6 (Adjust with HCl) Autoclaved Store at room temperature
C-9006-2	1 M Tris-HCl (pH 7.4)	500 ml	Trizma base pH 7.4 (Adjust with HCl) Autoclaved Store at room temperature
C-9007	0.5 M EDTA (pH 8.0)	500 ml	EDTA pH 8.0 (Adjust with NaOH) Autoclaved Store at room temperature
C-9008	3 M Sodium Acetate (pH 5.2)	500 ml	Sodium acetate pH 5.2 (Adjust with acetic acid) Autoclaved Store at room temperature
C-9011	Deionized sterile DW	500 ml	Deionized Water Filtered with 0.2 µm pore size Autoclaved Store at room temperature

Buffers

Cat. No.	Product Description	Specification	
C-9011-1	Deionized sterile DW	1 gal	Deionized Water Filtered with 0.2 µm pore size Autoclaved Store at room temperature
C-9012	Formamide	500 ml	Assay 98.5% Hygroscopic CH ₃ NO/FW: 45.04 g/mol Store at 4°C
C-9022	1 M MgCl ₂ (Magnesium Chloride)	500 ml	MgCl ₂ ·6H ₂ O Autoclaved Dispense into aliquots Store at 4°C
C-9024	Phosphate-buffered Saline (PBS)	500 ml	Sodium chloride Potassium chloride Na ₂ HPO ₄ KH ₂ PO ₄ pH 7.4 (Adjust with HCl) Autoclaved Store at room temperature
C-9025	5M NaCl (Sodium chloride)	500 ml	Sodium chloride Autoclaved Store at room temperature
C-9026	1M KCl (Potassium chloride)	500 ml	Potassium chloride Autoclaved Store at room temperature
C-9027	10% Sodium dodecyl sulfate (SDS, Sodium lauryl sulfate)	500 ml	SDS Heat to 68°C to assist dissolution pH 7.0 (Adjust with HCl) Store at room temperature
C-9029	6X Agarose Gel Loading Buffer	2 ml	For DNA electrophoresis 40 % Sucrose 0.05 % Bromophenol blue 0.05 % Xylene cyanol FF Store at -20°C
C-9030	DEPC-DW	500 ml	For RNA Water DEPC (Diethyl pyrocarbonate) Stirred for overnight Filtered with 0.2 µm pore size Autoclaved Store at room temperature
C-9031	10X MOPs Buffer	500 ml	For denaturing agarose gel electrophoresis (for RNA) 200 mM MOPs 50 mM Sodium acetate (pH 7.0), 10 mM EDTA Autoclaved Store at room temperature

02. Chemicals

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Chemicals

Cloning & Expression

○ IPTG (Isopropyl-β-D-thiogalactopyranoside)

As an inducer of β-galactosidase activity, it is used to induce gene expression cloned in a vector.

Cat. No.	Product Description	Specification	
C-8001	IPTG, 99%	1 g	Formula: C ₉ H ₁₈ O ₅ S
C-8001-1		5 g	M.W.: 238.3 g/mol
C-8001-2		25 g	Form: Dry powder Store at 4°C

○ X-Gal (5-Bromo-4-chloro-3-indolyl-β-D-galactopyranoside)

X-Gal can be used with IPTG to identify β-galactosidase activity and can be used to screen for strains transformed with vectors with either lacZ or lacZ α-peptide genes.

Cat. No.	Product Description	Specification	
C-8002	X-Gal	100 mg	Formula: C ₁₄ H ₁₅ BrClNO ₆ M.W.: 408.6 g/mol
C-8002-1		500 mg	Concentration: 50 mg/ml in dimethylformamide

Electrophoresis

○ Agarose

Cat. No.	Product Description	Specification	
C-9100	Agarose	100 g	Form: White powder Sulphate 0.15% max. Gel strength (1%) > 1,200 g/cm ²
C-9100-1		500 g	Melting temp. (1.5%) 88°C±1.5°C Gel temp. (1.5%) 36°C±1.5°C Store at room temperature

○ GreenStar™ Nucleic Acid Staining Solution I

GreenStar™ Nucleic Acid Staining Solution I serves as an alternative to Ethidium Bromide (EtBr) for a safe nucleic acid staining reagent harmless to humans. It is provided with 200X concentration with 50 ml volume and can be used about 100 times. This product is used for pre-casting gel and post staining. With its high sensitivity, nucleic acids can be clearly seen even in concentration below 5 ng/band. The wavelengths for excitation and emission are 496 nm and 522 nm. Either UV-transilluminator or DUALLED Blue / White Transilluminator is used for visualization of stained nucleic acids, but the latter is recommended for higher sensitivity.



Cat. No.	Product Description	Specification
C-9036	GreenStar™ Nucleic Acid Staining Solution I	50 ml

DNA & RNA Synthesis Reagents

○ DNA Phosphoramidites

The produced nucleoside phosphoramidites maintain high purity of more than 99% using ³¹P-NMR and RP-HPLC according to our strict standard. All reagents are packaged in containers for ABI equipment and can be supplied in containers compatible with Expedite or Mermade equipment upon request. For synthesis of oligonucleotides, ammonia treatment or methylamine gas is recommended for 8 hours at 55 °C for cleavage and deprotection.

(However, when using methylamine gas, dC (Ac) -CE phosphoramidite should be used instead of dC (Bz) -CE phosphoramidite.)

► Recommended storage condition: Frozen storage below -4 °C

Cat. No.	Product Description	Specification	Molecular Formula	Molecular Weight (g/mol)
M-1001-1/2	dA(Bz)-CE phosphoramidite	1 g / 20 g	C ₄₇ H ₅₂ N ₇ O ₇ P	857.93
M-1002-1/2	dC(Bz)-CE phosphoramidite		C ₄₆ H ₅₂ N ₅ O ₈ P	833.91
M-1003-1/2	dG(Ib)-CE phosphoramidite		C ₄₄ H ₅₄ N ₇ O ₈ P	839.92
M-1004-1/2	dT-CE phosphoramidite		C ₄₀ H ₄₉ N ₄ O ₈ P	744.81
M-1005-1/2	dC(Ac)-CE phosphoramidite		C ₄₁ H ₅₀ N ₅ O ₈ P	771.84

○ RNA Phosphoramidites

The 2'-OH group prevents derivatization and degradation during the oligo synthesis process with a tert-butyldimethylsilyl (TBDMS) group. The use of ETT or BTT as an activator in the synthesis of RNA oligonucleotides provides excellent coupling efficiency. The produced nucleoside phosphoramidites maintain high purity of more than 99% using ³¹P-NMR and RP-HPLC according to our strict standard. All reagents are packaged in containers suitable for ABI equipment and can be supplied in containers compatible with Expedite or Mermade equipment upon request. When synthesizing oligonucleotides, it is recommended to use AMA reagent (ammonia + methylamine gas) or methylamine gas for 3 hours at 40 °C for cleavage and deprotection. The cleavage and deprotection process for the synthesis of RNA oligonucleotides is similar to that for DNA oligonucleotide synthesis, but additional steps are required to remove the 2'-OH protection group.

► Recommended storage condition: Frozen storage below -10 °C

Cat. No.	Product Description	Specification	Molecular Formula	Molecular Weight (g/mol)
M-1101-1/2	rA(Bz)-CE phosphoramidite	0.5 g / 10 g	C ₅₃ H ₆₆ N ₇ O ₈ PSi	988.19
M-1103-1/2	rG(Ib)-CE phosphoramidite		C ₅₀ H ₆₈ N ₇ O ₉ PSi	970.18
M-1104-1/2	rU-CE phosphoramidite		C ₄₅ H ₆₁ N ₄ O ₉ PSi	861.05
M-1105-1/2	rC(Ac)-CE phosphoramidite		C ₄₇ H ₆₄ N ₅ O ₉ PSi	902.10

○ Spacer Phosphoramidites

This reagent is used as a spacer arm at the 5'-end of oligonucleotides.

► Recommended storage condition: Frozen storage below -10 °C

Cat. No.	Product Description	Specification	Molecular Formula	Molecular Weight (g/mol)
M-2011-1/2	C12 Spacer phosphoramidite	0.25 g / 0.1 mmol	C ₄₂ H ₆₁ N ₂ O ₅ P	704.93
M-2012-1/2	C6 Spacer phosphoramidite		C ₃₆ H ₄₉ N ₂ O ₅ P	620.76
M-2013-1/2	C3 Spacer phosphoramidite		C ₃₃ H ₄₃ N ₂ O ₅ P	578.69
M-2017-1/2	C6 Disulfide phosphoramidite		C ₄₂ H ₆₁ N ₂ O ₅ S ₂ P	769.05
M-2019-1/2	Atom 12 Spacer phosphoramidite		C ₃₈ H ₅₄ N ₂ O ₈ P	696.81
M-2020-1/2	Atom 18 Spacer phosphoramidite		C ₄₂ H ₆₁ N ₂ O ₁₀ P	784.91
M-2024-1/2	Abasic phosphoramidite		C ₃₆ H ₄₇ N ₂ O ₇ P	650.74
M-2025-1/2	dSpacer phosphoramidite		C ₃₅ H ₄₅ N ₂ O ₆ P	620.72
M-2027-1/2	1-Hexadecane phosphoramidite		C ₂₅ H ₅₁ N ₂ O ₂ P	442.66
M-2028-1/2	1-Octadecane phosphoramidite		C ₂₇ H ₅₅ N ₂ O ₂ P	470.71

○ Amino Linkers

Reagents used to synthesize 2'-end amine oligonucleotides, the primary amino group can be conjugated with a variety of reporter dyes and labels.

► Recommended storage condition: Frozen storage below -10 °C

Cat. No.	Product Description	Specification	Molecular Formula	Molecular Weight (g/mol)
M-2001-1/2	5'-TFA Amine linker	0.25 g / 0.1 mmol	C ₁₇ H ₃₁ F ₃ N ₃ O ₃ P	413.42
M-2002-1/2	5'-DMT Amine linker		C ₃₆ H ₅₀ N ₃ O ₄ P	619.77

○ Labelling and Others

Various labeling reagents, including fluorescence, can be introduced at the 5'-end of oligonucleotides for use in genomic research, molecular diagnostics and molecular biology.

Cat. No.	Product Description	Specification	Molecular Formula	Molecular Weight (g/mol)
M-2005-1/2	Phosphorylation reagent II	0.25 g / 0.1 mmol	C ₃₉ H ₅₁ N ₂ O ₉ P	722.80
M-2006-1/2	5'-Biotin phosphoramidite		C ₄₆ H ₆₄ N ₅ O ₆ PS	846.07
M-2044-1/2	Biotin-TEG phosphoramidite		C ₇₂ H ₉₂ N ₅ O ₁₃ PS	1298.57
M-2064-1/2	5'-Fluorescein phosphoramidite (6-FAM)		C ₄₆ H ₅₈ N ₃ O ₁₀ P	843.94
M-2065-1/2	5'-TAMRA phosphoramidite (6-TAMRA)		C ₃₉ H ₄₈ N ₅ O ₆ P	713.80
M-2010-1/2	dl phosphoramidite		C ₄₀ H ₄₇ N ₆ O ₇ P	754.81
M-2021-1/2	dU phosphoramidite		C ₃₉ H ₄₇ N ₄ O ₈ P	730.79
M-2022-1/2	2'-F-rC(Bz) phosphoramidite		C ₄₆ H ₅₁ FN ₅ O ₈ P	851.90
M-2036-1/2	2'-F-rC(Ac) phosphoramidite		C ₄₁ H ₄₉ FN ₅ O ₈ P	789.83
M-2023-1/2	2'-F-rU phosphoramidite		C ₃₉ H ₄₆ FN ₄ O ₈ P	748.78
M-2031-1/2	Internal dT-amine phosphoramidite		C ₅₀ H ₆₀ F ₃ N ₆ O ₁₀ P	993.01
M-2032-1/2	2'-OMe-rU-phosphoramidite		C ₄₀ H ₄₉ N ₄ O ₉ P	760.81
M-2033-1/2	2'-OMe-rC(Ac)-phosphoramidite		C ₄₂ H ₅₂ N ₅ O ₉ P	801.86
M-2035-1/2	5'-Cholesteryl-3-Carboxyaminoethyl phosphoramidite		C ₄₃ H ₇₆ N ₃ O ₄ P	730.06
M-2041-1/2	Internal dT-ferrocene phosphoramidite		C ₅₃ H ₆₃ FeN ₄ O ₈ P	970.91
M-2043-1/2	Ferrocene propyl NHS-ester		C ₁₇ H ₁₇ FeNO ₄ P	355.17
M-2047-1/2	β-Methasone phosphoramidite		C ₃₆ H ₅₇ FN ₃ O ₆ P	677.83
M-2048-1/2	Cortisone phosphoramidite		C ₃₆ H ₅₈ N ₃ O ₆ P	659.84

○ CPGs

Cat. No.	Product Description	Specification	Particle Size (μm)	Loading (μmol/g)
M-3001-1/2	Universal Solid Support (STD, 1000Å)	1 g / 10 g	40~75	20~40
M-3003-1/2	Universal Solid Support (Long, 2000Å)		40~60	15~35
M-3004-1/2	dA(Bz)-CPG (1000Å)		90~130	≥ 40
M-3005-1/2	dC(Bz)-CPG (1000Å)		90~130	≥ 40
M-3006-1/2	dG(Ib)-CPG (1000Å)		90~130	≥ 40
M-3007-1/2	dT-CPG (1000Å)		90~130	≥ 40
M-3013-1/2	3'-Amino CPG (STD, 1000Å)		40~75	20~40
M-3020-1/2	3'-TAMRA CPG (1000Å)		40~75	20~40
M-3021-1/2	3'-Amino CPG (2000Å)		40~60	15~35
M-3023-1/2	3'-DabcyI CPG (1000Å)		40~75	20~40
M-3024-1/2	3'-C3 disulfide CPG (1000Å)		40~75	20~40
M-3027-1/2	3'-Fluorescein CPG (1000Å)		40~75	20~40
M-3028-1/2	3'-Phostel 2 CPG (1000Å)		40~75	20~40

Chemicals

○ Fluorescence Quencher

EBQ (Excellent Bioneer Quencher) is a new concept dark quencher developed by Bioneer. It has stronger and wider absorption area than conventional quencher. Based on this, it is possible to efficiently control the fluorescence of a wider variety of reporter-dyes in the dual probe area. It also has a stable structure even with temperature and pH changes. Molecular diagnostics, medicine, pharmacy, and biology related research can be used very efficiently to detect related substances.

Cat. No.	Product Description	Specification	Molecular Formula	Molecular Weight (g/mol)
M-2052-1/2	Internal dT-EBQ570 phosphoramidite	0.25 g / 0.1 mmol	C ₆₆ H ₇₄ N ₁₁ O ₁₁ P	1228.33
Cat. No.	Product Description	Specification	Particle Size (μm)	Loading (μmol/g)
M-3025-1/2	3'-EBQ570 CPG 1000Å	1 g / 10 g	40~75	20~40

Nano Colloid

○ AccuGoldSol™ Gold Nano Colloid in water 100 ppm

Gold Colloid products are composed of uniformly sized gold nanoparticles and have environmental friendliness and antibacterial properties, so they can be applied to various bio applications.

Cat. No.	Product Description	Specification
TM-3010-1	AccuGoldSol™ Gold Nano Colloid in water 100 ppm	60 ml
TM-3010-2		400 ml
TM-3010-3		800 ml

○ AccuSilverSol™ Silver Nano Colloid in water 10,000, eco

Silver nano colloid products have good anti-bacterial and sterilization effects and can be widely used in the industrial field due to the excellent thermal conductivity and electrical conductivity of silver. In particular, it can be used as an antimicrobial substance in marine aquaculture farms by replacing pesticide antimicrobial agents of crops by taking advantage of its excellent antimicrobial effect. In addition, paint using silver nano colloids can be used to prevent mold and bacteria.

Cat. No.	Product Description	Specification
TM-2020-1	AccuSilverSol™ Silver Nano Colloid in water 10,000, eco	60 ml
TM-2020-2		400 ml
TM-2020-3		800 ml

Magnetic Separation

○ Magnetic Bead

Magnetic Beads can be used as a material for cell experiments or DNA purification, as well as for the direct treatment of diseases. Recently, many researches on applied biotechnology using magnetic beads have been attempted. The principle of Magnetic Beads is to coat the surface of Magnetic Beads with appropriate functional groups, and the Magnetic Beads with these functional groups bind to DNA, RNA, proteins, and specific cells. After that, the magnetic beads are moved or attached to a desired location using an external magnetic field to purify them. In particular, *AccuNanoBead™* has the advantage of high binding capacity due to its relatively large surface area because of its nano size.

■ Features and Benefits

Magnetic particle size is 1-5 μm, uniformity of particle size distribution, spherical silica coated magnetic particles, excellent efficiency for DNA / RNA purification, rapid DNA / RNA purification method.

■ Application

DNA / RNA purification using magnetic material, protein separation using magnetic material, antibody separation using magnetic material, cell separation using magnetic material.

Cat. No.	Product Description	Specification
AccuBead™		
TS-1010-1	AccuBead™ Silica Coated Magnetic Beads, size 1-5 µm	0.5 g / 25 ml
TS-1010-2		1 g / 50 ml
TS-1010-3		10 g / 500 ml
TS-1011-1	AccuBead™ NH ₂ Magnetic Beads, size 1-5 µm	0.5 g
TS-1012-1	AccuBead™ COOH Magnetic Beads, size 1-5 µm	0.5 g
TS-1013-1	AccuBead™ Epoxy Magnetic Beads, size 1-5 µm	0.5 g
TS-1014-1	AccuBead™ C18 Magnetic Beads, size 1-5 µm	0.5 g
TS-1016-1	AccuBead™ Biotin Magnetic Beads, size 1-5 µm	0.5 g / 25 ml
TS-1017-1	AccuBead™ Ni-NTA Magnetic Beads, size 1-5 µm	0.5 g / 25 ml
TS-1019-1	AccuBead™ Thiol Magnetic Beads, size 1-5 µm	0.5 g
AccuNanoBead™		
TA-1010-1	AccuNanoBead™ Silica Magnetic Nanobeads, size 400 nm	0.5 g/25 ml
TA-1010-2		1.0 g/50 ml
TA-1010-3		10 g/500 ml
TB-1010-1	AccuNanoBead™ Silica Magnetic Nanobeads, size 200 nm	0.5 g/25 ml
TB-1010-2		1.0 g/50 ml
TB-1010-3		10 g/500 ml
TA-1011-1	AccuNanoBead™ NH ₂ Magnetic Nanobeads, size 400 nm	0.5 g
TA-1012-1	AccuNanoBead™ COOH Magnetic Nanobeads, size 400 nm	0.5 g
TA-1013-1	AccuNanoBead™ Epoxy Magnetic Nanobeads, size 400 nm	0.5 g
TA-1014-1	AccuNanoBead™ C18 Magnetic Nanobeads, size 400 nm	0.5 g
TA-1015-1	AccuNanoBead™ Streptavidin Magnetic Nanobeads, size 400 nm	50 mg/5 ml
TA-1016-1	AccuNanoBead™ Biotin Magnetic Nanobeads, size 400 nm	0.5 g/25 ml
TA-1017-1	AccuNanoBead™ Ni-NTA Magnetic Nanobeads, size 400 nm	0.5 g/25 ml
TA-1019-1	AccuNanoBead™ Thiol Magnetic Nanobeads, size 400 nm	0.5 g
TA-1021-1	AccuNanoBead™ Protein G Magnetic Nanobeads, size 400 nm	40 mg/1 ml
TA-1022-1	AccuNanoBead™ Protein A Magnetic Nanobeads, size 400 nm	40 mg/1 ml
TA-1023-1	AccuNanoBead™ Protein L Magnetic Nanobeads, size 400 nm	40 mg/1 ml
TF-1012-1	AccuNanoBead™ COOH Magnetic Beads for NGS	500 mg
TF-1012-2		1 g
TF-1012-3		4 g
Magnet		
TS-1000-1	Magnet Φ15x1.5 and Screw Tube 1.5 ml	1 set

* For more information on our products, please contact us nano-support@bioneer.com.