

Molecular BIOLOGY Research Reagent

Molecular Diagnostics Reagent
Molecular Biology Research Product

PCR Reagent

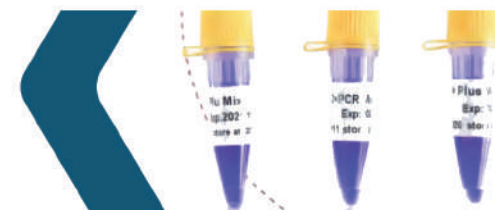
PCR Enzyme & Master Mix

PCR TYPE	Product Format		
	Enzyme*	Mix*	Kit*
Routine PCR	Taq DNA Polymerase (P1011, P1012, P1013, P1014, P1015)	Taq Mix (P2011, P2012, P2013, P2014, P2015)	PCR Kit (P3012)
High fidelity PCR	Pfu DNA Polymerase (P1021, P1022, P1023, P1024)	Pfu Mix (P2021, P2022) Hotstart Pfu Mix (P2051, P2052) Super HIFI PCR Master Mix (P2111, P2112, P2113)	Pfu Kit (P3022)
High specificity PCR	HS™ Taq DNA Polymerase (P1081, P1082, P1083, P1084) Optimus™ Hotstart Taq DNA Polymerase (P1041, P1042, P1043, P1044)	HS™ Mix (P2081, P2082) Optimus™ Hotstart Taq Mix (P2041, P2042)	HS™ Kit (P3082)
High efficiency PCR	Taq Plus DNA Polymerase (P1031, P1032, P1033, P1034)	Plus Mix (P2031, P2032)	—
Hotstart PCR	Optimus™ Hotstart Taq DNA Polymerase (P1041, P1042, P1043, P1044) HS Hotstart Taq DNA Polymerase (P1091)	All PCR Mix are Hotstart, except Taq Mix (P2011, P2012, P2013, P2014, P2015)	—
Fast PCR	FS™ Taq DNA Polymerase (P1071, P1072, P1073, P1074)	FS™ Mix (P2071, P2072)	FS™ Kit (P3072)
Long PCR	Long Taq DNA Polymerase (P1061, P1062, P1063, P1064)	Long Taq Mix (P2061, P2062)	Long taq Kit (P3062)
Direct PCR	—	FS™ Mix Direct for Blood (P2071a, P2072a) FS™ Mix Direct for Tissue (P2071b, P2072b)	—
qPCR	qPCR Hotstart Taq DNA Polymerase (P1101, P1102, P1103, P1104)	—	—
Multiplex PCR	—	Multiplex PCR Master Mix with UDG, 2X (PM2001, PM2002, PM2003)	—

Enzyme*: Classic collocation, enzyme and reaction buffer (no dNTPs) are separated in two tubes

Mix*: Easy to use, one tube contains enzyme, reaction buffer and dNTPs

Kit*: The dosage of enzyme can be adjusted flexibly, enzyme and reaction mix (+ dNTPs) are separated in two tubes



1.1.1 Taq DNA Polymerase (P1011, P1012, P1013, P1014, P1015) / Taq Mix (P2011, P2012, P2013, P2014, P2015) / PCR Kit (P3012)

Classical and conventional Taq DNA Polymerase, 2kb/min, generates 3'-dA overhangs

Taq DNA Polymerase		Taq Mix		PCR Kit	
#P1011	500U	#P2011	1 mL	#P3012	1 mL×5
#P1012	500U+dNTPs	#P2012	1 mL×5		
#P1013	1000U	#P2013	1 mL×10		
#P1014	1000U+dNTPs	#P2014	1 mL×50		
#P1015	18,000U	#P2015	1 mL×100		

1.1.2 Pfu DNA Polymerase (P1021, P1022, P1023, P1024) / Pfu Mix (P2021, P2022) / Pfu Kit (P3022)

High fidelity, 1kb/min, generates blunt ends

Pfu DNA Polymerase		Pfu Mix		Pfu Kit	
#P1021	250U	#P2021	1 mL	#P3022	1 mL×5
#P1022	250U+dNTPs				
#P1023	1000U	#P2022	1 mL×5		
#P1024	1000U+dNTPs				

1.1.3 Taq Plus DNA Polymerase (P1031, P1032, P1033, P1034) / Plus Mix (P2031, P2032)

High efficiency, 3kb/min, generates 3'-dA overhangs and blunt ends

Taq Plus DNA Polymerase		Plus Mix	
#P1031	250U	#P2031	1 mL
#P1032	250U+dNTPs		
#P1033	1000U	#P2032	1 mL×5
#P1034	1000U+dNTPs		

1.1.4 Optimus™ Hotstart Taq DNA Polymerase (P1041, P1042, P1043, P1044) / Optimus™ Hotstart Taq Mix (P2041, P2042)

High specificity, hotstart DNA polymerase with antibody modification, 1kb/min, generates 3'-dA overhangs

Optimus™ Hotstart Taq DNA Polymerase		Optimus™ Hotstart Taq Mix	
#P1041	250U	#P2041	1 mL
#P1042	1000U		
#P1043	3000U	#P2042	1 mL×5
#P1044	18000U		

Hotstart Pfu Mix (P2051, P2052)

High fidelity, hotstart DNA polymerase with anti-body modification, 2kb/min, generates 3'-dA overhangs and blunt ends

Hotstart Pfu Mix	
#P2051	1 mL
#P2052	1 mL×5

1.1.6 Long Taq DNA Polymerase (P1061, P1062, P1063, P1064) / Long Taq Mix (P2061, P2062) / Long taq Kit (P3062)

Strong amplification ability as long as 20kb, 3kb/min, generates 3'-dA overhangs and blunt ends

Long Taq DNA Polymerase		Long Taq Mix		Long Taq Kit	
#P1061	250U	#P2061	1 mL	#P3062	1 mL×3
#P1062	250U+dNTPs				
#P1063	1000U	#P2062	1 mL×5		
#P1064	1000U+dNTPs				

1.1.7 FS' M Taq DNA Polymerase (P1071, P1072, P1073, P1074) / FS' M Mix (P2071, P2072) / FSTM Kit (P3072)

Fast amplification, 3kb/min, generates 3'-dA overhangs and blunt ends

FS™ Taq DNA Polymerase		FS™ Mix		FS™ Kit	
#P1071	250U	#P2071	1 mL	#P3072	1 mL×5
#P1072	250U+dNTPs				
#P1073	1000U	#P2072	1 mL×5		
#P1074	1000U+dNTPs				

1.1.8 FSTM Mix Direct for Blood (P2071a, P2072a) / FSTM Mix Direct for Tissue (P2071b, P2072b)

No DNA purification prior to PCR, direct amplification of blood and tissue samples, 3kb/min, generates 3'-dA overhangs

FS'™ Mix Direct for Blood		FS'™ Mix Direct for Tissue	
#P2071a	1 mL	#P2071b	1 mL
#P2072a	1 mL×5	#P2072b	1 mL×5

1.1.9 HSTM Taq DNA Polymerase (P1081, P1082, P1083, P1084) / HSTM Mix (P2081, P2082) / HSTM Kit (P3082)

High specificity (not hotstart), 2kb/min, generates 3'-dA overhangs

HS™ Taq DNA Polymerase		HS™ Mix		HS™ Kit	
#P1081	250U	#P2081	1 mL	#P3082	1 mL×5
#P1082	500U				
#P1083	1000U	#P2082	1 mL×5		
#P1084	18000U				

1.1.10 HS Hotstart Taq DNA Polymerase (P1091)

High specificity, hotstart DNA polymerase with antibody modification, 1kb/min, generates 3'-dA overhangs

HS Hotstart Taq DNA Polymerase

#P1091	500U
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1.1.11 qPCR Hotstart Taq DNA Polymerase (P1101, P1102, P1103, P1104)

qPCR dedicated, high specificity, hotstart DNA polymerase with antibody modification, 1kb/min, generates 3'-dA overhangs

qPCR Hotstart Taq DNA Polymerase	
#P1101	250U
#P1102	1000U
#P1103	3000U
#P1104	18000U

1.1.12 Multiplex PCR Master Mix with UDG, 2X (PM2001, PM2002, PM2003)

Detecting multiple targets from one template with high specificity introduced by antibody modified hotstart Taq DNA polymerase. dUTP /UDG system eliminates false positive pollution. One tube master mix, easy to use.

Multiplex PCR Master Mix with UDG, 2X

#Pm2001	40 rxns
#PM2002	400 rxns
#Pm2003	2000 rxns

1.1.13 Super HIFI PCR Master (P2111, P2112, P2113)

Containing chemically modified DNA polymerase with 100- fold ultra-high fidelity of Taq. One tube master mix, easy to use.

Super HIFI PCR Master

#P2111	100 rxns
#P2112	1000 rxns
#P2113	5000 rxns

1.2.1 dNTPs

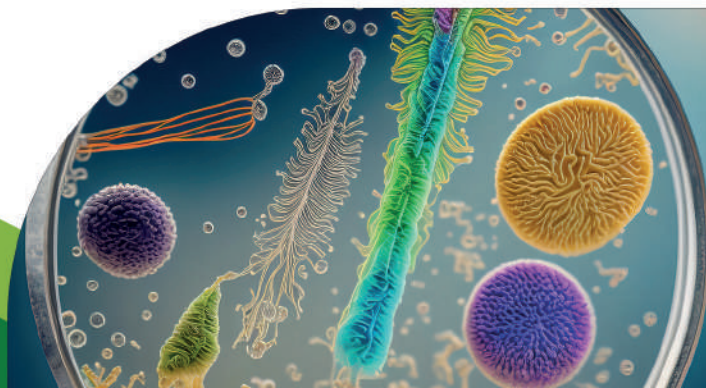
Deoxyribonucleotide triphosphate (dNTP) mixes and aqueous solutions in various concentrations provides the bases necessary for DNA synthesis. Mixtures of multiple dNTPs and individual solutions of each dNTP are available.

Product name	Cat. No.	Spec.	Conc.
dNTP Mix	P9011	1 mL	2.5mM each (dATP, dTTP, dCTP, dGTP)
dNTP Mix	P9012	0.5 mL	10mM each (dATP, dTTP, dCTP, dGTP)
dNTP Mix	P9013	1 mL	10mM each (dATP, dTTP, dCTP, dGTP)
dNTP Set	P9061	250 µl × 4	100mM each (dATP, dTTP, dCTP, dGTP)
dATP	P9071	0.5 mL	100mM
dTTP	P9081	0.5 mL	100mM
dCTP	P9091	0.5 mL	100mM
dGTP	P9101	0.5 mL	100mM
dUTP	P9111	1 mL	100mM
dNTP Mix (RNase-free)	R2051	0.5 mL	10mM each (dATP, dTTP, dCTP, dGTP)

1.2.2 PCR Buffer

Provides a suitable PCR reaction environment.

Product name	Cat. No.	Spec.	Conc. of Mg ²⁺
10X PCR Buffer (Mg ²⁺ Plus)	P5011	1.25 mL × 4	16mM
10X PCR Buffer (Mg ²⁺ Free)	P5011a	1.25 mL × 4	—
10X PCR Buffer with Mg ²⁺ Set	P5011b	1.25 mL × 6	12.5mM, 15mM, 17.5mM, 20mM, 25mM, 30mM



Product name	Cat. No.	Spec.	Applications
Water (Nuclease-free)	P9021	1 ml × 5	• molecular biology experiments
	P9022	100 mL	
	P9023	500 mL	
25mM MgCl ₂	P9031	1.25 mL × 4	• optimization of Mg ²⁺ concentration in PCR
PCR Enhancer	P9041	500 µl	• Complex template with GC-rich • improve efficiency, quality and yield
PCR Sample Preparation Solution	P9051	50 preps	• Processing sample for direct PCR
	P9052	250 preps	
Heat Labile UDG	R5001	500 µl	• Eliminate false positive contamination in PCR, qPCR, RT-PCR, RT-qPCR systems
	R5002	100 µl	
M-MLV Reverse Transcriptase	R1041	5,000U	1 st strand cDNA synthesis, especially for two-step RT-PCR/qPCR
	R1042	10,000U	
Gold Reverse Transcriptase	R3001	2,000U	1st strand cDNA synthesis, especially for two-step RT-PCR/qPCR
	R3002	10,000U	
RNasin	R2001	1,000U	Inhibition of RNase activity in cDNA synthesis and RT-PCR/qPCR
RNase Inhibitor (Murine)	R4001	20,000U	Inhibition of RNase activity, more suitable for the one-step RT-PCR/qPCR

Guidelines for Use of ROX Reference Dye for Real-Time PCR Systems

Instruments	Final Conc. of ROX
ABI PRISM 7000/ PRISM 7700/ 7300/ 7900HT/ StepOne/ StepOnePlus/ GeneAmp 5700	500 nM, high ROX
ABI 7500/ 7500 Fast/ Viia 7/ QuantStudio 6/7/12K Flex; Agilent Stratagene Mx3000P/ Mx3005P/ Mx4000	50 nM, low ROX
Bio-Rad CFX96/ CFX384/ iQ/ iQ5; MJ Research Opticon 2/ Chromo 4; Roche LightCycler 480/ 96; Corbett Rotor Gene G/ Q/ 3000/ 6000; Thermo PikoReal 96; Eppendorf Master Cycler ep realplex; Cepheid Smart Cycler	No ROX

2.1 SYBR Green qPCR Mix (P2091, P2092) /SYBR Green qPCR Mix (Low ROX+) (P2091a, P2092a) /SYBR Green qPCR Mix (High ROX+) (P2091b, P2092b) / SYBR Green qPCR Mix with ROX (P2091c, P2092c)

SYBR Green I dye method qPCR Mix, antibody modify technology brings high stability and high specificity for DNA polymerase. It could be widely used in scientific research with high cost performance.

SYBR Green qPCR Mix ¹		SYBR Green qPCR Mix (Low ROX+) ²		SYBR Green qPCR Mix (High ROX+) ³		SYBR Green qPCR Mix with ROX ⁴	
#P2091	1 mL	#P2091a	1 mL	#P2091b	1 mL	#P2091c	1 mL
#P2092	1 mL×5	#P2092a	1 mL×5	#P2092b	1 mL×5	#P2092c	1 mL×5

1: No ROX; 2: Premixed with a low concentration of ROX; 3: Premixed with a high concentration of ROX; 4: ROX is individually packaged, non-premixed

2.2 Power Green qPCR Mix (P2101 P2102) /Power Green qPCR Mix (Low ROX+) (P2101a, P2102a) /Power Green qPCR Mix (High ROX+) (P2101b, P2102b) / Power Green qPCR Mix with ROX (P2101c, P2102c)

SYBR Green I dye method qPCR Mix, antibody-modified hotstart DNA polymerase, high specificity and high sensitivity, multiple ROX forms.

Power Green qPCR Mix ¹		Power Green qPCR Mix (Low ROX+) ²		Power Green qPCR Mix (High ROX+) ³		Power Green qPCR Mix with ROX ⁴	
#P2101	1 mL	#P2101a	1 mL	#P2101b	1 mL	#P2101c	1 mL
#P2102	1 mL×5	#P2102a	1 mL×5	#P2102b	1 mL×5	#P2102c	1 mL×5

1: No ROX; 2: Premixed with a low concentration of ROX; 3: Premixed with a high concentration of ROX; 4: ROX is individually packaged, non-premixed

1.2.4 Order Primers

GDSBio provides the service of ordering primers, qPCR probes and other nucleotides as an agency. The primers are customized according to your needs and the quality is guaranteed.

2. Real-time PCR Mix

Product Selection Guide

Real-time Quantitative PCR (qPCR) Type	Product
SYBR Green dye method	SYBR Green qPCR Mix (P2091, P2092) SYBR Green qPCR Mix (Low ROX+) (P2091a, P2092a) SYBR Green qPCR Mix (High ROX+) (P2091b, P2092b) SYBR Green qPCR Mix with ROX (P2091c, P2092c)
	Power Green qPCR Mix (P2101, P2102) Power Green qPCR Mix (Low ROX+) (P2101a, P2102a) Power Green qPCR Mix (High ROX+) (P2101b, P2102b) Power Green qPCR Mix with ROX (P2101c, P2102c)
Probe method	HS Probe qPCR Mix (P2201, P2202) HS Probe qPCR Mix with UDG (P2301, P2302)
	Multiplex Probe qPCR Mix (P2601, P2602, P2603, P2604) Multiplex Probe qPCR Mix Plus U (P2701, P2702, P2703, P2704)
	Direct Multiplex Probe qPCR Mix Plus U (P2801, P2802, P2803, P2804)

2.3 HS Probe qPCR Mix (P2201, P2202) /HS Probe qPCR Mix with UDG (P2301, P2302)

Probe method qPCR Mix with high specificity introduced by antibody-modified hotstart DNA polymerase. The reaction system can be prepared at room temperature without producing non-specific products. Perfectly compatible with common quantitative PCR instruments

1: No ROX; 2: No ROX, introduced with dUTP /UDG system to eliminate false positive pollution

HS Probe qPCR Mix ¹		HS Probe qPCR Mix with UDG ²	
#P2201	1 mL	#P2301	1 mL
#P2202	1 mL×5	#P2302	1 mL×5

2.4 Multiplex Probe qPCR Mix (P2601, P2602, P2603, P2604) /Multiplex Probe qPCR

Probe method qPCR Mix with antibody-modified hotstart DNA polymerase. It can perform multiple qPCR reactions with high specificity and high sensitivity, making it the best choice for preparing IVD kits.

Multiplex Probe qPCR Mix ¹		Multiplex Probe qPCR Mix Plus U ²	
#P2601	1 mL	#P2701	1 mL
#P2602	1 mL×5	#P2702	1 mL×5
#P2603	50 mL	#P2703	50 mL
#P2604	100 mL	#P2704	100 mL

1: No ROX; 2: No ROX, introduced with dUTP /UDG system to eliminate false positive pollution

2.5 Direct Multiplex Probe qPCR Mix Plus U (P2801, P2802, P2803, P2804)

Probe method, direct qPCR Mix without nucleic acid purification. Blood, swab, tissue homogenate and other samples can be tested directly to improve the efficiency of molecular diagnosis.

Direct Multiplex Probe qPCR Mix Plus U ¹	
#P2801	1 mL
#P2802	1 mL×5
#P2803	50 mL
#P2804	100 mL

1: No ROX, introduced with dUTP /UDG system to eliminate false positive pollution

3. Nucleic Acid Extraction & Purification Products

3.1 RNA Extraction & Purification Kit

General RNA Extraction Kit provides a simple method of isolating total RNA range of sample types and amounts. This kit is based on silica gel column purification technology and the superior lysis ability of guanidine salt. The purified total RNA is suitable for use in a variety of downstream applications, such as PCR, RT-PCR, qPCR, etc.

Key Features:

High purity; Few genome residues; Simple and fast; Strong versatility
See "10. Virus Nucleic Acid Extraction Kit" for more products.

General RNA Extraction Kit	
#R1051	50 preps

Related Reagents for Nucleic Acid Extraction and Purification

Product name	Cat. No.	Spec.	Conc./Specific Activity	Applications
Lysozyme	N9021	1 ml × 5	50mg/mL	• Removal of the cell wall of Gram-positive bacteria
Lyticase	N9031	150 µl	10U/µl	• Digest yeast cell walls
	N9032	300 µl		• Generate spheroplasts from fungi for transformation
RNase A Solution	N9041	1 ml	10mg/mL	• Plasmid and genomic DNA preparation
	N9042	1 ml	100mg/mL	• Removal of RNA from recombinant protein preparations.
RNase A Powder	N9046	100mg	≥3000 U/mg protein	• Ribonuclease protection assays
RNase A Powder	N9047	1g		• Mapping single-base mutations in DNA or RNA
TRAzol	R1021	20 mL	—	• Isolation of total RNA from cells and tissues
	R1022	100 mL		
RNA Stabilization Solution	R2071	20 mL	—	• Protecting RNA integrity in tissues rich in RNases. • Collecting samples from different time points without having to process the samples from each time point immediately. • Archiving tissues for future microdissection. • Submerging animal cavities or organs in RNA Stabilization Solution to stabilize RNA during long, tedious dissections. • Collecting samples at locations (e.g., hospitals, field sites, the space shuttle) where immediate RNA isolation is not possible • Shipping samples on wet ice or even at room temperature if shipped overnight.
	R2072	100 mL		
DS Carrier	R6001	1 mL	1 µg/µl	• Improve the binding and elution efficiency of trace RNA during the purification process
DS Carrier	R7001	200 mL	—	
Proteinase K	See 8.1 "Proteinase K" for details			
Magnetic Beads	See 8.4 "Magnetic Beads for Nucleic Acid Extraction and Purification" for details			

3.3 Silica Spin Column

Features

- High efficiency and high quality for DNA/RNA extraction or recovery
- Silica membrane based spin column
- Compatible with Qiagen's and Invitrogen's buffer " Autoclavable (121°C, 20min)
- Withstand 14,000xg centrifugal force Economical for large sample process

Product Selection Guide

Product name	Mini Spin Column I	Mini Spin Column II	Mini Spin Column III	Mid Spin Column I	Maxi Spin Column I	RNA Mini Spin Column
Cat. No.	C1011	C1021	C1031	C2011	C3011	C4011
Spec.	1000 pcs/bag	1000 pcs/bag	1000 pcs/bag	100 pcs/bag	100 pcs/bag	1000 pcs/bag
Maxi. volume	700 µl	700 µl	700 µl	30 mL	50 mL	700 µl
Fragment size	65bp-10kb	65bp-10kb	Plasmid DNA < 10kb	< 300kb	< 300kb	≥25nt
Binding capacity	45 µg	50 µg	55 µg	500 µg	1000 µg	40 µg
Applications	• Extraction of DNA from agarose gels • Purification of PCR products	• Purification of gel/PCR products • Extraction of Genomic DNA • Extraction of Plasmid DNA	• Extraction of Plasmid DNA	• Extraction of Plasmid DNA • Extraction of Genomic DNA	• Extraction of Plasmid DNA • Extraction of Genomic DNA	• Extraction of RNA samples



4. DNA Electrophore Reagent

4.1 DNA Molecular Weight

GDSBio provides two series of DNA Markers/Ladders (DNA Molecular Weight) to indicate the base pairs and the concentration of DNA at the range of 25bp~23kb: Classic DNA Marker, and LD DNA Marker, they are designed to be used with different electrophoretic nucleic acid dyes.

Suggestions on Staining Method

Type of DNA Marker	Suggested staining method of DNA gel	
	Traditional staining dye (such as EB)	Novel staining dye (such as GelRed)
Classic DNA Marker	Precast or post-electrophoresis gel staining	Post-electrophoresis gel staining
LD DNA Marker	Not suggested	Precast

Classic DNA Marker					LD DNA Marker			Indicating Range
Name	Cat. No.	Spec.	Volume	No. of use	Name	Cat. No.	Spec.	
10bp Ladder	M1011/ M1012	50µg/ 50µg×5	298µl/ 298µl×5	59preps/ 59preps×5	/	/	/	80~ 300bp
20bp Ladder	M1021/ M1022	50µg/ 50µg×5	391µl/ 391µl×5	78preps/ 78preps×5	/	/	/	60~ 300bp
Low Ladder	M1031/ M1032	50µg/ 50µg×5	481µl/ 481µl×5	96preps/ 96preps×5	LD Low Ladder	LM1031/ LM1032	60preps/ 60preps×3	25~ 700bp
50bp Ladder	M1041/ M1042	50µg/ 50µg×5	658µl/ 658µl×5	131preps/ 131preps×5	LD 50bp Ladder	LM1041/ LM1042	60preps/ 60preps×3	50~ 500bp
50bp Ladder Plus	M1051/ M1052	50µg/ 50µg×5	391µl/ 391µl×5	78preps/ 78preps×5	LD 50bp Ladder Plus	LM1051/ LM1052	60preps/ 60preps×3	50~ 1000bp
100bp Ladder Best Sale	M1061/ M1062	50µg/ 50µg×5	500µl/ 500µl×5	100preps/ 100preps×5	LD 100bp Ladder	LM1061/ LM1062	60preps/ 60preps×3	100~ 1,500bp
100bp Ladder Plus	M1071/ M1072	50µg/ 50µg×5	368µl/ 368µl×5	73preps/ 73preps×5	LD 100bp Ladder Plus	LM1071/ LM1072	60preps/ 60preps×3	100~ 3,000bp
Marker 1	M1081/ M1082	50µg/ 50µg×5	667µl/ 667µl×5	133preps/ 133preps×5	LD Marker 1	LM1081/ LM1082	60preps/ 60preps×3	100~ 600bp
Marker 2	M1091/ M1092	50µg/ 50µg×5	667µl/ 667µl×5	133preps/ 133preps×5	LD Marker 2	LM1091/ LM1092	60preps/ 60preps×3	100~ 1200bp
DS™ 2000	M1101/ M1102	50µg/ 50µg×5	476µl/ 476µl×5	95preps/ 95preps×5	LD DS™ 2000	LM1101/ LM1102	60preps/ 60preps×5	100~ 2,000bp

Suggested usage: 5pl/lane. OEM is available.

Classic DNA Marker					LD DNA Marker			Indicating Range
Name	Cat. No.	Spec.	Volume	No. of use	Name	Cat. No.	Spec.	
DS™ 5000	M1111/ M1112	50µg/ 50µg×5	333µl/ 333µl×5	66preps/ 66preps×5	LD DS™ 5000	LM1111/ LM1112	60preps/ 60preps×5	100~ 5,000bp
Marker 3	M1121/ M1122	50µg/ 50µg×5	588µl/ 588µl×5	117preps/ 117preps×5	LD Marker 3	LM1121/ LM1122	60preps/ 60preps×5	200~ 4,500bp
Marker 11	M1131/ M1132	50µg/ 50µg×5	667µl/ 667µl×5	133preps/ 133preps×5	/	/	/	200~ 1,500bp
Marker 12	M1141/ M1142	50µg/ 50µg×5	667µl/ 667µl×5	133preps/ 133preps×5	/	/	/	200~ 2,000bp
200bp ladder	M1151/ M1152	50µg/ 50µg×5	463µl/ 463µl×5	117preps/ 117preps×5	LD 200bp ladder	LM1151/ LM1152	60preps/ 60preps×3	200~ 4,000bp
DS™ 15000	M1161/ M1162	50µg/ 50µg×5	588µl/ 588µl×5	preps/ preps×5	LD DS™ 15000	LM1161/ LM1162	60preps/ 60preps×5	250~ 15,000bp
1kb Ladder Best Sale	M1181/ M1182	50µg/ 50µg×5	481µl/ 481µl×5	96preps/ 96preps×5	LD 1kb Ladder	LM1181/ LM1182	60preps/ 60preps×5	500~ 10,000bp
1kb Ladder Plus	M1191/ M1192	50µg/ 50µg×5	347µl/ 347µl×5	69preps/ 69preps×5	LD 1kb Ladder Plus	LM1191/ LM1192	60preps/ 60preps×3	100~ 10,000bp
Lambda DNA /Hind III	M1201/ M1202	50µg/ 50µg×5	1250µl/ 1250µl×5	250preps/ 250preps×5	LD Lambda DNA/ Hind III	LM1201/ LM1202	60preps/ 60preps×3	125~ 2,3130bp
DS™ 10000	M1221/ M1222	50µg/ 50µg×5	588µl/ 588µl×5	117preps/ 117preps×5	LD DS™ 10000	LM1221/ LM1222	60preps/ 60preps×5	250~ 10,000bp
Marker 4	M1231/ M1232	50µg/ 50µg×5	667µl/ 667µl×5	133preps/ 133preps×5	LD Marker 4	LM1231/ LM1232	60preps/ 60preps×5	500~ 15,000bp
DS™ 15000 +2000	M1241/ M1242	50µg/ 50µg×5	500µl/ 500µl×5	100preps/ 100preps×5	/	/	/	
500bp ladder	M1251/ M1252	50µg/ 50µg×5	543µl/ 543µl×5	108preps/ 108preps×5	LD 500bp ladder	LM1251/ LM1252	60preps/ 60preps×3	500~ 5,000bp

Electrophoresis Band Pattern of DNA Markers





Nucleic Acid Dye

Product Selection Guide

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Nucleic Acid Dye	DSView™ Nucleic Acid Stain	DSRed Nucleic Acid Stain	
Sensitivity	M7011	M7021	M7022
Cat. No.	1mL	0.5mL	0.5mL×5
Spec.	20,000X/1X	10,000X/1X	
Conc./working Conc.	5~10 ng DNA	1~2 ng DNA	
Type of Nucleic Acid	dsDNA, RNA	dsDNA, ssDNA, RNA	
Recommended loading amount	40~500 ng DNA per band	30~120 ng DNA per band (precast)	
Excitation wavelength	267nm and 294nm	302nm	
Safety	It's safe, but needs protection	high safety, non-mutagenic and non-hazardous for disposal	
Impact on Striping	Small. Highly accurate band sizing	Large. Be careful to reduce the concentration of the sample	
Adaptive DNA Marker	GDSBio's Classic DNA Markers (precast or post-electrophoresis gel staining)	GDSBio's LD DNA Markers (precast)	

4.3 DNA Loading Buffer

Product Selection Guide

Product name	6X Gel Loading Dye	6X Gel Loading Buffer, Blue	6X Gel Loading Buffer, Three-color	6X Gel Loading Buffer, Orange	6X Gel Loading Buffer, SDS+
Cat. No.	M9041	M9051	M9061	M9071	M9081
Spec.	1 mL×5	1 mL×5	1 mL×5	1 mL×5	1 mL×5
Indicated dye and location					
Working Conc.	1X	1X	1X	1X	1X
Applicable scene	Conventional electrophoresis				Electrophoresis of DNA with high protein content



4.4 Electrophoresis Buffer

Product Selection Guide

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Product name	20X Swift DNA Electrophoresis Buffer	50X TAE Buffer	10X TAE Buffer	10X TBE Buffer
Cat. No.	M9011	M9021	M9022	M9031
Spec.	500 mL	500 mL	500 mL	500 mL
PH value	8.2~8.4	8.2~8.4	8.2~8.4	8.2~8.4
Working Conc.	1X	1X	1X	0.5 X
Features	- Fast: Electrophoresis can be done in 10 minutes - High efficiency of DNA recovery	- Suitable for isolation of nucleic acids larger than 1,500bp, as well as genomic DNA - Suitable for DNA recovery	Suitable for isolation of nucleic acids small than 1,500bp	
Applications	- Agarose gel electrophoresis - PAGE (no SDS)	- Agarose gel electrophoresis - PAGE (no SDS) - Prepare agarose gel		



4.5 Agarose Powder

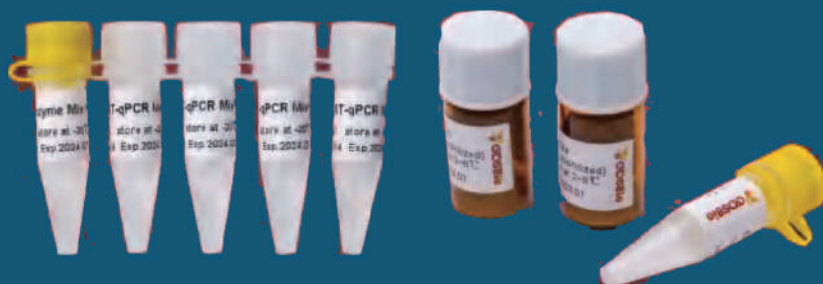
Product Selection Guide

Agarose is the most popular medium for electrophoresis because of the large size for rapid diffusion and low background. GDSBio's Agarose is a multi-purpose agarose with high purity and Low EEO, which is produced in a green, original process without using organic solvents, reducing pollution to the environment and the impact on operators and samples.

Product name	Agarose	
CAS No.	9012-36-6	
Cat. No.	N9051	N9052
Spec.	500g	100g
Application	DNA/RNA gel electrophoresis	
Appearance:	Fine, homogeneous white powder	
Moisture:	≤ 10%	
Gel strength (1% gel):	≥ 1200 g/cm2	
EEO (Electroendosmosis):	≤ 0.13	
Sulfide (SO42-):	≤ 0.15%	
Solubleness:	colorless clear gel liquid	
Ash:	≤ 0.5%	
Solidification temperature (1.5% gel):	36°C±1.5°C	
Thawing temperature (1.5% gel):	88°C±1.5°C	
DNase/RNase Assay:	None detected	
Proteinase Assay:	None detected	



5. One-stop RT-qPCR Reagent



Product Selection Guide

Cat. No.	V5001/ V5002	V5005/ V5006	V5005L/ V5006L	V5007/ V5008	V5007L/ V5008L	V5009/ V5010	V5011
Product Name	One-step Probe RT-qPCR Kit	DSPath™ 4X One-Step Multiplex Master Mix	DSPath™ 4X One-Step Multiplex Master Mix (Lyophilized)	2X One Step Prime RT-qPCR Mix	2X One Step Prime RT-qPCR Mix (Lyophilized)	One-step Probe RT-qPCR Kit V2	One-step Probe RT-qPCR Kit V3
Mixture Format	Enzyme Mix+2X Buffer Mix	4X All-in Mix	4X All-in Lyophilized Powder	2X All-in Mix	2X All-in Lyophilized Powder	Enzyme Mix+2X Buffer Mix	Enzyme Mix+5X Buffer Mix
Mode/Time	Standard/ ~120 min	Fast/~60 min or Standard/~120 min	Fast/~60 min or Standard/~120 min	Fast/~60 min or Standard/~120 min	Fast/~60 min or Standard/~120 min	Fast/~60 min or Standard/~88 min	Fast/~25min or Standard/~45 min
RT Temperature	50~55°C	48~55°C	48~55°C	48~55°C	48~55°C	50~55°C	50~55°C
PCR Enzyme	Antibody-modified hotstart Taq	Antibody-modified hotstart Taq	Antibody-modified hotstart Taq	Antibody-modified hotstart Taq	Antibody-modified hotstart Taq	Antibody-modified hotstart Taq	Antibody-modified hotstart Taq
Heat-labile UDG	+	+	+	+	+	+	+
Sensitivity	Very high	Very high	Very high	Very high	Very high	Ultra high	Ultra high

5.1 One-step Probe RT-qPCR Kit (V5001, V5002)

Product Selection Guide

Heat-resistant reverse transcriptase and antibody modified hotstart DNA polymerase can jointly and efficiently complete reverse transcription and real-time quantitative PCR in one tube with high specificity and high sensitivity.

Enzyme Mix+2X Buffer Mix, this form is convenient for the development and production of various testing kits

One-step Probe RT-qPCR Kit	
#V5001	200 rxns
#V5002	5000 rxns

5.2 DSPath™ 4X One-Step Multiplex Master Mix (V5005, V5006) /DSPath™ 4X One- Step Multiplex Master Mix (Lyophilized) (V5005L, V5006L)

Heat-resistant reverse transcriptase and antibody modified hotstart DNA polymerase can jointly and efficiently complete reverse transcription and real-time quantitative PCR in one tube with high specificity and high sensitivity.

One tube 4X all-in master mix, contains all components for RT-qPCR, including reverse transcriptase, DNA polymerase, dNTP/dUTP mix, UDG, etc, this form is convenient for use, saving time, and also reducing contamination. The most important is to increase the amount of samples, improve the detection rate.

Lyophilized powder form is more conducive for long-distance, normal temperature transportation.

DSPath™ 4X One-Step Multiplex Master Mix		DSPath™ 4X One-Step Multiplex Master Mix (Lyophilized)	
#V5005	200rxns	#V5005L	200rxns
#V5006	5000rxns	#V5006L	5000rxns

5.3 2X One Step Prime RT-qPCR Mix (V5007, V5008) /2X One Step Prime RT-qPCR

Heat-resistant reverse transcriptase and antibody modified hotstart DNA polymerase can jointly and efficiently complete reverse transcription and real-time quantitative PCR in one tube with high specificity and high sensitivity.

One tube 2X all-in master mix, contains all components for RT-qPCR, including reverse transcriptase, DNA polymerase, dNTP/dUTP mix, UDG, etc, this form is convenient for use and also saving time, and reducing contamination.

Lyophilized powder form is more conducive for long-distance, normal temperature transportation.

2X One Step Prime RT-qPCR Mix		2X One Step Prime RT-qPCR Mix (Lyophilized)	
#V5007	200rxns	#V5007L	200rxns
#V5008	5000rxns	#V5008L	5000rxns

5.4 One-step Probe RT-qPCR Kit V2 (V5009, V5010)

Product Selection Guide

Heat-resistant reverse transcriptase, antibody modified hotstart DNA polymerase, and optimized buffer system can jointly and efficiently complete reverse transcription and real-time quantitative PCR in one tube with high specificity and ultra high sensitivity.

Enzyme Mix+2X Buffer Mix, this form is convenient for the development and production of various testing kits.

One-step Probe RT-qPCR Kit V2	
#V5009	200 rxns
#V5010	5000 rxns

Best Sale

5.5 One-step Probe RT-qPCR Kit V3 (V501I)

Heat-resistant reverse transcriptase and antibody modified hotstart DNA polymerase can jointly and efficiently complete reverse transcription and real-time quantitative PCR in one tube with high specificity and high sensitivity.

Enzyme Mix+5X Buffer Mix, this form is convenient for the development and production of various test ing kits, which is to perform low template concentration, multiple detection.

One-step Probe RT-qPCR Kit V3

#V5011

200 rxns

6. Reverse Transcription Reagent

6.1 Reverse Transcriptase

Product name	M-MLV Reverse Transcriptase		Gold Reverse Transcriptase	
Cat. No.	R1041	R1042	R3001	R3002
Spec.	5,000U	10,000U	2,000U	10,000U
Features	The optimum activity temperature is 37-42°C		The optimum activity temperature is 50-55°C	
Applications	1st strand cDNA synthesis, especially for two-step RT-PCR/qPCR		1st strand cDNA synthesis, especially for one-step RT-PCR/qPCR	

6.2 Reverse Transcription Kit

Product name	RT - PCR Kit		RT-PCR Mix for qPCR
Cat. No.	R1011	R1012	R1031
Spec.	20 rxns	100 rxns	100 rxns
Features	Each component individually packaged, flexible dosage		Buffer mix + enzyme mix, easy to use
Applications	1st strand cDNA synthesis, the products can be used for PCR, qPCR and other experiments		1st strand cDNA synthesis, the products are specially used for qPCR

6.3 RNase Inhibitor

Product name	RNasin	RNase Inhibitor (Murine)
Cat. No.	R2011	R4001
Spec.	1,000U	20,000U
Features	Recombination of human source	Recombination of murine source Its activity is less dependent on DTT
Applications	Inhibition of RNase activity in cDNA synthesis and RT-PCR/qPCR	Inhibition of RNase activity, more suitable for the one-step RT-PCR/qPCR

6.4 RT Primer

Product name	Oligo d(T) ₁₈ Primer	Random Hexamer Primer, 6-mer
Cat. No.	R2021	R2031
Spec.	20 µl	20 µl
conc.	50 µM	50 µM
Features	uses all RNA as template for reverse transcription	only uses mRNA as template for reverse transcription
Applications	First strand cDNA synthesis	First strand cDNA synthesis

6.5 Other Related Products

Product name	DEPC-Treated Water		dNTP Mix (RNase free)
Cat. No.	R2041	R2042	R2051
Spec.	30 mL	100 mL	0.5 mL
conc.	—		10 mM each
Features	Free of endodeoxyribonucleases, exodeoxyribonucleases, ribonucleases and phosphatases		RNase free
Applications	For use in all molecular biology experiments		For direct use in PCR, long PCR, RT-PCR, cDNA synthesis, primer extension, DNA sequencing, and DNA labeling



7. NGS Library Construction

7.1 NGS Multiplex PCR Mix

Product name	NGS Multiplex PCR Master Mix			NGS Multiplex PCR Master Mix II		
Cat. No.	NM1001	NM1002	NM1003	NM2001	NM2002	NM2003
Spec.	40rxns	400rxns	2000rxns	40rxns	400rxns	2000rxns
Features	Reaction in A Single Tube / Hotstart DNA Polymerase / Low Error Rates / High Specificity			Reaction in A Single Tube / Hotstart DNA Polymerase / Ultra-High Fidelity / Ultra-Low Error Rates / High Specificity		
Applications	PCR enrichment			PCR enrichment		



other contain

7.2 Size Selection & PCR Cleanup

Product name	GDSPure DNA Selection Magbeads		
Cat. No.	NC1011	NC1012	NC1013
Spec.	5mL	60mL	450mL
Features	- High recovery of amplicons ≥ 150bp - Efficient removal of unincorporated dNTPs, primers, primer dimers, salts and other contaminants - Predictable and consistent size selection - Compatible with manual and automated processing		
Applications	Size selection and cleanup for Next-generation sequencing (NGS), Sanger sequencing, qPCR, ddPCR and microarrays, etc.		



8. Others

8.1 Proteinase K

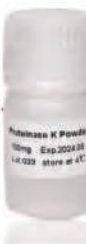
Proteinase K is an endolytic protease that cleaves peptide bonds at the carboxylic sides of all-phatic, aromatic or hydrophobic amino acids. The Proteinase K is classified as a serine protease. The smallest peptide to be hydrolyzed by this enzyme is a tetrapeptide.

Key Features:

- Molecular Biology Grade
- Specific Activity: * 30 U/mg protein
- 2 kinds of Forms: Contains proteinase K (*95%), lyophilized powder; or solution
- Recombinant proteinase K
- Active in a wide range of reaction products

Applications:

- Isolation of genomic DNA from cultured cells and tissues
- Removal of DNases and RNases when isolating DNA and RNA from tissues or cell lines
- Determination of enzyme localization
- Improving cloning efficiency of PCR products



Product name	Cat. No.	Form	Spec.	Specific Activity
Proteinase K	N9011	Solution	1 mL	≥ 600 U/mL (20mg/mL)
Proteinase K	N9012	Solution	1.6 L	≥ 18000 U/mL (100mg/mL)
Proteinase K	N9016	Powder	100mg	≥ 30 U/mg
Proteinase K	N9017	Powder	1g	≥ 30 U/mg
Proteinase K	N9018-1	Powder	50g	≥ 30 U/mg
Proteinase K	N9018-2	Powder	100g	≥ 30 U/mg
Proteinase K	N9019	Solution	500 mL	≥ 600 U/mL (20mg/mL)

8.2 dNTPs

See "1.2.1 dNTPs" for the details.

8.3 RNase A

See "3.2 Related Reagents for Nucleic Acid Extraction and Purification" for the details.

8.4 Magnetic Beads for Nucleic Acid Extraction and Purification

Product Name	Mag Beads A	Mag Beads B	Mag Beads C	Mag Beads D
Cat. No.	N8011	N8021	N8031	N8041
Size	380mL	380mL	380mL	100mL
Conc.	100mg/mL	60mg/mL	40mg/mL	10mg/mL
Form	Amorphous and Porous	Amorphous and Porous	Porous	Nonporous
Surface Function	Si-OH, Silica Beads	Si-OH, Silica Beads	Si-OH, Silica Beads	COOH, Carboxyl Beads
Dispersion	Polydisperse	Polydisperse	Monodisperse	Monodisperse
Particle Size	2~10 μ m	0.5~2 μ m	2 μ m	1 μ m
Color	Black	Yellow	Brown	Yellow
Magnetic Response	Fast	Fast	Medium	Slow
Settling Time (1ml)	>3min	>3min	>4min	>30min
Usage (0.2ml Sample)	20 μ L	20 μ L	20~30 μ L	20~30 μ L
DNA Recover Rate (only 4M GITC)	>80%	>80%	>90%	<10%
DNA Recover Rate (10% PEG8000/NaCl)	>80%	>80%	>80%	>90%
Recommended Use	- gDNA/RNA isolation from blood, tissue, plant, swab, spots, stool, soil, etc - Viral DNA/RNA isolation - Agarose gel DNA purification	- DNA/RNA isolation from low nucleic acid content samples - Plasmid isolation - DNA/RNA clean up	- Circulating DNA isolation - Viral nucleic acid isolation - gDNA isolation - FFPE DNA/RNA isolation	- DNA/RNA clean up and concentration - DNA/RNA isolation from low nucleic acid content samples - Research immunoassays



Features

- Flexible: manual or automatic high-throughput DNA/RNA isolation
- Fast magnetic response: only 3 seconds for complete separation
- High yields: up to 10 pg of genomic DNA from 200 µl of whole blood
- High purity: isolated DNA/RNA is immediately ready-to-use in downstream application such as sequencing, in vitro transcription, restriction enzyme digestion, and transfection of robust cell lines
- Reproducible results and lot to lot consistency: CV < 5%

8.5 Carrier RNA

7.1 NGS Multiplex PCR Mix

Product name	DS Carrier	DS Carrier
Cat. No.	R6001	R7001
Spec.	1 mL	200 µg
Form	Liquid (1 µg/µl)	Lyophilized powder, sodium salt
Features	No DNase or RNase pollution	
Applications	Improve the binding and elution efficiency of trace RNA during the purification process	

