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HC-M-22jun15-EN01



## STAR MOLECULAR BIOLOGY PRODUCTS



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# **LEADER IN BIOMOLECULAR SOLUTIONS FOR LIFE SCIENCE**

EXPLORING THE MYSTERIES OF  
LIFE SCIENCE WITH YOU

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# 1.PCR

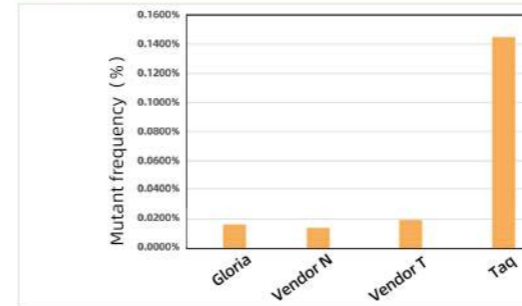
PCR is one of the most commonly used molecular biology techniques, which can achieve rapid amplification of specific DNA fragments. DNA polymerase is the core component of PCR reaction. According to different scenarios, it is usually necessary to select a suitable DNA polymerase for a specific experiment. ABclonal provides a variety of modified DNA polymerases to meet different application needs.

## STAR PRODUCTS

### PRODUCT RECOMMENDATION

**Gloria Nova HS 2X Master Mix (RK20717)**  
 — High Fidelity PCR Mix

#### // Demonstration Data

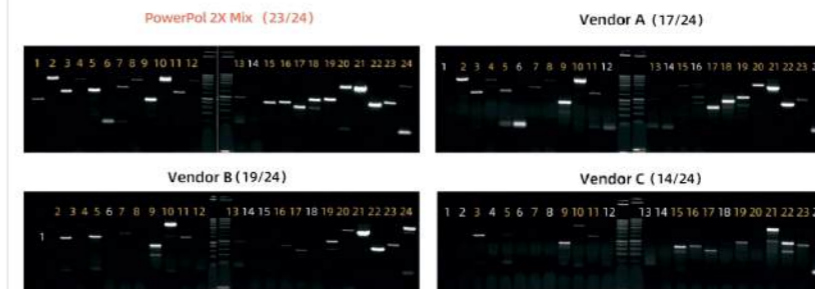


Gloria Nova HS 2X Master Mix shows high fidelity, significantly better than Taq and comparable to other high fidelity enzymes in the market.

### PRODUCT RECOMMENDATION

**PowerPol 2X PCR Mix with Dye (RK20719)**  
 — Super cost-effective universal PCR Mix

#### // Demonstration Data



Using 24 pairs of representative primers to do the amplification, the success rate of PowerPol is 95.8% and significantly better than other vendors in the market.

#### // PCR Series

Category	Cat.No.	Product Name	Size	Price (USD\$)
High-Fidelity PCR	RK20714	Gloria Nova HS PCR Kit	50 RXN/200 RXN	38/138
	RK20717	Gloria Nova HS 2X Master Mix	1 mL/5 mL	93/233
Universal PCR	RK20718	PowerPol 2X PCR Mix	5 mL/25 mL/100 mL	28/125/375
	RK20719	PowerPol 2X PCR Mix with Dye	5 mL/25 mL/100 mL	34/150/450
Nucleic acid electrophoresis	RM02852	High purity agarose	100 g	138
	RM19009	Nucleic Acid stain (Safe Red)	500 µL	138
	RM19008	Nucleic Acid stain (Safe Green)	500 µL	138

## 2.Vector Construction

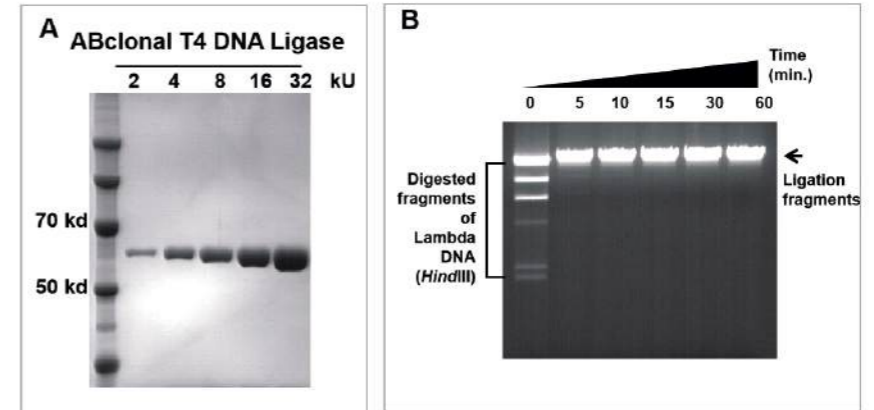
Vector construction is a technology of inserting exogenous DNA fragments into the target vector to form recombinant plasmids. ABclonal can provide T4 ligase for vector construction based on traditional method.

### STAR PRODUCTS

#### PRODUCT RECOMMENDATION

**T4 DNA Ligase (High Conc.) (RK21500)**  
 — High concentration T4 DNA ligase

#### // Demonstration Data



ABclonal T4 DNA Ligase has extreme purity and excellent DNA ligation activity

**A.** SDS-Page analysis of different amounts of ABclonal T4 DNA ligase.

**B.** Analysis of ligation activity of ABclonal T4 DNA ligase for different incubation time (2000 U ABclonal T4 DNA ligase ligated 1  $\mu$ g HindIII-digested Lambda DNA fragment).

#### // Vector Construction Series

Category	Cat.No.	Product Name	Size	Price (USD\$)
T4 DNA Ligase	RK21500	T4 DNA Ligase (High Conc.) 2000 U/ $\mu$ L	80,000 U/400,000 U	138/580
	RK21501	T4 DNA Ligase 400 U/ $\mu$ L	16,000 U/80,000 U	38/168
Plasmid isolation	RK30101	AFTSpin Plasmid Mini Kit	50 RXN	58
	RK30103	AFTSpin EndoFree Plasmid Maxi Kit	10 RXN	248
Gel recovery and purification	RK30100	AFTSpin Multifunction DNA Purification Kit	100 RXN	128



### 3. Restriction Enzymes

Restriction enzymes developed by ABclonal have the same recognition sequence as those common restriction enzymes, which can achieve accurate digestion. Most ABclonal restriction enzymes are fast restriction enzymes, which can complete the digestion quickly and accurately in 5-15 minutes. The 4 reaction buffer systems are optimized to maximize the digestion effect. All ABclonal restriction enzymes are recombinant enzymes with extremely high purity, and free-contamination.

### STAR PRODUCTS

// Restriction Enzymes Adaptation Table

Cat.No.	Product Name	CutA	CutB	CutC	CutS	Fast Digest	Heat inactivation	Temperature	Size	Price (USD\$)
RK21121	Acc65I	10%	75%	100%	25%	Yes	65°C	37°C	2,000 U/10,000 U	42/170
RK21125	Agel	100%	75%	25%	75%	No	65°C	37°C	300 U/1,500 U	47/190
RK21119	AvrII	100%	50%	50%	100%	Yes	No	37°C	100 U/500 U	53/230
 RK21101	BamHI	75%	100%	100%	100%	Yes	No	37°C	10,000 U/50,000 U	45/180
RK21114	BglI	10%	25%	100%	10%	Yes	65°C	37°C	2,000 U/10,000 U	46/190
 RK21109	DpnI	100%	100%	75%	100%	Yes	80°C	37°C	1,000 U/5,000 U	50/184
 RK21102	EcoRI	10%	100%	10%	100%	Yes	65°C	37°C	10,000 U/50,000 U	45/180
RK21106	EcoRV	10%	50%	100%	100%	Yes	80°C	37°C	4,000 U/20,000 U	45/170
 RK21108	HindIII	25%	100%	50%	50%	No	80°C	37°C	10,000 U/50,000 U	45/198
RK21104	KpnI	100%	75%	10%	50%	No	No	37°C	4,000 U/20,000 U	50/218
RK21122	MluI	10%	50%	100%	25%	Yes	80°C	37°C	1,000 U/5,000 U	47/189
RK21115	NcoI	100%	100%	100%	100%	Yes	80°C	37°C	1,000 U/5,000 U	48/210
RK21111	NheI	100%	100%	10%	100%	Yes	65°C	37°C	1,000 U/5,000 U	50/220
RK21103	NotI	10%	50%	100%	100%	Yes	65°C	37°C	500 U/2,500 U	55/240
RK21124	NspI	100%	100%	10%	100%	Yes	65°C	37°C	250 U/1,250 U	44/180
RK21300	Nt.BspQI	10%	25%	100%	10%	No	80°C	50°C	1,000 U/5,000 U	53/230
RK21126	SacI	100%	50%	10%	100%	Yes	65°C	37°C	2,000 U/10,000 U	39/158
RK21123	SalI	10%	10%	100%	10%	Yes	65°C	37°C	2,000 U/10,000 U	42/166
RK21128	SbfI	50%	25%	<10%	100%	Yes	80°C	37°C	500 U/2,500 U	47/193
RK21105	SfiI	25%	100%	50%	100%	Yes	No	50°C	3,000 U/15,000 U	53/230
RK21120	SgrAI	100%	100%	10%	100%	No	65°C	37°C	1,000 U/5,000 U	43/170
RK21116	SmaI	10%	10%	10%	100%	Yes	65°C	25°C	2,000 U/10,000 U	40/160
RK21113	SpeI	75%	100%	25%	100%	Yes	80°C	37°C	500 U/2,500 U	50/215
RK21117	StyI	10%	25%	100%	10%	Yes	65°C	37°C	3,000 U/15,000 U	53/230
RK21112	XbaI	10%	100%	75%	100%	Yes	65°C	37°C	3,000 U/15,000 U	55/230
 RK21100	XhoI	75%	100%	100%	100%	Yes	65°C	37°C	5,000 U/25,000 U	53/180

1.The activity values in the table are approximate

2.Please dissolve the buffer completely and mix well before use



## 4.Reverse Transcription

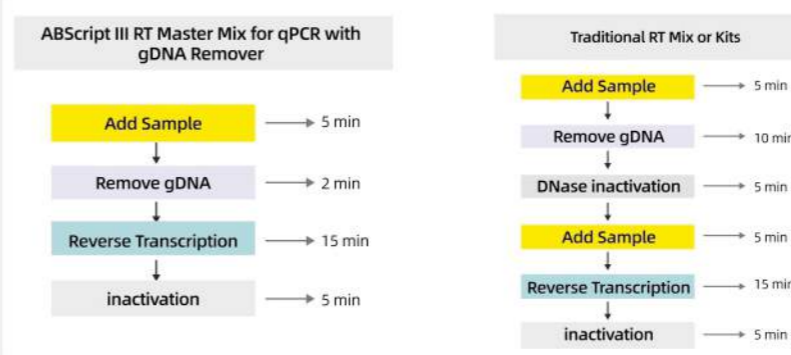
Reverse transcriptase is a DNA polymerase that synthesizes single-stranded complementary DNA from RNA template. Currently, M-MLV is the most commonly used reverse transcriptase in the market. The reaction temperature of ABclonal RK20429 can reach to 55°C; Reaction time is shortened to 15 mins; The length of cDNA synthesis can reach more than 12 Kb; And the reverse transcription and removal of gDNA can be carried out in one tube at the same time, which makes it very easy to use.

### STAR PRODUCTS

#### PRODUCT RECOMMENDATION

**ABScript III RT Master Mix for qPCR with gDNA Remover (RK20429)**  
 —— High-efficiency reverse transcription master mix

#### // Simplified operation steps:

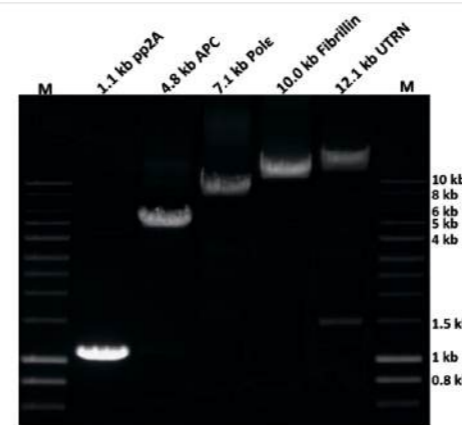


Easy to use, only need to add RNA template. gDNA remove and reverse transcription can perform in the same tube, no need to divide into two steps. Reduce the risk of RNA degradation and sample contamination

#### PRODUCT RECOMMENDATION

**ABScript II cDNA First Strand Synthesis Kit (RK20400)**  
 —— Multifunctional reverse transcription kit

#### // Demonstration Data



Using 1µg of HeLa cell total RNA as template, reverse transcription was performed with ABScript II cDNA First-Strand Synthesis Kit, and 1µL of cDNA was used as template to obtain clear and specific electrophoresis bands for genes of different lengths

#### // Reverse Transcription Series

Category	Cat.No.	Product Name	Size	Price (USD\$)
First-Strand Synthesis Kit	RK20400	ABScript II cDNA First-Strand Synthesis Kit	50 RXN/100 RXN	158/298
RT Master Mix	RK20428	ABScript III RT Master Mix for qPCR	10 RXN/100 RXN	30/165
	RK20429	ABScript III RT Master Mix for qPCR with gDNA Remover	10 RXN/100 RXN	32/194



## 5. qPCR

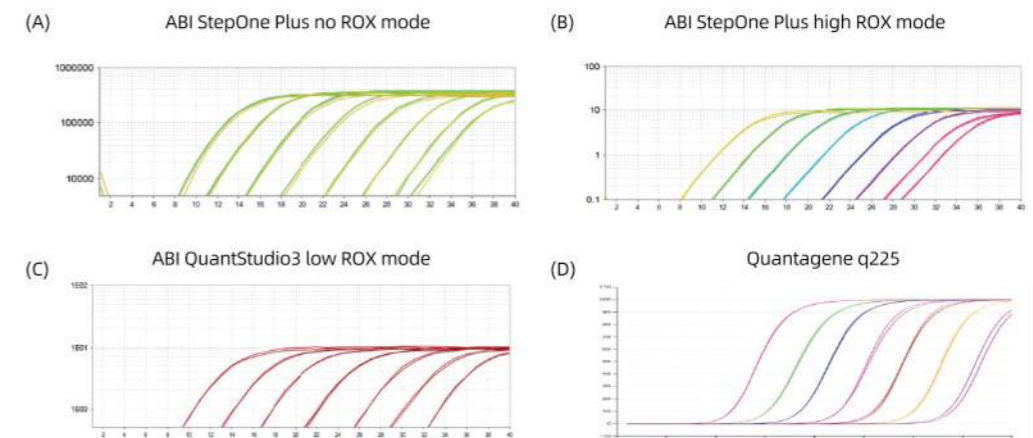
Quantitative fluorescence PCR, also known as qPCR, is a method for quantitative analysis of specific DNA molecules, which is widely used in experiments such as gene expression and gene detection. According to different signal sources, there are two commonly used methods- dye-based method and probe-based method. ABclonal provides a variety of qPCR reagents for scientific researchers.

### STAR PRODUCTS

#### PRODUCT RECOMMENDATION

**2X Universal SYBR Green Fast qPCR Mix (RK21203)**  
 — Universal SYBR Green qPCR Mix for all qPCR instruments

#### // Demonstration Data



// qPCR results from different instruments of 2X Universal SYBR Green Fast qPCR Mix //

Using E.coli genomic DNA as a template, qPCR experiments were carried out in different instruments. The results show that Universal SYBR Green Fast qPCR Mix is suitable for all types of instruments in the market.

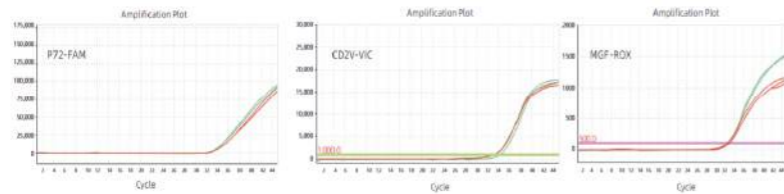
#### // Dye-based qPCR Series

Category	Cat.No.	Product Name	Size	Price(USD\$)
Dye-based qPCR	RK21203	2X Universal SYBR Green Fast qPCR Mix	5 mL/25 mL	198/768
	RK21204	Genious 2X SYBR Green Fast qPCR Mix	5 mL/25 mL	170/730
	RK21205	Genious 2X SYBR Green Fast qPCR Mix (No ROX)	5 mL/25 mL	153/657
	RK21206	Genious 2X SYBR Green Fast qPCR Mix (Low ROX Premixed)	5 mL/25 mL	153/657
	RK21207	Genious 2X SYBR Green Fast qPCR Mix (High ROX Premixed)	5 mL/25 mL	153/657
One Step RT-qPCR	RK20404	ABScript II One Step SYBR Green RT-qPCR Kit	10 RXN/100 RXN	13/112

**PRODUCT RECOMMENDATION**

**Entrans 2X qPCR Probe Master Mix with UDG (RK21222)**  
 — Anti-contamination qPCR Probe Mix

// Demonstration Data



In the application scenario of African Swine fever, after RK21222 was stored at 37°C for 10 days, the P72, CD2V, and MGF gene fragments of African Swine fever virus DNA were simultaneously detected by the multiple probe system, and the detection signal did not change significantly (green is -20°C, red is 37°C)

**PRODUCT RECOMMENDATION**

**ABScript III One Step RT-qPCR Probe Kit with UDG V5 (RK20412)**  
 — Anti-contamination One-step RT-qPCR probe Mix

// Demonstration Data



log	2	1	0	-1	-2	E (%)	R <sup>2</sup>
ABclonal	21.061922	24.343271	27.594267	31.290552	35.469372	90.38	0.997
Vendor V	23.228533	26.459255	29.930073	33.623936	37.719734	89.08	0.9979
Vendor T	23.345409	26.746599	30.082512	33.610199	37.866066	89.89	0.9975

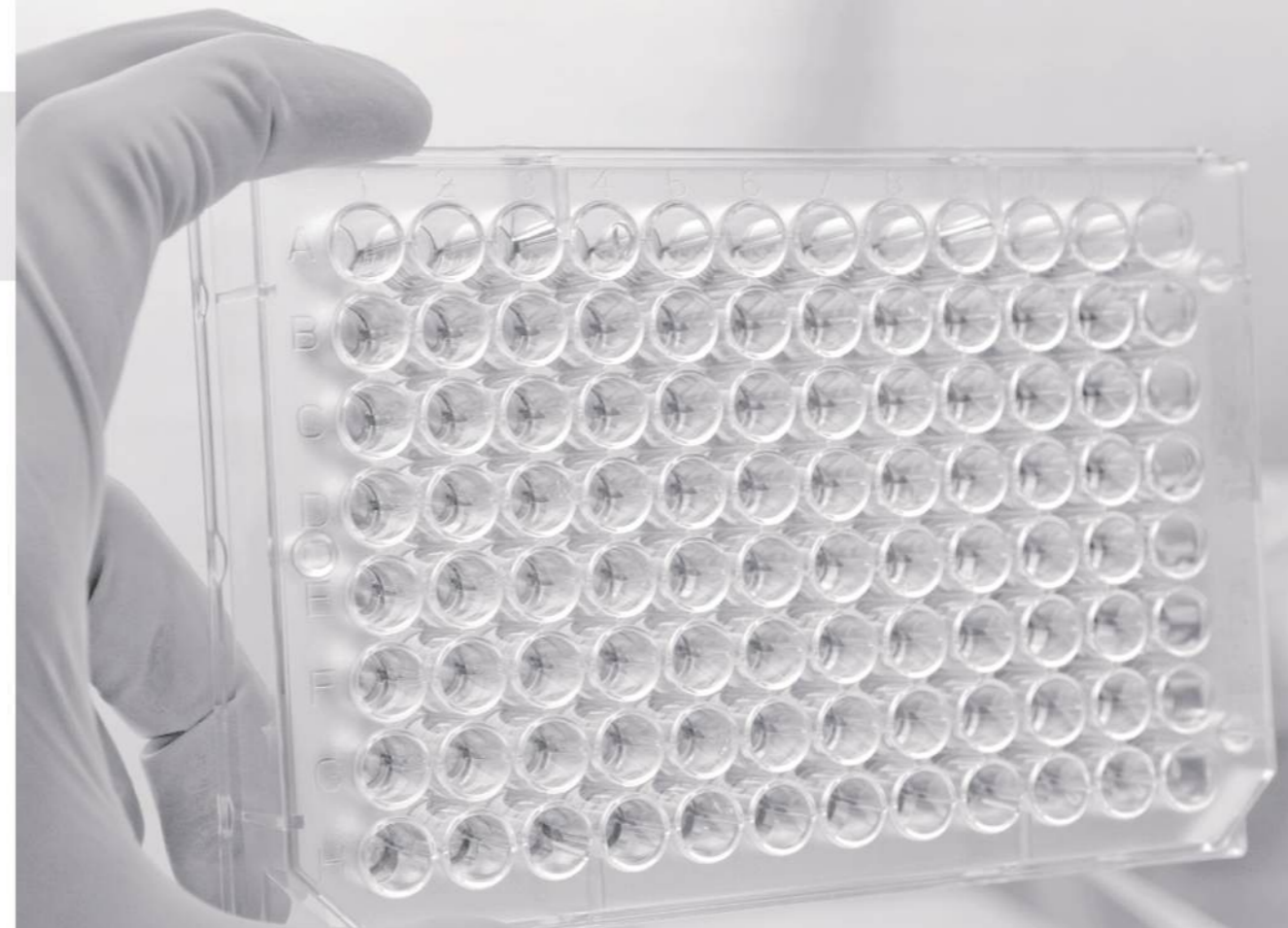
Using mouse RNA as the template (100 ng/μl as the initial concentration), the 5'-end TAMRA fluorescently labeled probe, five 10-fold gradient dilutions, RK21222 can detect the target gene with better performance and high detection sensitivity compared with other manufacturers' products.

// Probe-based qPCR Series

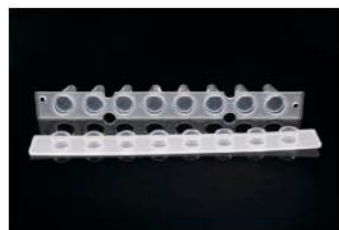
Category	Cat.No.	Product Name	Size	Price(USD\$)
Probe-based qPCR	RK21208	Entrans 2X qPCR Probe Master Mix	100 RXN/500 RXN	88/368
	RK21222	Entrans 2X qPCR Probe Master Mix with UDG	50 RXN/250 RXN	28/108
	RK20412	ABScript III One Step RT-qPCR Probe Kit with UDG V5	50 RXN/250 RXN	79/320

# 6.qPCR Consumables

ABclonal qPCR consumable series are produced in extremely high-standard production workshops, which make the tube wall of our qPCR consumables thinner and more uniform, thus the heat conduction efficiency is higher, and the sample heating is more stable. Through an innovative mold design and injection molding process, our qPCR consumables have higher stability and lower adsorption of samples and reagents, thereby ensuring the accuracy and precision of reaction system during the experiment. The excellent quality makes it a good choice for your real-time PCR experiments.



// Product Photos



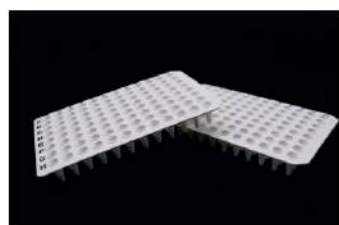
AI02082



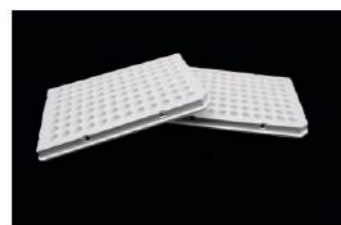
AI02082



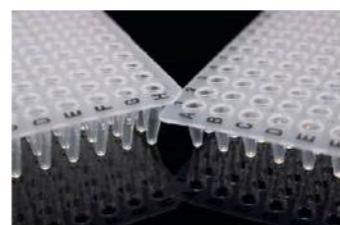
AI02082



AI02001S



AI02003



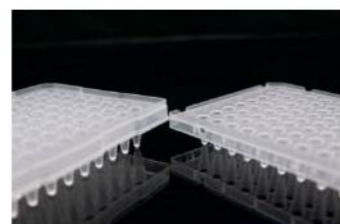
AI02001T & AI02009



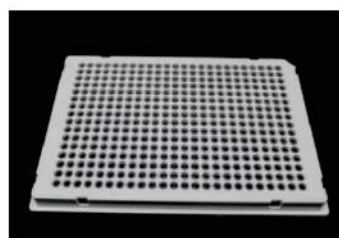
AI02008



AI02010T



AI02006 & AI02007



AI02011



AI02012



AI02021S

Through the excellent mold design, each qPCR plate is more suitable for the real-time PCR instruments. Together with ABclonal series pressure-sensitive sealing film or adhesive sealing film, it can ensure the best sealing and extremely low evaporation rate during the experiment.

// qPCR Consumable Series

Category	Cat.No.	Product Name	Size
8-Tube Strip	AI02082	8-Tube Strip with Attached Optical Flat Caps, 0.1mL	125 Strips/Box
	AI02083	8-Tube Strip with Attached Optical Flat Caps, White, 0.1mL	125 Strips/Box
	AI02085	8-Tube Strip with Attached Optical Flat Caps, 0.2mL	125 Strips/Box
qPCR plate	AI02001S	96-well qPCR Plates, 0.1 mL, Non-Skirted, White, Cut Corners A12 and H12	10 Plates/Box
	AI02001T	96-well qPCR Plates, 0.1 mL, Non-Skirted, Clear, Cut Corners A12 and H12	10 Plates/Box
	AI02003	96-well qPCR Plates, 0.1 mL, Semi-Skirted, White, Cut Corner H12	10 Plates/Box
	AI02006	96-well qPCR Plates, 0.2mL, Semi-Skirted, Frosted, Cut Corner A12	10 Plates/Box
	AI02007	96-well qPCR Plates, 0.1mL, Semi-Skirted, Frosted, Cut Corner A1	10 Plates/Box
	AI02008	96-well qPCR Plates, 0.2mL, Semi-Skirted, Clear, Cut Corner A12	10 Plates/Box
	AI02009	96-well qPCR Plates, 0.2mL, Non-Skirted, Clear, Cut Corner H1	10 Plates/Box
	AI02010T	96-well qPCR Plates, 0.1 mL, Full-Skirted, Clear, Cut Corner H1	10 Plates/Box
	AI02011	384-well qPCR Plate, 40µL, Skirted, White Frame with Clear Tube, Cut Corner A24	10 Plates/Box
	AI02012	384-well qPCR Plate, 40µL, Skirted, White Frame with White Tube, Cut Corners A24 and P24	10 Plates/Box
qPCR Sealing Film	AI02021S	Pressure-sensitive qPCR Plate Sealing Film	50 Pieces/Box
	AI02021M	Pressure-sensitive qPCR Plate Sealing Film	100 Pieces/Box
	AI02022	Adhesive qPCR Plate Sealing Film	100 Pieces/Box



## 7.NGS library Preparation

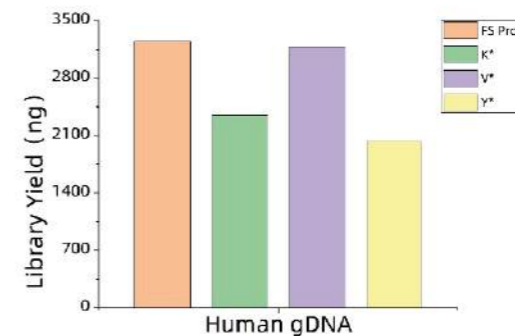
ABclonal has been focusing on the product development of NGS library preparation kits and related enzyme raw materials for a long time. We have a complete product portfolio, including various DNA and RNA library preparation kits based on Illumina and MGI sequencing platforms and corresponding sequencing adapters. Products can be applied to resequencing, methylation sequencing, CHIP-seq, mRNA sequencing, whole transcriptome sequencing, small RNA sequencing, etc. Our original damaged DNA repair module (DDRE) technology can greatly improve the success rate of library preparation for clinical samples such as FFPE and cf/ctDNA. Users can purchase flexibly either whole kit or different modules, according to their own needs. Moreover, ABclonal provides various personalized services such as product consulting, technical training, system optimization, etc., to provide clients with professional solutions.

### STAR PRODUCTS

#### PRODUCT RECOMMENDATION

**FS Pro DNA Lib Prep Kit for Illumina(RK20261)**  
 — Enzymatic Digestion DNA Library Prep Kit

#### // Demonstration Data

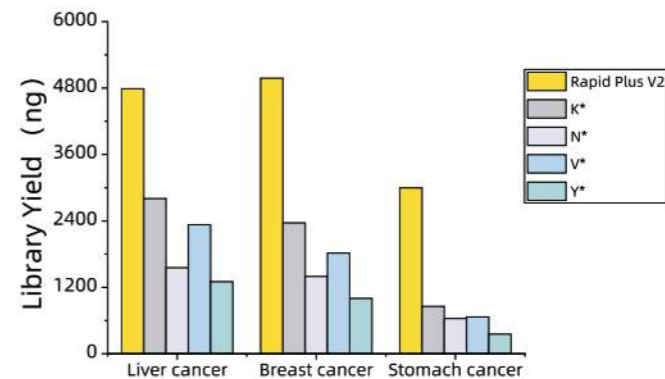


Using Human gDNA as template, libraries were constructed using RK20261 and similar products from other companies. The results show a higher volume of libraries than other companies.

#### PRODUCT RECOMMENDATION

**Rapid Plus DNA Lib Prep Kit for Illumina V2(RK20255)**  
 — Universal DNA Library Prep Kit

#### // Demonstration Data

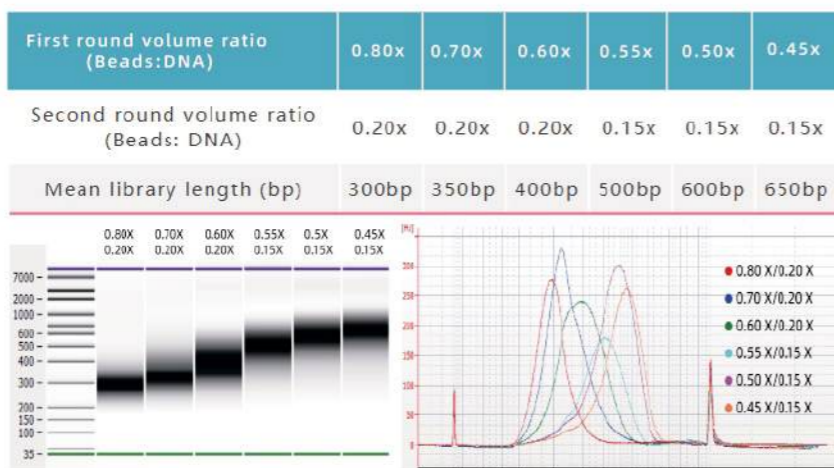


FFPE DNA samples from different tumor sources, the input amount is 100 ng, and RK20255 is used to construct the library (the number of cycles is 8). The results show that the yield of the library constructed by RK20255 is higher than that of other manufactures' products.

PRODUCT RECOMMENDATION

**AFTMag NGS DNA Clean Beads (RK20257)**  
 — DNA Clean Beads

// Demonstration Data



DNA library was constructed using Tn5 Transposase (1 mg/mL) with Dual DNA Adapter 96 Kit for One-step DNA Lib Prep . First purified by 1 × Beads, then sorted by Beads according to different conditions, and analyzed by Agilent 2100. The results showed that the sizes of the DNA fragments met expectations, and the peak shape was good.

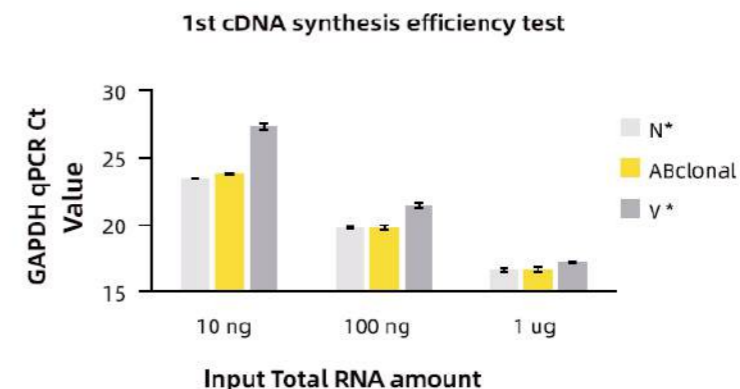
// DNA Library Preparation Series

Category	Cat.No.	Product Name	Size	Price (USD\$)
Rapid Series (Conventional Lib Prep)	RK20254	Rapid CE DNA Lib Prep Kit for Illumina V2	24 RXN/96 RXN	413/1,571
	RK20255	Rapid Plus DNA Lib Prep Kit for Illumina V2	24 RXN/96 RXN	486/1,837
	RK20256	Rapid Plus DNA Lib Prep Kit for MGI V2	8 RXN/24 RXN/96 RXN	188/486/1,837
	RK20261	FS Pro DNA Lib Prep Kit for Illumina	8 RXN/24 RXN/96 RXN	220/550/2,100
	RK20260	DNA Frag Module	24 RXN/96 RXN	238/850
FFPE QC Kit	RK20229	FFPE DNA QC Kit	24 RXN/96 RXN	145/500
DNA Clean Beads	RK20257	AFTMag NGS DNA Clean Beads	5 mL/60 mL	145/1,085

PRODUCT RECOMMENDATION

**mRNA-seq Lib Prep Module for Illumina(RK20350)**  
 — High-efficiency mRNA lib Prep Module

// Demonstration Data



The result of our product is the cDNA synthesis efficiency of ABclonal first stand synthesis kit was similar to vendor N, and significantly better than vendor V. The smaller ct value means the higher cDNA synthesis efficiency.

// RNA Library Preparation Series

Category	Cat.No.	Product Name	Size	Price (USD\$)
mRNA Lib Prep	RK20350	mRNA-seq Lib Prep Module for Illumina	24 RXN/96 RXN	500/1,657
	RK20353	First Strand Synthesis Module	24 RXN/96 RXN	158/528
	RK20346	Second Strand Synthesis Module	24 RXN/96 RXN	297/877
RNA enrichment Module	RK20341	Poly(A) mRNA Purification Module	24 RXN/96 RXN	41/157
	RK20348	rRNA Depletion Module (H/M/R)	8 RXN/24 RXN/96 RXN	230/840/2,980

## 8. Representative Citations

- 1 Proteogenomic characterization identifies clinically relevant subgroups of intrahepatic  
Published on *Cancer Cell* 2022 Pubmed ID:34971568 IF: 31.743  
Cat.No.:ABScript II RT Master Mix for qPCR (RK20402) (has been upgraded to RK20428)
- 2 N6-methyldeoxyadenine and histone methylation mediate transgenerational survival advantages  
induced by hormetic heat stress  
Published on *Sci Adv* 2021 Pubmed ID:33523838 IF: 14.136  
Cat.No.:ABScript II cDNA First-Strand Synthesis Kit (RK20400)
- 3 Endonuclease G promotes autophagy by suppressing mTOR signaling and activating the DNA damage response  
Published on *Nat Commun* 2021 Pubmed ID:33473107 IF: 14.919  
Cat.No.:ABScript II cDNA First-Strand Synthesis Kit (RK20400)
- 4 Tet2 inactivation enhances the anti-tumor activity of tumor-infiltrating lymphocytes  
Published on *Cancer Res* 2021 Pubmed ID:33589517 IF: 12.701  
Cat.No.:2X Universal SYBR Green Fast qPCR Mix (RK21203)
- 5 LARP7-Mediated U6 snRNA Modification Ensures Splicing Fidelity and Spermatogenesis in Mice  
Published on *Molecular Cell* 2020 Pubmed ID:32017896 IF: 15.584  
Cat.No.:ABScript II cDNA First-Strand Synthesis Kit (RK20400)
- 6 Protein kinase CK2 participates in estrogen-mediated endothelial progenitor cell homing to  
Integrated Proteogenomic Characterization of HBV-Related Hepatocellular Carcinoma  
Published on *Cell* 2019 Pubmed ID:31585088 IF: 36.21  
Cat.No.:ABScript II cDNA First-Strand Synthesis Kit (RK20400)