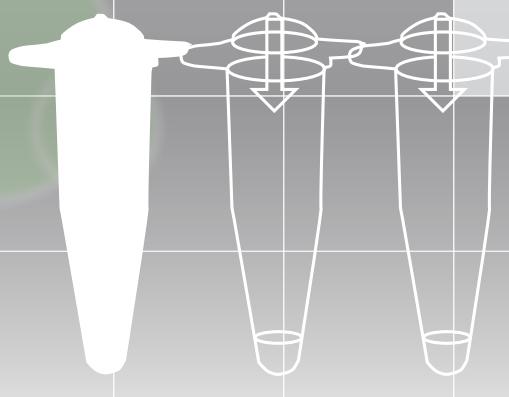


AccuPower® PreMix Series

Tomorrow's technology, available today!



- Convenient
- Fast
- Flexible

Description

AccuPower PreMix series is an innovative product range designed to make your PCR, reverse transcription and RT-PCR experiments easier and more cost effective than ever. With a wide range of applications and unparalleled ease of use and stability, AccuPower PreMix series will be an important addition to your collection of research tools.

Each tube or plate you order has all the components of a master mix (enzyme, buffer, dNTPs) lyophilized with a stabilizer that maintains full activity for over one month at room temperature, and two years in the freezer. Simply add your primers and template—and never make a dNTP or enzyme stock solution again!

Try before you buy—visit <http://us.bioneer.com/sample> to qualify for a free sample from our AccuPower PreMix series. In addition, when you respond to a short survey after you try our product, we will take 50% off your first order!

Features and Benefits

Fast

Just add primer and template.

Convenient

No more dNTP or enzyme stock solutions.

Flexible

Available in tubes (0.2 or 0.5 mL) or plates (96 or 384).

Stable

For 2 years in the freezer, and one month at room temperature.

Customizable

Available with primers already added for even greater convenience.

Gel Loading

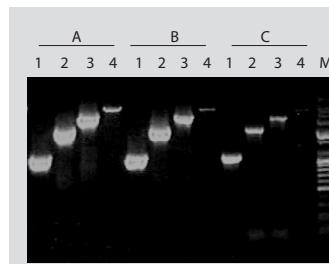
Available with or without a tracking dye for ease of use.

AccuPower® PCR PreMix

AccuPower PCR PreMix includes our super-processive "three times faster than *Taq*" Top DNA polymerase. Purchase with or without tracking dye depending on your application. If purchased with tracking dye, reactions can be loaded on agarose gels without adding loading buffer.

Applications

- Standard PCR up to 10 kb
- TA cloning
- DNA sequencing



Lambda DNA was amplified with each product.

A: AccuPower PCR PreMix
B: *Taq* type premix from company S
C: *Taq* type premix from company T

M: 100 bp Plus DNA Ladder (D-1035)
Lane 1: 1 kb PCR product
Lane 2: 2 kb PCR product
Lane 3: 3 kb PCR product
Lane 4: 4 kb PCR product

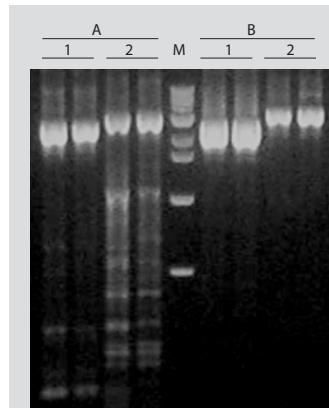
Fig 1. Comparison between AccuPower PCR PreMix and competitor products. Note *Top* polymerase's higher processivity results in greater yields and longer products.

AccuPower® HotStart PCR PreMix

AccuPower HotStart PCR PreMix utilizes an exclusive enzyme-mediated HotStart method that, unlike most other HotStart chemistries, completely releases all polymerase activity during the first denaturation step. *Top* DNA polymerase is completely inhibited by pyrophosphate at temperatures below 70°C. However, at temperatures above 70°C, a thermostable pyrophosphatase initiates pyrophosphate hydrolysis and activates the DNA polymerase. This prevents the formation of non-specific products and primer-dimers during the reaction set-up process and results in improved PCR specificity.

Applications

- HotStart PCR up to 12 kb
- PCR with complex genomic templates/low copy templates cDNA
- Multiplex PCR reactions



50 ng Human genomic DNA was amplified into 2.5 ~ 3 kb fragments with the following products.

A: AccuPower PCR PreMix
B: AccuPower HotStart PCR PreMix
M: 1 kb DNA Ladder (D-1040)
Lane 1: 2.5 kb PCR product
Lane 2: 3.0 kb PCR product

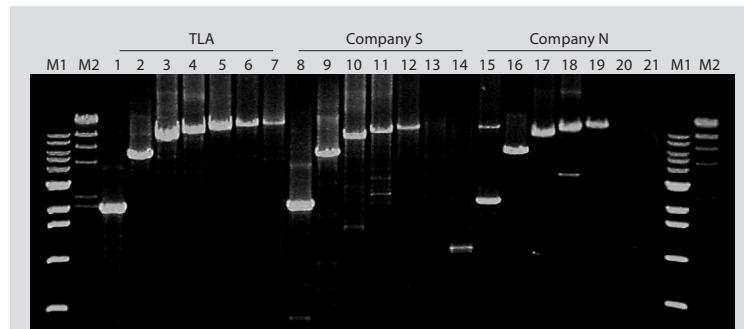
Fig 2. Specificity comparison between AccuPower PCR PreMix and AccuPower HotStart PCR PreMix. Note the absence of primer-dimer and non-specific products in the HotStart PCR PreMix lanes.

AccuPower® TLA PCR PreMix

AccuPower TLA DNA polymerase provides high fidelity and robust long range PCR capabilities. TLA DNA polymerase includes high fidelity proofreading like *Pfu* DNA polymerase, but TLA also features an enhanced processivity that makes it ideal for long range PCR.

Applications

- Gene synthesis
- PCR or primer extension requiring high fidelity (up to 30 kb)
- Blunt end PCR cloning
- Mutagenesis



M1: 1 kb DNA Ladder (D-1040)
M2: Lambda/HindIII Marker (D-1050)
Lane 1, 8, 15: 2 kb PCR Product
Lane 2, 9, 16: 5 kb PCR Product
Lane 3, 10, 17: 8 kb PCR Product
Lane 4, 11, 18: 10 kb PCR Product
Lane 5, 12, 19: 12 kb PCR Product
Lane 6, 13, 20: 15 kb PCR Product
Lane 7, 14, 21: 20 kb PCR Product

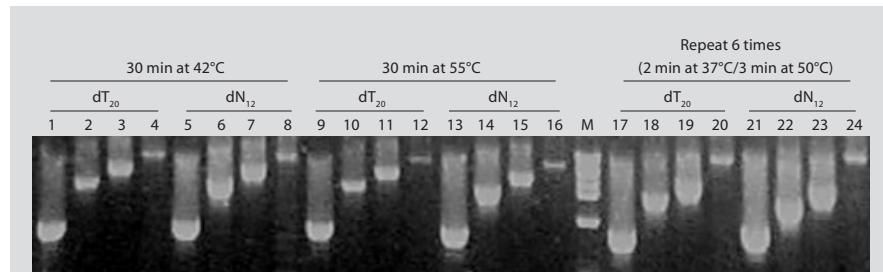
Fig 3. Comparison of long PCR amplification between AccuPower TLA PCR PreMix and 2 high-fidelity PCR enzymes. Note absent 15 and 20 kb products in competitor kits.

AccuPower® CycleScript RT PreMix (dT₂₀, dN₁₂, dN₆)

AccuPower CycleScript RT PreMix includes CycleScript Reverse Transcriptase, a poly dT or random primer (dT₂₀, dN₁₂, or dN₆), and all of the components for cDNA synthesis. CycleScript synthesizes cDNA from RNA with its high activity across a wide range of temperatures from 37 to 55°C. Reverse transcription can thus be carried out similar to PCR (Cyclic RT). The Cyclic RT reaction is composed of the following steps and is repeated to generate homogeneous cDNA: incubation at 15 to 40°C for primer annealing and extension; heating up to 45 to 48°C for extension (optional); and finally incubation at 50 to 55°C for denaturation of the secondary structure of the RNA. This kit can also be used for conventional reverse transcription.

Applications

- Gene synthesis
- First-strand cDNA synthesis from RNA, up to 9kb
- cDNA or RNA sequencing
- Random primer probe labeling
- cDNA library construction
- RT-PCR
- mRNA 5'-end mapping by primer extension



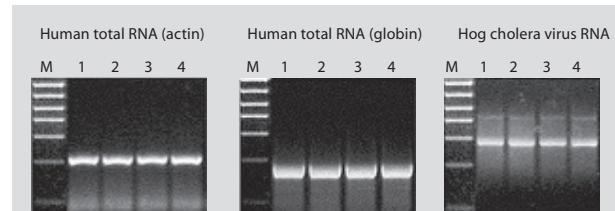
*800 ng of HeLa cell total RNA used for RT and the same quantity of PCR product used for electrophoresis. Lanes contain cDNA ranging from 800 bp to 9 kb amplified using TLA DNA polymerase

M: 1 kb DNA Ladder (D-1040)
 Lane 1 - 4: Conventional RT with dT₂₀ at 42°C
 Lane 5 - 8: Conventional RT with dN₁₂ at 42°C
 Lane 9 - 12: Conventional RT with dT₂₀ at 55°C
 Lane 13 - 16: Conventional RT with dN₁₂ at 55°C
 Lane 17 - 20: Cyclic RT with dT₂₀ at 55°C
 Lane 21 - 24: Cyclic RT with dN₁₂ at 55°C

Fig 4. Comparison of reaction conditions of Cyclic RT versus conventional RT. Note significantly higher yields of cDNA across all sizes when using Cyclic RT.

AccuPower® RT PreMix

AccuPower RT PreMix consists of an easy-to-resuspend, lyophilized mix of M-MLV Reverse Transcriptase, RNase inhibitor, dNTPs, reaction buffer, a tracking dye, and a stabilizer. The kit is used for first strand cDNA synthesis from RNA. All of the key components are provided at optimal concentrations. Simply add target RNA, primers and ddH₂O to start your reaction.



Lane M: 100 bp DNA Ladder
 Lane 1-4: Reliability of AccuPower RT PreMix on each lane

Fig 5. Reliability and reproducibility test with AccuPower RT PreMix. Each template showcases amplified target genes.

Applications

- First strand cDNA synthesis from RNA, up to 9 kb

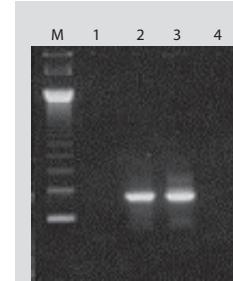


Fig 6. Specific amplification of 5' - UTR region of HCV with AccuPower RT/PCR PreMix.

AccuPower® RT/PCR PreMix

AccuPower RT/PCR PreMix contains all the components necessary for sequential cDNA synthesis and amplification in one tube (one-step RT/PCR). The RT/PCR PreMix consists of both M-MLV Reverse Transcriptase, an RNA dependent DNA polymerase, and a thermostable DNA polymerase in a lyophilized mix of dNTPs, reaction buffer, RNase inhibitor, a tracking dye, and a stabilizer.

Applications

- cDNA synthesis followed by PCR—products up to 6 kb

Human DNA was amplified to generate 0.1 ~ 1.5 kb PCR fragments using 1 U of polymerase.

Lane M: 123 bp DNA Ladder (BM Corp.)
 Lane 1: Negative control
 Lane 2, 3: HCV positive serum
 Lane 4: HCV negative serum

Choose the AccuPower right for you:

Application		PCR PreMix	TLA PCR PreMix	HotStart PCR PreMix	RT PreMix	CycleScript RT PreMix	RT/PCR PreMix
DNA	PCR	Standard PCR	X		X		
		Hotstart PCR			X		
		High-fidelity PCR		X			
		Long range PCR		X			
		GC rich PCR			X		
		Quantitative PCR					
RNA	RT	Standard RT			X	X	
		Cyclic RT				X	
	RT/PCR	Standard RT/PCR					X

Create your own PreMix with custom AccuPower

AccuPower is a premix unlike any other and Bioneer is an oligo synthesis company unlike any other. For the ultimate in convenience and time savings, Bioneer will include your primers in the AccuPower PreMix best-suited to your application; all you need to do is add template! All the benefits of AccuPower are amplified when Bioneer adds your specific primers to your PreMix.

AccuPower + Your Primers = unique combinations, and....

- Even less set-up time
- No stock solutions, solves contamination problems

Create your very own PCR, Reverse Transcription and RT/PCR kit, customized to your specific application and throughput requirements. To learn more about AccuPower Custom PreMix, please contact us:

support@bioneer.us.com

Ordering Information

Products	Cat. No.	Price
AccuPower PCR PreMix, 20 ul, 0.2 ml thin-wall 8-strip tubes with attached caps / 96 tubes	K-2012	\$ 49.00
AccuPower PCR PreMix, 20 ul, 0.2 ml thin-wall 8-strip tubes with attached caps / 480 tubes	K-2016	220.00
AccuPower PCR PreMix, 20 ul, thin-wall 96-well flat plate / 1 ea	K-2260-4	55.00
AccuPower HotStart PCR PreMix, 20 ul, 0.2 ml thin-wall 8-strip tubes with attached caps / 96 tubes	K-5050	68.00
AccuPower HotStart PCR PreMix, 20 ul, 0.2 ml thin-wall 8-strip tubes with attached caps / 480 tubes	K-5051	272.00
AccuPower TLA PCR PreMix, 20 ul, 0.2 ml thin-wall 8-strip tubes with attached caps / 96 tubes	K-3201	74.00
AccuPower TLA PCR PreMix, 20 ul, 0.2 ml thin-wall 8-strip tubes with attached caps / 480 tubes	K-3203	298.00
AccuPower CycleScript RT PreMix (dT20), 20 ul, 0.2 ml thin-wall 8-strip tubes with attached caps / 96 tubes	K-2044	290.00
AccuPower CycleScript RT PreMix (dN12), 20 ul, 0.2 ml thin-wall 8-strip tubes with attached caps / 96 tubes	K-2045	290.00
AccuPower CycleScript RT PreMix (dN6), 20 ul, 0.2 ml thin-wall 8-strip tubes with attached caps / 96 tubes	K-2046	290.00
AccuPower RT PreMix, 20 ul, 0.2 ml thin-wall 8-strip tubes with attached caps / 96 tubes	K-2041	165.00
AccuPower RT/PCR PreMix, 20 ul, 0.2 ml thin-wall 8-strip tubes with attached caps / 96 tubes	K-2055	360.00

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