PCRBIO **HS VeriFi™ Polymerase**

- AptaLock™ hot start technology
- High fidelity
- Long range

PCRBIO HS VeriFi™ Polymerase is a versatile and robust proofreading enzyme with AptaLock™ hot start technology for highly precise PCR. Enhanced processivity combined with an advanced buffer system give significant improvements in speed, yield and sensitivity while also increasing PCR success rates of long and challenging templates.

Features

- AptaLock™ hot start technology for maximized sensitivity and specificity
- Greater success with long and/or GC or AT-rich templates (17.5kb and over)
- High temperature cycling – up to 100˚C denaturation to better separate GC-rich sequences
- 100x higher fidelity than Taq DNA polymerase
- Room temperature setup
- Reaction mix stability for up to 24 hours both before and after PCR run
- Generates blunt-end PCR products
- Also available as a 2x ready mix with the option of a red dye for direct gel loading

Applications

- High fidelity PCR
- Long PCR
- Multiplex and high throughput PCR
- Site-directed mutagenesis
- Cloning
- Sequencing

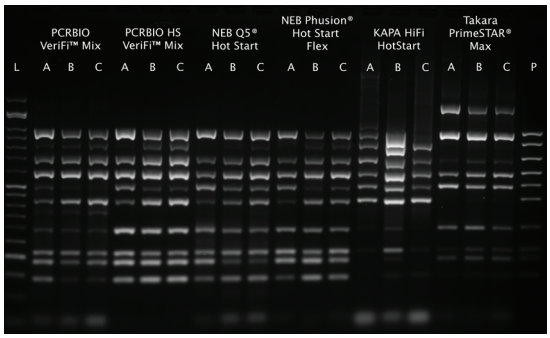

Figure 1. Superior performance in multiplex reactions

10-plex PCR using lambda phage genome (6 targets) and mouse genome (4 targets) at different annealing temperatures (A: 63.0˚C, B: 61.5˚C, C: 60.5˚C). The starting template amount is 1pg lambda DNA and 1ng mouse gDNA. Amplicon lengths are between 139bp and 962bp. Reactions were set up using master mix formats following manufacturers' recommendations. Cycling conditions were 95˚C 2 min, 40 cycles of 95˚C 15 sec, annealing A to C 30 sec, 72˚C 90 sec. L: PCRBIO Ladder III. P: reference pool of single products.

PCRBIO HS VeriFi™ Mix displays greater sensitivity and specificity in multiplex when compared to leading competitors.

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simplifying research

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Increased processivity

PCRBIO HS VeriFi™ Polymerase is a single enzyme derived from Pfu DNA polymerase for its 3'-5' exonuclease (proofreading) activity. Proprietary mutations improve DNA binding and increase processivity when compared to its native form, resulting in shorter extension times, higher yields and the ability to amplify longer and more difficult targets. PCRBIO HS VeriFi™ Polymerase is able to amplify eukaryotic genomic templates in excess of 17.5kb, and longer for simpler DNA templates.

AptaLock™ hot start technology

PCRBIO's innovative AptaLock™ technology uses a proprietary aptamer-like molecule that reversibly inhibits both the 3'-5' exonuclease activity and 5'-3' polymerase activity of the enzyme at ambient temperatures. This unique hot start molecule prevents primer dimer formation and non-specific amplification to maximize the sensitivity and specificity of your PCR. This feature makes PCRBIO HS VeriFi™ Polymerase highly suitable for multiplexing and enables reactions to be set up at room temperature, with benchtop stability both before and after PCR for up to 24 hours.

High fidelity

The enhanced accuracy of PCRBIO HS VeriFi™ Polymerase gives extremely low error rates and fidelity that is approximately 100 times higher than Taq DNA polymerase. The enzyme is ideal for applications where superior accuracy is required, such as cloning, site-directed mutagenesis and sequencing. PCRBIO HS VeriFi™ Polymerase is provided with an advanced buffer s ystem i ncluding d NTPs, M g a nd e nhancers, enabling high fidelity PCR of a wide range of targets and fragment sizes regardless of GC or AT content.

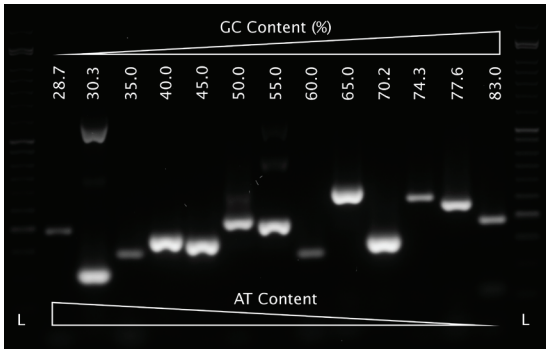

Figure 2. Successful PCR across a broad range of GC and AT content

Amplification of 13 targets with GC content ranging from 28.7% to 83% using PCRBIO HS VeriFi™ Mix. The starting template amount is 30ng mouse cDNA. Band size is between 99bp and 274bp. Cycling conditions were 98˚C 5 min, 40 cycles of 98˚C 15 sec, annealing between 54˚C and 62˚C (depending on target) 15 sec, 72˚C 30 sec. L: PCRBIO Ladder III.

PCRBIO HS VeriFi™ Mix is able to amplify templates across a broad range of GC and AT content.

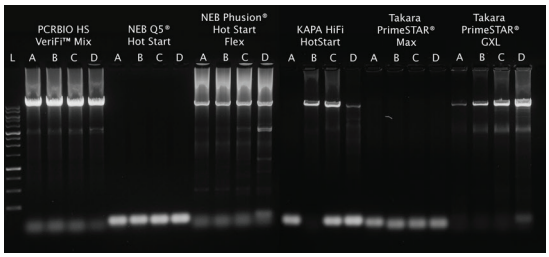

Figure 3. Increased PCR success rates and consistency with complex targets

Amplification of a 13.5kb fragment of the human ß-globin gene at different annealing temperatures (A: 68.5˚C, B: 66.0˚C, C: 63.0˚C, D: 60.5˚C). The starting template amount is 30ng human genomic DNA. GC content is 37%. Reactions were set up using master mix formats (apart from Takara's PrimeSTAR® GXL DNA Polymerase) and following manufacturers' recommendations. Cycling conditions were 95˚C 2 min, then 30 cycles of 95˚C 15 sec, annealing 15 sec, 72˚C 12 min.

PCRBIO HS VeriFi™ Mix displays higher yield and specificity compared to leading competitors. The PCRBIO mix also shows greater consistency and versatility across the annealing temperature range.

Catalogue No.	Product Name	Pack Size	Presentation
17-109	PCRBIO HS VeriFi™ Polymerase	100 Units	[1 x 0.05mL 2u/µL] & [1 x 1.7mL buffer] & [1 x 1.7mL enhancer]
17-109B		500 Units	[1 x 0.250mL 2u/µL] & [3 x 1.7mL buffer] & [2 x 1.7mL enhancer]
17-209	PCRBIO HS VeriFi™ Mix	100 x 50µL Reactions	2 x 1.25mL
17-209B		500 x 50µL Reactions	2 x (5 x 1.25mL)
17-309	PCRBIO HS VeriFi™ Mix Red	100 x 50µL Reactions	2 x 1.25mL
17-309B		500 x 50µL Reactions	2 x (5 x 1.25mL)