PCRBIO **Ultra Polymerase**

- Hot start
- Extremely “difficult” PCR
- Long range PCR

PCRBIO Ultra Polymerase has been engineered for the amplification of extremely difficult templates. Latest polymerase developments are combined with proprietary hot start technology to deliver outstanding performance for all you PCR applications. Whether your template is long, GC/AT rich, in low abundance or contains PCR inhibitors, PCRBIO Ultra Polymerase is able to rise to the challenge.

Features

- Increased PCR success rates with amplicons up to 35kb
- Proprietary hot start technology for unrivalled detection of low copy number templates
- Advanced buffer chemistry including Mg and dNTPs
- High yields under standard and fast PCR conditions
- Efficient specific amplification from complex templates including GC rich and AT rich sequences
- 2.5 fold higher fidelity than Taq

Applications

- Long range PCR - up to 35kb
- Next generation re-sequencing
- “Difficult” PCR - GC/AT rich DNA
- Crude sample PCR
- Colony PCR
- Low copy template detection
- Multiplex PCR
- TA cloning

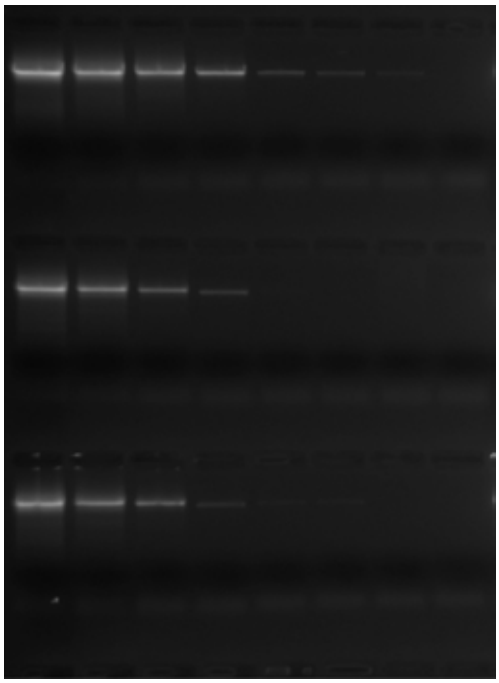

Figure 1.

Shows amplification of a 25kb fragment of the p53 gene region of genomic DNA. The starting template concentration is 200 nanograms of human genomic DNA and is diluted 2 fold. PCRBIO Ultra Mix (row 1) detects as low as 3 picograms, which is lower than both Roche and Invitrogen equivalent products (rows 2 and 3).

PCRBIOSYSTEMS

simplifying research

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Long Range PCR

PCRBIO Ultra Polymerase utilises proprietary modifications to enhance processivity. Combined with advanced buffer chemistry, PCR can be successfully performed on amplicons as long as 35kb on lambda DNA. On more complex templates such as genomic DNA, PCRBIO Ultra Polymerse can still perform but over a shorter distance. 25kb amplicons have been amplified from human genomic DNA, see figure 1.

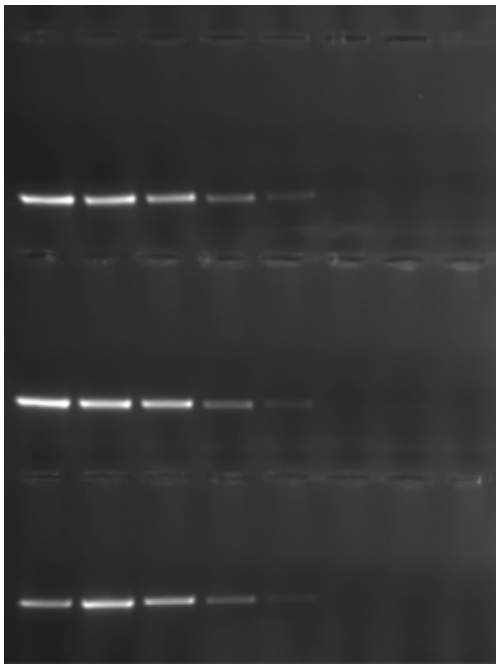

Figure 2.

Shows amplification of a region of the FRA16A gene including differing numbers of CCG repeats, in 2 fold dilution series, with a starting concentration of 100 nanograms of human genomic DNA. The top run shows 32 CCG repeats, the second run 48 and the bottom run 62. The assay shows consistent results on different complexities of human genomic DNA.

Hot Start

PCRBIO Ultra Polymerase is inactive at room temperature thanks to PCRBIO's proprietary small molecule inhibitor formulation. "Hot start" is a term used to describe the inactivation of a DNA polymerase until the initial activation step at 95˚C. Inactivation below 65˚C prevents primer dimer formation and non-specific amplification allowing for specific amplification from low copy number target sequences. Our proprietary small molecule hot start technology offers improved specificity and sensitivity compared to other methods.

Versatile

PCRBIO Ultra Polymerase uses the latest developments in DNA polymerase technology and buffer chemistry to enhance PCR speed, yield and specificity. The enzyme and buffer system allow for superior PCR performance on complex templates such as mammalian genomic DNA. PCRBIO Ultra Polymerase performs consistently well on a broad range of templates including both GC and AT rich. It is sufficiently robust to work consistently well under "difficult" conditions, such as when inhibitors are present. Colony PCR and crude sample PCR can be successfully performed using PCRBIO Ultra Polymerase.

For added convenience PCRBIO Ultra Polymerase is also available as a 2x ready mix.

Catalogue Number	Product Name	Pack size	Presentation
PB10.31-02	PCRBIO Ultra Polymerase	250 Units	[1 x 0.05ml 5 units/µl] & [2 x 1ml buffer]
PB10.31-10	PCRBIO Ultra Polymerase	1000 Units	[4 x 0.05ml 5 units/µl] & [8 x 1ml buffer]
PB10.32-02	PCRBIO Ultra Mix	100 Reactions	5 x 1ml
PB10.32-10	PCRBIO Ultra Mix	500 Reactions	25 x 1ml

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