

# PCRBIO Ultra Polymerase



- Hot start
- GC rich PCR
- Inhibitor tolerant PCR

PCRBIO Ultra Polymerase has been engineered for the amplification of extremely difficult templates. Proprietary modifications that enhance processivity together with advanced buffer chemistry and hot start technology deliver outstanding performance whether your template is GC or AT rich, low in abundance or contains PCR inhibitors.

## Features

- Increased PCR success rates with difficult templates
- Antibody-mediated hot start 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
- 3 fold higher fidelity than Taq
- Stable at 25°C for 4 weeks

## Applications

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

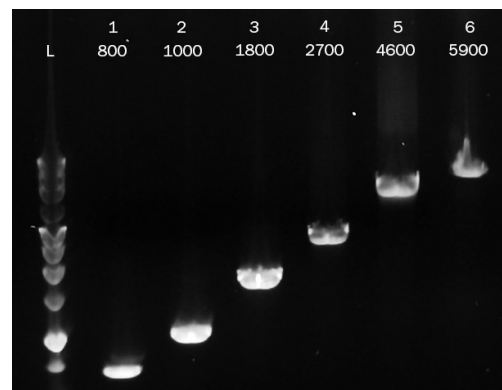


Figure 1. Long PCR products visualised on agarose gel

Amplification of 0.8kb, 1.0kb, 1.8kb, and 2.7kb fragments of the GAPDH gene, a 4.6kb fragment of the RBL15 gene, and a 5.9kb fragment of the MYH6 gene. The starting template amount is 20ng (50ng for the 5.9kb fragment) of mouse genomic DNA and is diluted 2 to 5 fold. PCRBIO Ultra Polymerase amplifies the range of fragment lengths indicated with high yield and specificity.



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## Versatile

PCR BIO Ultra Polymerase is a highly robust enzyme, designed for efficient and reliable amplification of challenging and complex targets, even under difficult conditions such as the presence of inhibitors. The enzyme and buffer system have been developed to give superior PCR performance and higher success rates on a broad range of templates, including complex genomic DNA and targets with a high GC content (up to 80% GC). PCR BIO Ultra Polymerase exhibits a high tolerance to PCR inhibitors making it the ideal choice for colony and crude sample PCR. PCR products generated are A-tailed and may be cloned into TA cloning vectors. The enzyme is supplied with an optimised buffer containing dNTPs and MgCl<sub>2</sub>, and is stable at 25°C for 4 weeks.

## Hot Start

PCR BIO Ultra Polymerase uses the latest developments in polymerase technology and buffer chemistry to enhance PCR speed, yield and specificity. Our antibody-mediated hot start formulation inhibits polymerase activity during reaction setup until the initial activation step at 95°C. Inactivation below 65°C prevents the formation of primer dimers and non-specific products, enabling specific and sensitive amplification from low copy number target sequences.

## Convenient

For added convenience PCR BIO Ultra Polymerase is also available as a 2x ready mix containing all reaction components except primers and template. PCR BIO Ultra Mix Red contains a preloaded red dye suitable for direct loading and tracking during agarose gel electrophoresis.

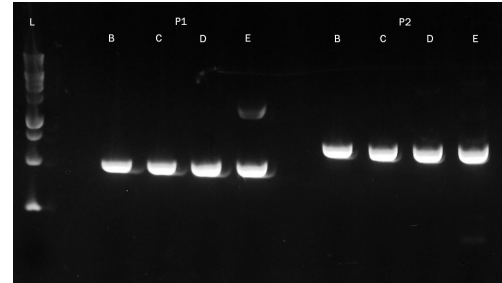


Figure 2. GC rich products visualised on agarose gel

Amplification of 0.5kb (P1) and 0.6kb (P2) fragments of the ATXN2 gene with GC contents of 69% and 71%, respectively, using 20ng of mouse genomic DNA as template and a range of annealing temperatures from 67°C to 60°C (B-E). PCR BIO Ultra Polymerase efficiently amplifies GC rich templates >65% GC and is recommended for templates up to 80% GC.

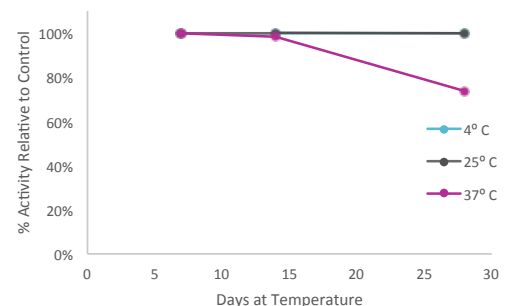


Figure 3. Room temperature stable for 4 weeks

PCR BIO Ultra Polymerase shows no change in activity after 14 days at 4°C, 25°C and 37°C, and after 28 days at 4°C and 25°C.

Catalogue Number	Product Name	Pack Size	Presentation
PB10.31-02	PCR BIO Ultra Polymerase	250 Units	[1 x 0.05ml 5 units/μl] & [2 x 1ml buffer]
PB10.31-10		1000 Units	[4 x 0.05ml 5 units/μl] & [8 x 1ml buffer]
PB10.32-01	PCR BIO Ultra Mix	80 Reactions	2 x 1ml
PB10.32-05		400 Reactions	10 x 1ml
PB10.33-01	PCR BIO Ultra Mix Red	80 Reactions	2 x 1ml
PB10.33-05		400 Reactions	10 x 1ml