# PCRBIO **HS Taq Mix Red**

- Load directly onto agarose gels
- Superior low copy number detection
- High yield amplification

PCRBIO HS Taq Mix Red is a ready mix with a red dye for direct gel loading. This mix contains an advanced polymerase with antibody-mediated hot start technology for fast, reliable and highly specific PCR. Screen difficult templates, run high-throughput colony PCRs and achieve high product yields from low abundance targets with minimal pipetting.

## Features

- Red mix for direct gel loading
- Hot start technology for unrivalled detection of low copy number templates
- Increased PCR success rates with amplicons up to 6kb
- Ultra-low background DNA
- Advanced buffer chemistry including Mg and dNTPs
- Efficient and specific amplification from GC and AT-rich sequences
- High yields under standard and fast PCR conditions

## Applications

- Genotyping
- TA cloning
- 'Difficult' PCR
- High throughput PCR
- Low copy template detection
- Standard and fast PCR
- Routine and multiplex PCR
- PCR direct from blood and urine
- Methylated DNA amplification for bi-sulphite sequencing

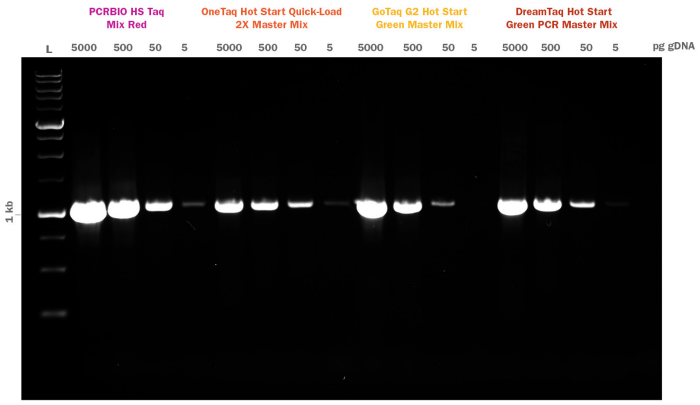


Figure 1. PCRBIO HS Taq Mix Red outperforms competitors at amplifying a 1kb fragment

PCR amplification of a 1kb fragment of the GAPDH gene using a 1 in 10 serial dilution of mouse genomic DNA (5000, 500, 50 and 5pg) with PCRBIO HS Taq Mix Red (purple) and matching hot start Taq mixes from competitors. Reactions were set up using manufacturers' recommendations: NEB (orange), Promega (yellow) and Thermo (red). Cycling conditions were 95˚C 2min, then 40 cycles of 95˚C 15sec, 63˚C 15sec, 72˚C 30sec except for NEB: 94˚C 2min, then 40 cycles of 94˚C 15sec, 63˚C 15sec, 68˚C 30sec. 2/5 of the reaction volume was loaded in 1% agarose gel. L: PCRBIO Ladder II.

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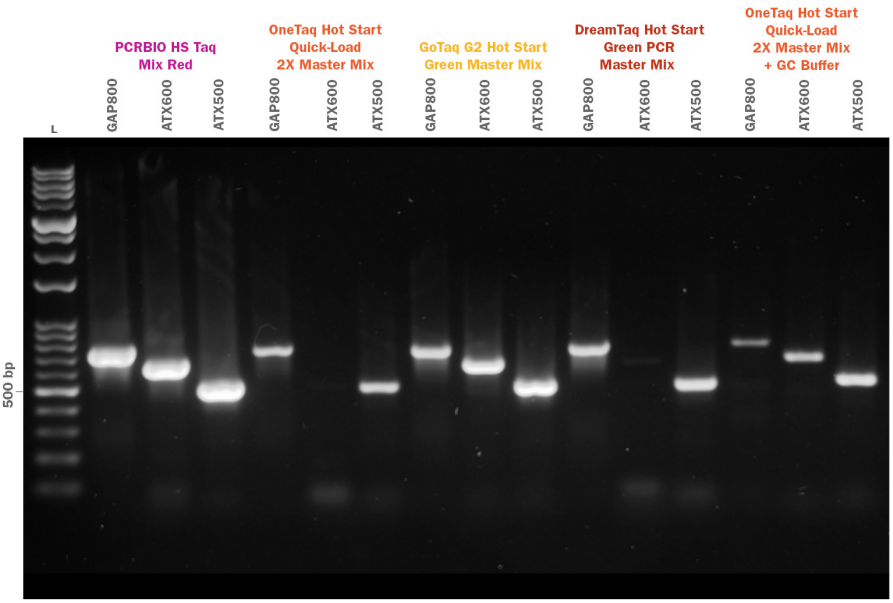


Figure 2. PCRBIO HS Taq Mix Red outperforms competitors at amplifying GC-rich fragments, without the requirement of a special buffer

The starting template amount was 5ng mouse genomic DNA. Amplified fragments belong to 3 different genes and have been chosen for their GC content (GAP800 bp with 49% GC, ATX500 bp with 69% GC and ATX600 bp with 71% GC). PCRBIO HS Taq Mix Red (purple) and matching hot start Taq mixes from competitors were used according to manufacturers' recommendations: NEB (orange, with both standard format and GC buffer format), Promega (yellow) and Thermo (red). Cycling conditions were 95˚C 5min, then 40 cycles of 95˚C 15sec, 60˚C 15sec, 72˚C 20sec. 2/5 of the reaction volume was loaded in 1.2% agarose gel. L: PCRBIO Ladder III.

PCRBIO HS Taq Mix Red is powered by PCRBIO HS Taq DNA Polymerase to give superior performance on complex templates such as mammalian genomic DNA. PCRBIO HS Taq Mix Red uses the latest developments in polymerase technology and buffer chemistry to enhance PCR speed, yield and specificity, with the added convenience of a pre-loaded red dye for direct loading and tracking during agarose gel electrophoresis.

Proprietary antibodies inhibit polymerase activity until an initial activation step at 95˚C, preventing the formation of primer dimers and non-specific products, giving improved specificity and sensitivity compared to other methods. This 'hot start' feature ensures that inactivation below 65˚C prevents primer dimer formation and non-specific amplification, allowing for specific amplification from low copy number target sequences. Our antibody-mediated hot start technology offers improved specificity and sensitivity compared to other methods.

PCRBIO HS Taq Mix Red performs consistently well on a broad range of templates (including both GC and AT-rich). PCRBIO HS Taq DNA Polymerase production uses an enhanced 12 step purification strategy which includes physical, chemical and enzymatic removal of host DNA to bring you an ultrapure mix.

| Catalogue Number | Product Name | Pack Size | Presentation |
|---|---|---|---|
| PB10.21-02 | PCRBIO HS Taq DNA Polymerase | 250 Units | [1 x 0.05mL 5 units/µL] & [2 x 1mL buffer] |
| PB10.21-10 | | 1000 Units | [4 x 0.05mL 5 units/µL] & [8 x 1mL buffer] |
| PB10.21-50 | | 5000 Units | [20 x 0.05mL 5 units/µL] & [40 x 1mL buffer] |
| PB10.22-02 | PCRBIO HS Taq Mix | 200 Reactions | 5 x 1mL |
| PB10.22-10 | | 1000 Reactions | 5 x (5 x 1mL) |
| PB10.23-02 | PCRBIO HS Taq Mix Red | 200 Reactions | 5 x 1mL |
| PB10.23-10 | | 1000 Reactions | 5 x (5 x 1mL) |

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