Product Profile

AllTaq Master Mix and AllTaq PCR Core Kits

Next-generation, hot-start PCR – ultrafast and reliable. Complete confidence every time!

The optimal choice for your routine PCR. Say goodbye to optimizing with AllTaq™! Prevent pipetting errors with our simple, visual pipetting control and reliably amplify GC-rich or long targets up to 9 kb, with sensitivity to a single target molecule.

- Streamline your PCR: Same ultrafast 45 min protocol for all targets
- Experience real flexibility: Run duplex reactions, or amplify difficult or long targets (up to 9 kb) all with the same kit
- Never lose track aliquoting again!: With unique, inert, visual pipetting controls that also serve as gel loading and tracking dyes
- No more artifacts or primer dimers: Unique guard molecule protected hot start
- Reliably detect even single molecules: With the specially formulated AllTaq 4x master mix
- Stability you can trust: True room temperature set-up and 4°C storability

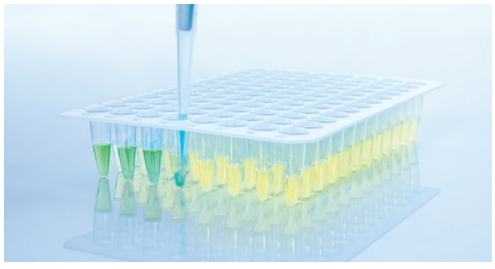

Figure 1. Simple, visual verification of correct pipetting. Inert, orange master mix tracer, when mixed with the inert, blue template tracer turns green.

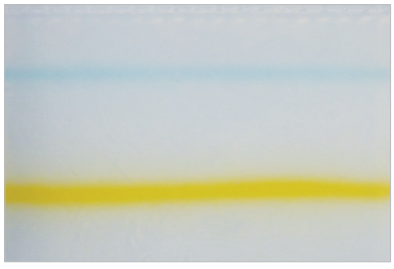

Figure 2. Easy visualization with orange and blue tracking dyes. The AllTaq orange and blue tracer dyes serve as gel loading and fast-running (orange) and slow-running (blue) tracking dyes.

Prevent pipetting errors easily with our visual pipetting control

The AllTaq Master Mix comes with an inert, orange master mix tracer and an inert, blue template tracer. When the blue template is added to the orange master mix, the reaction-ready assay turns green, providing a simple, visual confirmation of correct pipetting. Additionally, the orange ▷

and blue dyes serve as tracking dyes during gel electrophoresis. The dyes run at around 50 bp (orange) and 4000 bp (blue) on a 1% agarose gel.

No more PCR optimization: Consistent results with the same robust protocol for all targets

Our new-generation buffer system gives you unsurpassed sensitivity and reliability – fully adapted to ultra-fast cycling and providing stringent primer annealing over a wide range of annealing temperatures, with no Mg^{2+} optimization required (Figure 3). Our robust chemistry enables amplification of even the most difficult targets i.e. high GC-content or up to 9 kb (Figure 4).

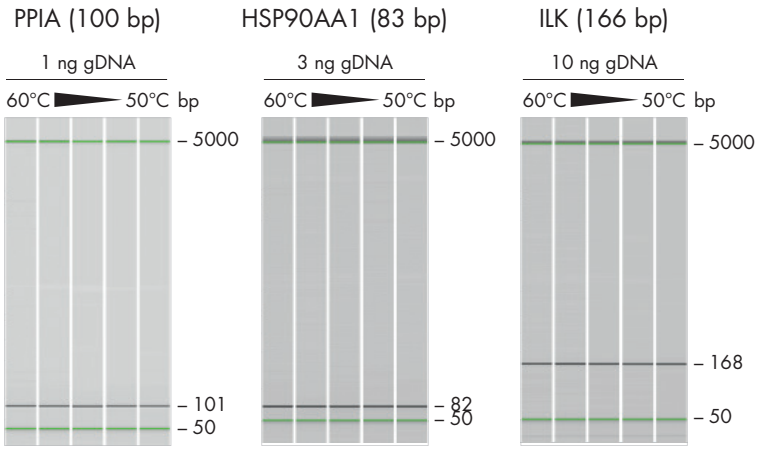

Figure 3. No optimization of annealing temperature required. PCR reactions were run using the AllTaq Master Mix Kit with different targets; varying template amount and annealing temperature (from 50°C to 60°C). Analysis was performed on the QIAxcel. All reactions resulted in successful and specific amplification of all targets.

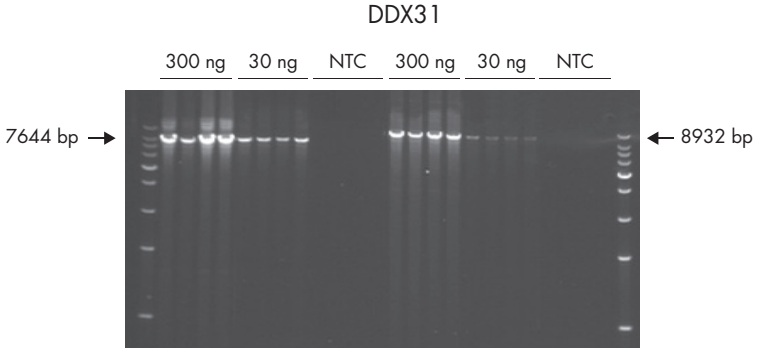

Figure 4. Amplification of long PCR-fragments. The AllTaq Master Mix Kit was used to amplify two DDX31 amplicons; 7644 bp and 8932 bp. Analysis was performed by agarose gel electrophoresis. Arrows indicate specific product.

Get premium sensitivity and specificity

Our unique, guard-protected, hot-start mechanism prevents premature PCR leakage, providing superior specificity. With outstanding stability of up to 120 hours at room temperature, AllTaq is ideally suited for automation. Duplex capacity further increases flexibility and efficiency.

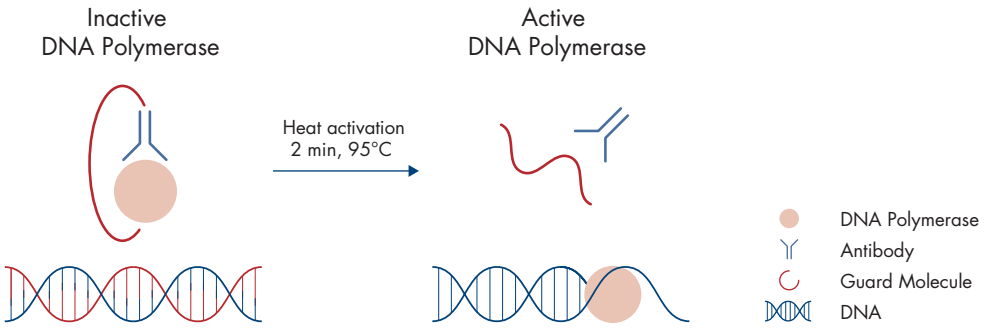

Figure 5. Principle of the novel AllTaq hot-start mechanism. AllTaq DNA Polymerase is kept in an inactive state by our specific antibody and guard molecule until the initial heat activation step.

Detect even a single target molecule

Our next-generation PCR buffer and unique, guard-protected hot start enable detection of as little as a single target molecule (Figure 6).

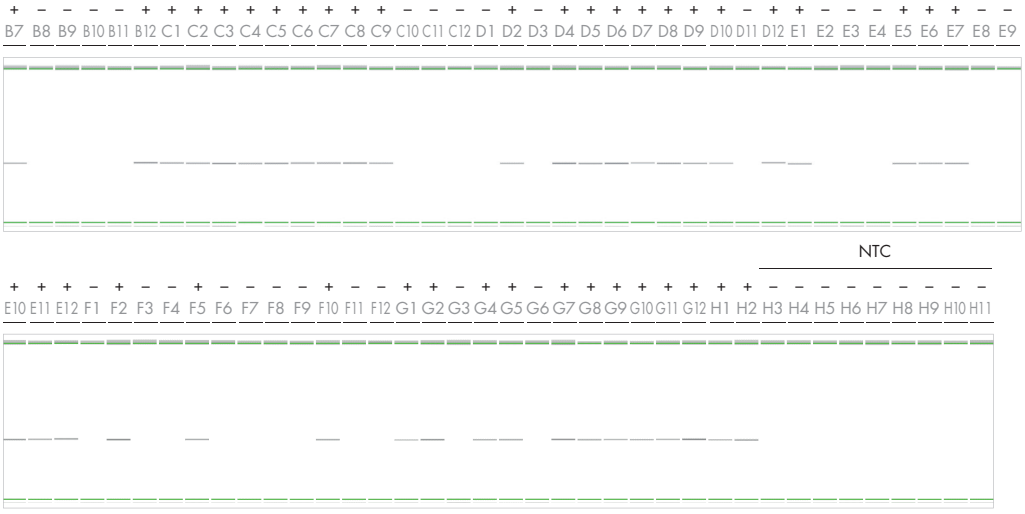

Figure 6. Sensitive single copy detection. gDNA template was diluted to theoretical one copy per reaction for amplification of CFTR (228 bp amplicon) using the AllTaq Master Mix Kit. 68 parallel PCR reactions were run, then analyzed using the QIAxcel. 42 positive reactions were achieved experimentally, which is highly consistent with the 43 positive reactions predicted theoretically, using Poisson's equation. Positive reactions are indicated with a "+", negative reactions with a "-". This comparison demonstrates reliable and highly sensitive single copy detection with the AllTaq Master Mix Kit.

Trust AllTaq Master Mix and PCR Core Kits for successful reactions every time, using the same protocol for all targets.

Ordering Information

Product	Contents	Cat. no.
AllTaq PCR Core Kit (250 U)	50 µl AllTaq Polymerase (5 U/µl), 1.2 ml AllTaq PCR Buffer (5x), 55 µl dNTP Mix (10 mM each), 200 µl Template Tracer (25x), 50 µl Master Mix Tracer (125x), 2 ml Q-Solution (5x), 1.2 ml $MgCl_2$ (25 mM), 1.9 ml RNase-Free Water	203123
AllTaq PCR Core Kit (1000 U)	200 µl AllTaq Polymerase (5 U/µl), 2 x 1.2 ml AllTaq PCR Buffer (5x), 200 µl dNTP Mix (10 mM each), 200 µl Template Tracer (25x), 2 x 50 µl Master Mix Tracer (125x), 2 ml Q-Solution (5x), 1.2 ml $MgCl_2$ (25 mM), 4 x 1.9 ml RNase-Free Water	203125
AllTaq PCR Core Kit (5000 U)	5 x 200 µl AllTaq Polymerase (5 U/µl), 9 x 1.2 ml AllTaq PCR Buffer (5x), 5 x 200 µl dNTP Mix (10 mM each), 4 x 200 µl Template Tracer (25x), 9 x 50 µl Master Mix Tracer (125x), 5 x 2 ml Q-Solution (5x), 2 x 1.2 ml $MgCl_2$ (25 mM), 16 x 1.9 ml RNase-Free Water	203127
AllTaq Master Mix Kit (500)	For 500 x 20 µl PCR amplifications: 2 x 1.25 ml AllTaq Master Mix (4x), 1 x 200 µl Template Tracer (25x), 2 x 50 µl Master Mix Tracer (125x), 5 x 1.9 ml RNase-Free Water	203144
AllTaq Master Mix Kit (2500)	For 2500 x 20 µl PCR amplifications: 10 x 1.25 ml AllTaq Master Mix (4x), 5 x 200 µl Template Tracer (25x), 10 x 50 µl Master Mix Tracer (125x), 20 x 1.9 ml RNase-Free Water	203146

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.

For more information visit: **www.qiagen.com/alltaq**.