

PCR REAGENTS

High performance, reliable polymerase • Complete range to meet various applications

Advanced buffer chemistry, for enhanced results

Taq DNA Polymerase

Hot Start Taq DNA Polymerase

Taq Plus DNA Polymerase

High Fidelity DNA Polymerase

Mammalian Genotyping Kit



Benchmark

Lk: 88.1 Sample: 21.3 Cycle: 1/1 02:58:00
Folder: Preset

Program: Long_PCR

| Step 1 | Step 2 | Step 3 | Step 4 | Step 5 | Step 6 |
|-----------------|------------------|------------------|-----------|------------------|------------|
| 94.0°C 0:1:0 | 94.0°C 0:0:15 | 68.0°C 0:10:0 | GoTo | 72.0°C 0:10:0 | 8.0°C ∞ |
| | | | 2 -20X | | END |

15 5/Cyc

ip Stop Gradient Curve

Run Started : 2012-2-13,2:56:38

The new PCR reagent line from Accuris™ takes polymerase performance to a new level. Developed by a team of scientists with extensive experience and in depth knowledge of PCR enzyme biochemistry, our polymerases incorporate specific protein modifications to improve results. In addition, our unique buffer solutions are formulated with proprietary enhancers to bolster the productivity of our active enzymes.

Accuris™ Taq DNA Polymerase and Master Mix



- **Ideal for routine PCR applications as well as genotyping, colony PCR and fast PCR**
- **Improved template affinity and increased processivity for higher enzymatic activity and greater yields**
- **Proprietary buffer optimized for a variety of assay conditions**
- **Supplied with 5X buffer or as a convenient 2X Master Mix**

Accuris Taq DNA Polymerase provides superior results for routine applications. Modified to improve DNA-binding, this polymerase offers higher processivity and greater template affinity, resulting in consistently superior performance. Accuris Taq Polymerase exhibits a 5' to 3' nuclease activity, but no 3' to 5' (proofreading) activity and works well with a wide range of DNA templates including GC-rich sequences.

The polymerase is supplied with a 5X buffer containing MgCl₂ and a proprietary mix of enhancers (dNTP's not included). For convenience, Accuris Taq is also available in a ready to use 2X Master Mix - just add primers and template DNA. The Master Mix can be ordered with a red loading dye that allows samples to be loaded directly on an agarose gel.

Accuris Taq Polymerase clearly amplifies complex mammalian genomic DNA. Replicate PCR amplification of 815bp genomic DNA with moderate GC-rich content (55% GC) using 0.5u Accuris Taq Polymerase. The consistent amplification (DNA yield) and clean background are hallmarks of Accuris Taq Polymerase and Master Mix.



| Item No. | Description | Size |
|---------------|-------------------------------|-----------------------|
| PR1000-500 | Accuris Taq DNA Polymerase | 500u (5u/μl) |
| PR1000-1000 | Accuris Taq DNA Polymerase | 1000u (5u/μl) |
| PR1000-6000 | Accuris Taq DNA Polymerase | 6000u (5u/μl) |
| PR1001-200 | Accuris 2x Taq Master Mix | 200 x 50μl Reactions |
| PR1001-1000 | Accuris 2x Taq Master Mix | 1000 x 50μl Reactions |
| PR1001-R-200 | Accuris 2x Taq Red Master Mix | 200 x 50μl Reactions |
| PR1001-R-1000 | Accuris 2x Taq Red Master Mix | 1000 x 50μl Reactions |

Accuris™ Hot Start Taq DNA Polymerase and Master Mix



- **Exceptional sensitivity for low copy PCR**
- **Ideal for multiplex PCR and amplification of GC-rich DNA**
- **Same enhanced features as Accuris Taq Polymerase**
- **Buffer optimized for fast cycling and reproducibility**

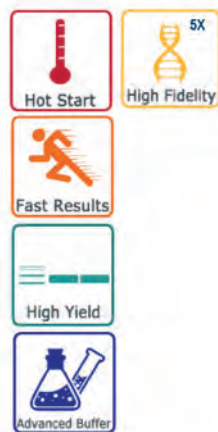
Gel image shows exceptional sensitivity of Accuris Hot Start Taq Polymerase with 405bp plant mitochondrial DNA. Amplification was performed with decreasing amounts of starting material, from 500ng to 31.25ng.



Engineered for controlled polymerase activity, Accuris Hot Start Taq DNA Polymerase is bound with a monoclonal antibody that blocks enzyme activity. This allows reactions to be set up at room temperature without the risk of non-specific amplification. When samples are ready, the reaction mixture is heated to 95°C to denature the antibody and initiate the reaction. Similar to the standard Accuris Taq, Hot Start Taq is provided with a 5X buffer, or in a ready to use 2X Master Mix. The Master Mix can be ordered with or without a red gel loading dye. Researchers preferring a chemically modified Hot Start polymerase, should order Accuris Hot Start ChemMod.

| Item No. | Description | Size |
|-----------------|---|-----------------------|
| PR1000-HS-500 | Accuris Hot Start Taq DNA Polymerase | 500u (5u/μl) |
| PR1000-HS-1000 | Accuris Hot Start Taq DNA Polymerase | 1000u (5u/μl) |
| PR1000-HS-6000 | Accuris Hot Start Taq DNA Polymerase | 6000u (5u/μl) |
| PR1001-HS-200 | Accuris Hot Start 2x Taq Master Mix | 200 x 50μl Reactions |
| PR1001-HS-1000 | Accuris Hot Start 2x Taq Master Mix | 1000 x 50μl Reactions |
| PR1001-HSR-200 | Accuris Hot Start 2x Taq Red Master Mix | 200 x 50μl Reactions |
| PR1001-HSR-1000 | Accuris Hot Start 2x Taq Red Master Mix | 1000 x 50μl Reactions |
| PR1000-CM-500 | Accuris Hot Start ChemMod Taq | 500u (5u/μl) |
| PR1000-CM-1000 | Accuris Hot Start ChemMod Taq | 1000u (5u/μl) |
| PR1000-CM-6000 | Accuris Hot Start ChemMod Taq | 6000u (5u/μl) |

Accuris™ Taq Plus DNA Polymerase and Master Mix



- **Higher fidelity for long PCR amplicons, up to 35kb**
- **Ideal for problematic templates**
- **Better sensitivity and higher activity for low copy and long PCR**
- **Enzyme of choice for TA cloning**

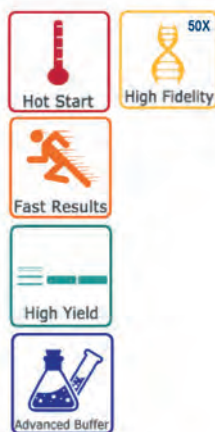
Accuris Taq Plus demonstrates high processivity even in the presence of crude lysates. The gel image shows amplification of an 850bp fragment of human chromosome with stretches of problematic AT and GC rich content. The first three lanes show the PCR product of amplification of 50ng, 5ng and 2.5ng amplified in the presence of crude lysate. The three right most lanes show the same amplification without the crude lysate.



Accuris Taq Plus DNA Polymerase, an optimized blend of our Hot Start Taq and a proofreading polymerase, provides up to 5x better fidelity than standard Taq and increased enzyme activity. It is the perfect choice for GC and AT rich templates, low copy number and long PCR. The mixture of 5'-3' polymerase activity and 3'-5' exonuclease activity produces fragments suitable for TA cloning. Accuris Taq Plus is provided with a 5X buffer with dNTPs or in a convenient one tube 2X Master Mix.

| Item No. | Description | Volume |
|----------------|---------------------------------|-----------------------|
| PR1000-TP-250 | Accuris Taq Plus DNA Polymerase | 250u (5u/μl) |
| PR1000-TP-500 | Accuris Taq Plus DNA Polymerase | 1000u (5u/μl) |
| PR1001-TP-200 | Accuris 2x Taq Plus Master Mix | 200 x 50μl Reactions |
| PR1001-TP-1000 | Accuris 2x Taq Plus Master Mix | 1000 x 50μl Reactions |

Accuris™ High Fidelity DNA Polymerase



- **50X higher fidelity than Taq DNA polymerase**
- **Works with crude DNA samples**
- **Ideal for cloning, mutagenesis and microarrays**
- **Optimized buffer system with unique PCR enhancers**

Accuris High Fidelity Polymerase is ideally suited to amplification of crude samples with a high level of accuracy. In Lanes 1 through 8, decreasing amounts of polymerase (starting with 0.5 unit) are used in a colony PCR application in which bacterial DNA is amplified successfully, without any purification or removal of cell debris.



For applications requiring highly accurate amplification, choose Accuris High Fidelity DNA Polymerase. Modified for better sensitivity and higher activity for more reproducible performance, this polymerase will amplify a wide range of targets, including those that are GC or AT rich as well as crude samples. A 3'-5' proofreading exonuclease activity and an error rate of 4.55×10^{-7} makes Accuris High Fidelity DNA Polymerase the perfect partner for cloning applications. The supplied 5X buffer with dNTPs is optimized for compatibility with a variety of targets.

| Item No. | Description | Size |
|----------------|--------------------------------------|---------------|
| PR1000-HF-200 | Accuris High Fidelity DNA Polymerase | 200u (2u/μl) |
| PR1000-HF-1000 | Accuris High Fidelity DNA Polymerase | 1000u (2u/μl) |

Accuris™ 1 Hour Mammalian Genotyping Kit



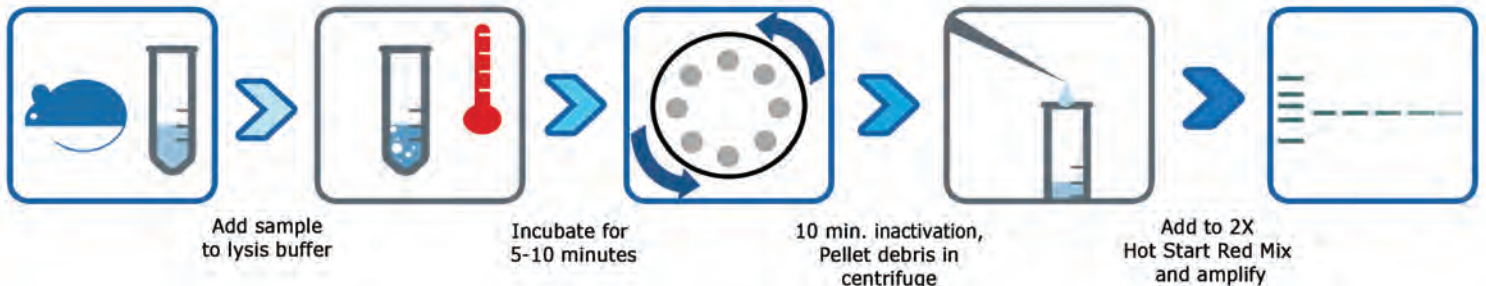
- **DNA extraction and amplification in an hour**
- **Proprietary lysis buffer optimized for ear punches, tail snips and other mammalian tissues**
- **Single tube - no organic solvents or clean up procedures**
- **Enhanced Accuris Hot Start Taq Polymerase Master Mix included**

Lanes 1, 2 and 3 compare the Accuris 1 Hour Mammalian Genotyping Kit with traditional methods for 3mm mouse tail snips. Lane 1 - Accuris Kit, 1 hour workflow. Lanes 2 and 3 - traditional Proteinase K digestion and PCR with Taq polymerase mix, overnight incubation. Lanes 4-7 - Replicate PCR amplification from mouse ear tissue (2.5mg) using the Accuris kit showing reproducibility.



Traditionally, mouse genotyping protocols have involved Proteinase K digestion, neutralization, organic extraction and lots of hands on time to get PCR-ready DNA. The Accuris 1 Hour Mammalian Genotyping Kit is quick and easy - add sample to the proprietary buffer and incubate for 5-10 minutes, then add the deactivation buffer and incubate for 10 minutes. The crude lysate can be amplified using fast PCR and Accuris Hot Start Taq Master Mix with red loading dye (included). The kit contains everything needed - just add sample and primers.

| Item No. | Description | Reactions |
|---------------|---|-----------|
| PR1300-MG-80 | Accuris 1 Hour Mammalian Genotyping Kit | 80 |
| PR1300-MG-400 | Accuris 1 Hour Mammalian Genotyping Kit | 400 |

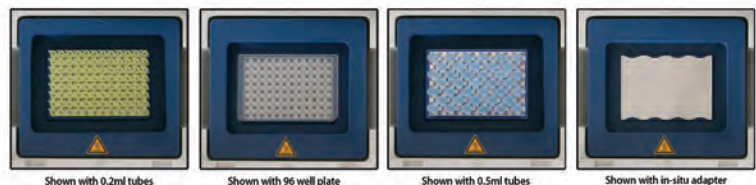


Also from Benchmark Scientific



Benchmark TC 9639 Thermal Cycler

- ♦ Intuitive touch screen control
- ♦ Program wizard for quick set up of protocols
- ♦ Unique multifORMAT block accepts:
 - 0.2ml tubes/strips
 - 0.2ml PCR plate
 - 0.5ml tubes
 - Optional adapter for slides



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