Accuris™ High Fidelity DNA Polymerase

Description

High Fidelity Polymerase represents the next level of polymerases, engineered for shorted extension times, greater sensitivity and successful PCR of crude samples. This enzyme exhibits a strong 5'-3' activity along with a 3'-5' proofreading activity. An error rate of 4.55 x 10^{-7} makes this enzyme the perfect partner for cloning applications. the enzyme has been modified for increased solubility and performance across a broad range of conditions. The included 5X buffer has been formulated specifically to work with the unique nature of this high fidelity polymerase.

- -Greater than 50 times greater fidelity when compared to wild-type Taq polymerase
- -Proprietary 5X reacton buffer includes enhancers for maximizing enzyme activity and reaction speed
- -Improved yields across a variety of templates, including those that are GC and AT rich
- -Resulting product is blunt ended

Storage

Upon receipt, immediately store at -20°C. Avoid excessive freeze/thaw cycles. When stored as directed, product will retain its activity for 12 months from date of receipt. May also store at 4°C for up to one month.

Limitations of Use

For research purposes only. Not intended for therapeutic or diagnostic use.

Quality Control

Accuris enzymes and reagents are tested under general assay conditions for activity, reproducibility, efficiency, heat activation, sensitivity, and absence of nuclease contamination and nuclease activity. This product is manufactured under a comprehensive quality management system, following ISO 9001:2008 standards.

General Guidelines

1. *Reaction Buffer*

The supplied 5X reaction buffer has been formulated for maximum efficiency, sensitivity and successful PCR with long and difficult templates. Proprietary PCR enhancers, optimal levels of dNTPs (5mM) and 15mM $MgCl_2$ are included in the buffer. Use of additional PCR enhancers may have a negative effect on the reaction.

2. *Template*

For PCR of complex genomic DNA, 5ng - 500ng of template DNA may be added per reaction. Do not add more than 100ng of DNA for cDNA or plasmid DNA

3. *Primers*

Primers should have a predicted melting temperature of approximately 60°C, using default Primer 3 settings (http://frodo.wi.mit.edu/primer3). The final primer concentration should be 0.2µM to 0.6µM.

4. *Annealing Temperature*

An initial annealing temperature of 57°C is recommended. If nonspecific products or smearing appear, increase the temperature in 2°C increments. Alternately, a temperature gradient may be performed.

5. *Extension*

The polymerase performs optimally at 72°C. Extension time is dependent upon amplicon complexity and length. Thirty seconds per kilobase (Kb) is recommended for amplification from eukaryotic genomic DNA or cDNA

Technical Support

For trouble-shooting and tech support, contact us at info@accuris-usa.com or call 908 769-5555.

Accuris is not responsible for consequential or incidental damages, whether direct or indirect, resulting from use of this product. Accuris guarantees the performance of this product as described when used in accordance with these instructions.

Reaction setup

Prepare the reaction as follows:

Component	*25 µl reaction*	*50 µl reaction*	*Final concentration*
Accuris 5x High Fidelity Reaction Buffer	5 µl	10 µl	1X
Forward Primer (10µM)	1.0 µl	2.0 µl	400 nM
Reverse Primer (10µM)	1.0 µl	2.0 µl	400 nM
Template DNA	<100ng cDNA, <500ng genomic		variable
High Fidelity Polymerase(2u/µl)	0.25 µl - 0.5 µl	0.5 µl - 1 µl	variable
PCR-grade water	to final reaction volume		

For other volumes, adjust the amount of each component accordingly.

Gently mix the solution. If needed, spin briefly in a microcentrifuge to bring reaction mixture to the bottom of the tube. Transfer samples to a thermal cycler begin cycling.

Routine PCR Cycling

Step	Temperature	Time
Initial denaturation	95°C	1-2 minutes
25-40 cycles	95°C	15 seconds
	57°C to 67°C*	15 seconds
	72°C	30 seconds per Kb

*Annealing temperature determined by user

Package contents and reordering

Accuris High Fidelity Polymerase is supplied at a concentration of 2 units/µl and is available in 200 and 1000 unit packages. Supplied with 5X High Fidelity Buffer.

Accuris High Fidelity Polymerase, Sample Pack

Catalog number PR1000-HF-S
Includes 10 µl of enzyme and 5X buffer.

Accuris High Fidelity Polymerase, 200 units

Catalog number PR1000-HF-200
Includes 100 µl of enzyme and 3ml of 5X buffer in1ml aliquots.

Accuris High Fidelity Polymerase, 1000 units

Catalog number PR1000-HF-1000
Includes 500 µl of enzyme in 100 µl aliquots, and 15ml of 5X buffer in1ml aliquots.

Accuris offers a full line of PCR enzymes and master mixes. Visit www.accuris-usa.com for details.

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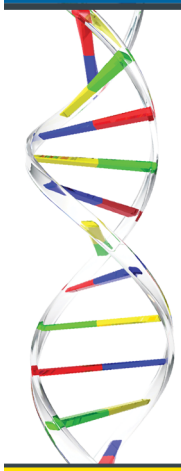


Accuris™
High Fidelity Polymerase
PR1000-HF

2 units/µl, supplied with 5X Buffer

Package contains:
200 units High Fidelity Polymerase (1x100µl)
3ml 5X High Fidelity Buffer (3x1ml)
Store at -20°C upon receipt

PH: 908.769.5555 EM: Info@accuris-usa.com

Accuris™ High Fidelity Master Mix

Description

Accuris High Fidelity Master Mix is a fast, ultra-high fidelity PCR master-mix ideally suited to a wide range of DNA templates including the most challenging and complex DNA targets. The Master Mix is a ready-to-use 2X formulation which provides excellent sensitivity in low-copy number assays with 100X higher fidelity than Taq polymerase. The 2X master-mix is comprised of a modified derivative of pfu DNA Polymerase, and proprietary additives for trouble-free PCR reaction assembly and performance. Accuris High Fidelity Master Mix produces DNA fragments up to 10 Kb with blunt ends.

- -Optimized 2x Ultra High-Fidelity PCR Mix provides highly-sensitive PCR in a wide range of applications with 100x higher fidelity than Taq Polymerase.
- -Provides excellent specificity in low-copy number assays and long PCR up to 10Kb with exceptional sequence accuracy.
- -Resulting product is blunt ended

Storage

Upon receipt, immediately store at -20°C. Avoid excessive freeze/thaw cycles. When stored as directed, product will retain its activity for 12 months from date of receipt. May also store at 4°C for up to one month.

Limitations of Use

For research purposes only. Not intended for therapeutic or diagnostic use.

Quality Control

Accuris enzymes and reagents are tested under general assay conditions for activity, reproducibility, efficiency, heat activation, sensitivity, and absence of nuclease contamination and nuclease activity. This product is manufactured under a comprehensive quality management system, following ISO 9001:2008 standards.

General Guidelines

1. *Reaction Buffer*

The 2X Mix is comprised of a highly sensitive, proof-reading DNA polymerase, 2 mM dNTPs, 6 mM MgCl2, and PCR additives for maximum efficiency, sensitivity and success with difficult amplicons. We do not suggest the use of additional PCR enhancers.

2. *Template*

For PCR of complex genomic DNA, 5ng - 500ng of template DNA may be added per reaction. Do not add more than 100ng of DNA for cDNA or plasmid DNA

3. *Primers*

Primers should have a predicted melting temperature of approximately 60°C, using default Primer 3 settings (http://frodo.wi.mit.edu/primer3). The final primer concentration should be 0.2µM to 0.6µM.

4. *Annealing Temperature*

An initial annealing temperature of 57°C is recommended. If nonspecific products or smearing appear, increase the temperature in 2°C increments. Alternately, a temperature gradient may be performed.

5. *Extension*

The polymerase performs optimally at 72°C. Extension time is dependent upon amplicon complexity and length. Thirty seconds per kilobase (Kb) is recommended for amplification from eukaryotic genomic DNA or cDNA

Technical Support

For trouble-shooting and tech support, contact us at info@accuris-usa.com or call 908 769-5555.

Accuris is not responsible for consequential or incidental damages, whether direct or indirect, resulting from use of this product. Accuris guarantees the performance of this product as described when used in accordance with these instructions.

Reaction setup

Prepare the reaction as follows:

Component	*25 µl reaction*	*Final concentration*
Accuris High Fidelity Master Mix	12.5 µl	1X
Forward Primer (10µM)	1.0 µl	400 nM
Reverse Primer (10µM)	1.0 µl	400 nM
Template DNA	<100ng cDNA, <500ng genomic	variable
PCR-grade water	to final reaction volume	

For other volumes, adjust the amount of each component accordingly.

Gently mix the solution. If needed, spin briefly in a microcentrifuge to bring reaction mixture to the bottom of the tube. Transfer samples to a thermal cycler begin cycling.

Routine PCR Cycling

Step	Temperature	Time
Initial denaturation	95°C	1-2 minutes
25-40 cycles	95°C	15 seconds
	57°C to 67°C*	15 seconds
	72°C	30 seconds per Kb

*Annealing temperature determined by user

Package contents and reordering

Accuris High Fidelity Master Mix is available in 200 and 500 reaction packages.

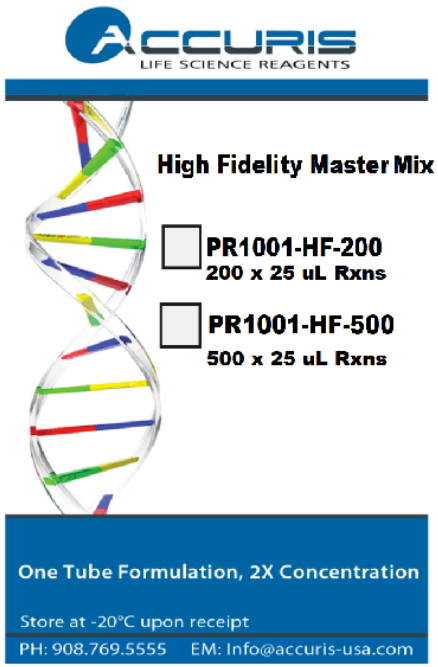
Accuris High Fidelity Master Mix, 200 units

Catalog number PR1001-HF-200
Includes 2 x 1.25 mL for 200 x 25 µL reactions.

Accuris High Fidelity Master Mix, 500 units

Catalog number PR1001-HF-500
Includes 2 x 1.25 mL for 500 x 25 µL reactions.

Accuris offers a full line of PCR enzymes and master mixes. Visit www.accuris-usa.com for details.



Accuris™ High Fidelity Hot Start Master Mix

Description

Accuris High Fidelity Hot Start Master Mix is a robust, high-fidelity DNA polymerase mix ideally suited to amplify templates including complex DNA targets and inhibitor-rich samples. The Master Mix is a hot-start 2X formulation which provides excellent sensitivity in low-copy number assays and 10X higher fidelity than Taq polymerase. The 2X master-mix contains proprietary enhancers, hot-start antibodies and a proof-reading component for trouble-free PCR reaction assembly and performance.

-Optimized 2X PCR blend provides robust hot-start PCR in a wide range of applications with 10X higher fidelity than Taq Polymerase.

-Provides greater yields and specificity than other PCR master-mixes, even in low-copy number assays, long PCR up to 10Kb, and in the presence of common PCR inhibitors.

-High Fidelity Master Mix is designed and optimized for ease-of-use and broad compatibility with DNA templates of various lengths and complexity.

-Resulting product is blunt ended

Storage

Upon receipt, immediately store at -20°C. Avoid excessive freeze/thaw cycles. When stored as directed, product will retain its activity for 12 months from date of receipt. May also store at 4°C for up to one month.

Limitations of Use

For research purposes only. Not intended for therapeutic or diagnostic use.

Quality Control

Accuris enzymes and reagents are tested under general assay conditions for activity, reproducibility, efficiency, heat activation, sensitivity, and absence of nuclease contamination and nuclease activity. This product is manufactured under a comprehensive quality management system, following ISO 9001:2008 standards.

General Guidelines

1. *Reaction Buffer*

The 2x Mix is comprised of a high-fidelity DNA polymerase complex, 2 mM dNTPs, 6 mM MgCl2, and PCR enhancers for maximum efficiency, sensitivity and success with difficult amplicons. Use of additional PCR enhancers may have a negative effect on the reaction.

2. *Template*

For PCR of complex genomic DNA, 5ng - 500ng of template DNA may be added per reaction. Do not add more than 100ng of DNA for cDNA or plasmid DNA

3. *Primers*

Primers should have a predicted melting temperature of approximately 60°C, using default Primer 3 settings (http://frodo.wi.mit.edu/primer3). The final primer concentration should be 0.2µM to 0.6µM.

4. *Annealing Temperature*

An initial annealing temperature of 57°C is recommended. If nonspecific products or smearing appear, increase the temperature in 2°C increments. Alternately, a temperature gradient may be performed.

5. *Extension*

The polymerase performs optimally at 72°C. Extension time is dependent upon amplicon complexity and length. Thirty seconds per kilobase (Kb) is recommended for amplification from eukaryotic genomic DNA or cDNA

Technical Support

For trouble-shooting and tech support, contact us at info@accuris-usa.com or call 908 769-5555.

Accuris is not responsible for consequential or incidental damages, whether direct or indirect, resulting from use of this product. Accuris guarantees the performance of this product as described when used in accordance with these instructions.

Reaction setup

Prepare the reaction as follows:

Component	*25 µl reaction*	*Final concentration*
Accuris HFHS Master Mix	12.5 µl	1X
Forward Primer (10µM)	1.0 µl	400 nM
Reverse Primer (10µM)	1.0 µl	400 nM
Template DNA	<100ng cDNA, <500ng genomic	variable
PCR-grade water	to final reaction volume	

For other volumes, adjust the amount of each component accordingly.

Gently mix the solution. If needed, spin briefly in a microcentrifuge to bring reaction mixture to the bottom of the tube. Transfer samples to a thermal cycler begin cycling.

Routine PCR Cycling

Step	Temperature	Time
Initial denaturation	95°C	1-2 minutes
25-40 cycles	95°C	15 seconds
	57°C to 67°C*	15 seconds
	72°C	30 seconds per Kb

*Annealing temperature determined by user

Package contents and reordering

Accuris High Fidelity Hot Start Master Mix is available in 200 and 500 reaction packages.

Accuris High Fidelity Hot Start Master Mix, 200 reactions

Catalog number PR1001-HFHS-200
Includes 2 x 1.25 mL for 200 x 25 µL reactions.

Accuris High Fidelity Hot Start Master Mix, 500 units

Catalog number PR1001-HFHS-500
Includes 2 x 1.25 mL for 500 x 25 µL reactions.

Accuris offers a full line of PCR enzymes and master mixes. Visit www.accuris-usa.com for details.