

PHENIX PCR® Enzyme Guide

PHENIX offers a broad line of premium quality PCR Enzymes. This PCR Enzyme Guide will help simplify your polymerase selection process. Each DNA Polymerase has different characteristics and attributes which can generate the best results, it is crucial to choose the enzyme that suits your application. For your convenience and to achieve optimal PCR, many of our most popular PCR enzymes are available in ready-to-use, 2X Mastermixes, which contain polymerase, dNTP's, MgCl₂ and additional additives.

Polymerase	Applications	Suitable Template Length	Heat-Activated	Sensitivity/ Low Copy Templates	Specificity	Fidelity	Problem Templates	3' End Modification
High Activity Taq	Routine PCR and minimal handling	Up to 5Kb	NO	**	*		*	3'-dA
High Activity Taq Red	Routine PCR and minimal handling	Up to 5Kb	NO	**	*		*	3'-dA
2x Taq Mastermix	Highly sensitive PCR and minimal handling	Up to 5Kb	NO	**	*		*	3'-dA
2x Taq Red Mastermix	Highly sensitive PCR and minimal handling	Up to 5Kb	NO	**	*		*	3'-dA
Hot Start Taq	Hot Start PCR and QPCR	Up to 5Kb	YES	**	***		*	3'-dA
Hot Start Taq Mastermix	Hot Start PCR and minimal handling	Up to 5Kb	YES	**	***		*	3'-dA
Hot Start Taq Red Mastermix	Hot Start PCR and minimal handling	Up to 5Kb	YES	**	***		*	3'-dA
High-Fidelity DNA Polymerase	Ultra High Fidelity PCR for subsequent cloning	Up to 5Kb	NO	*	*	***	*	Blunt
2x High Fidelity DNA Polymerase	Ultra High Fidelity PCR and minimal handling	Up to 5Kb	NO	*	*	***	*	Blunt

*** equals an ideal match for an attribute category.

** equals an appropriate match for an attribute category.

* equals a low match for an attribute category.



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Tools For Life Science Discovery



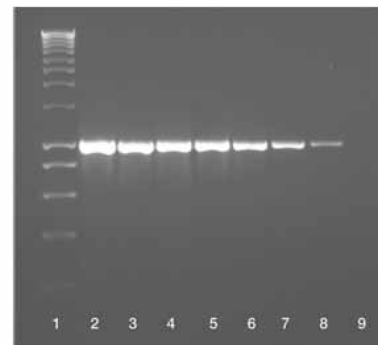
High Activity Taq Polymerase

- Cost Effective Taq
- Robust PCR Performance Suited to a Wide Range of PCR Assays
- Leaves "A" Overhang
- Amplifies Fragments Up To 5KB
- Consistent Results

High Activity Taq Polymerase is a thermostable DNA polymerase which can withstand prolonged incubations at high temperatures without significant decrease in enzyme activity. Taq is purified from *Thermus aquaticus* and is used in a wide range of molecular biology protocols. PHENIX High Activity Taq can amplify fragments of up to 5Kb in length, from genomic DNA.

Like other polymerase, Taq catalyzes the template-dependent polymerisation of nucleotides into duplex DNA in the 5'-3' direction. PHENIX High Activity Taq lacks 3'-5' exonuclease (proofreading) activity and possesses a low 5'-3' exonuclease activity. Taq reaction products contain 3' adenosine overhangs which are suitable for TA cloning.

PHENIX High Activity Taq Polymerase is compatible with a wide range of PCR Assays.



High Performance with Taq

A serial dilution of template was performed to demonstrate the high performance of Taq, even at low DNA concentrations.

Lane 1: Hyperladder I

Lane 2: 0.5ng λ DNA

Lane 3-9: 10-fold dilution series

Ordering Information

Cat No	Description	Unit	Price
DNP-100	High Activity Taq for routine PCR assays	500u	\$70.00
DNP-200	High Activity Taq for routine PCR assays	2500u	315.00

Other High Activity Taq Products

DNP-105	2x Taq Mastermix (includes dNTP's & buffers)	100 Rxns	\$45.00
DNP-205	2x Taq Mastermix (includes dNTP's & buffers)	500 Rxns	215.00

Both product groups available with Red Loading Dye.



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High Activity Taq Red Polymerase

- Cost Effective Taq
- Robust PCR Performance Suited to a Wide Range of PCR Assays
- Leaves "A" Overhang
- Consistent Results
- Saves Time and Allows Direct Gel Loading
- Easy Visualization

High Activity Taq Red Polymerase is a thermostable DNA polymerase which can withstand prolonged incubations at high temperatures without significant decrease in enzyme activity. Taq is purified from *Thermus aquaticus* and is used in a wide range of molecular biology protocols. High Activity Taq Red contains an inert red dye which saves time in the PCR process by eliminating the need for the addition of gel loading buffer prior to electrophoresis.

Like other polymerase, Taq catalyzes the template-dependent polymerisation of nucleotides into duplex DNA in the 5'-3' direction. PHENIX High Activity Taq lacks 3'-5' exonuclease (proofreading) activity and possesses a low 5'-3' exonuclease activity. Taq reaction products contain 3' adenosine overhangs which are suitable for TA cloning.

PHENIX High Activity Taq Red Polymerase is compatible with a wide range of PCR Assays.

Ordering Information

Cat No	Description	Unit	Price
DNP-100R	High Activity Taq Red Polymerase for PCR Assays	500u	\$95.00
DNP-200R	High Activity Taq Red Polymerase for PCR Assays	2500u	340.00

Other Taq Products with Red Loaded Dye

DNP-105R	2x Red Taq Mastermix (includes dNTPs, buffers & dye)	100 Rxns	\$55.00
DNP-205R	2x Red Taq Mastermix (includes dNTPs, buffers & dye)	500 Rxns	255.00

Both product groups available in non-loading dye versions.



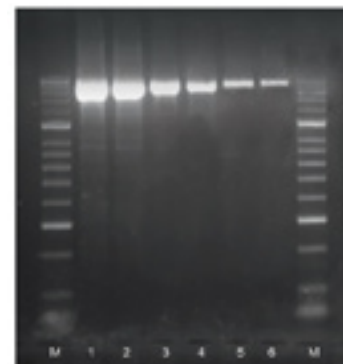
2x Taq Mastermix

- Convenient pre-mixed, pre-optimized 2x solutions - Saves You Time
- Reduced risk of contamination
- Dramatically decreases the time required for reaction set up
- Less pipetting steps which improve reproducibility
- High yield & high activity

PHENIX 2x Taq Mastermix is a complete ready-to-use 2x reaction mix containing an ultrastable High Activity Taq Polymerase. Developed to perform PCR assays of many common genomic and cDNA templates, the user has simply to add water, template and primers.

2x Taq Mastermix dramatically reduces the time required to set up reactions, thereby minimizing the risk of contamination. Greater reproducibility is ensured, by reducing the number of pipetting steps that can lead to errors.

2x Taq Mastermix has been optimized for a wide variety of templates, however an additional 50mM of MgCl₂ solution is included should any fine adjustments be required.



Successful amplification at low template concentrations.

A 1.8Kb fragment of the m18s gene was amplified using 25ul of 2x Taq Mastermix. The fragment was amplified using a 2-fold serial dilution of mouse genomic DNA starting from 50ng (Lane 1) to 1.5ng (Lane 6). PCR was performed in 50ul reaction mixtures containing 1.5mM MgCl₂. Marker is Hyper Ladder II.

Ordering Information

Cat No	Description	Unit	Price
DNP-105	2x Taq Mastermix (includes dNTP's & buffers)	100 Rxns	\$45.00
DNP-205	2x Taq Mastermix (includes dNTP's & buffers)	500 Rxns	215.00

Other High Activity Taq Products

DNP-100	High Activity Taq for routine PCR assays	500u	\$70.00
DNP-200	High Activity Taq for routine PCR assays	2500u	315.00

Both product groups available with Red Loading Dye.



2x Taq Red Mastermix

- Convenient pre-mixed, pre-optimized 2x solutions - Saves You Time
- Reduced risk of contamination
- Dramatically decreases the time required for reaction set up
- Less pipetting steps which improve reproducibility
- Direct gel loading

2x Taq Red Mastermix is a complete ready-to-use 2x reaction mix containing an ultra-stable High Activity Taq DNA Polymerase. It contains an additional inert red dye that permits easy visualization and direct loading onto a gel. There is no need to add loading buffer as the mix is of sufficiently high density to sink to the bottom of the gel.

2x Taq Red Mastermix has been developed to perform PCR assays of many common genomic and cDNA templates; the user has simply to add water, template and primers. It dramatically reduces the time required to set up reactions, thereby minimizing the risk of contamination. Greater reproducibility is ensured, by reducing the number of pipetting steps that can lead to errors.

2x Taq Red Mastermix has been optimized for a wide variety of templates, however an additional 50mM of MgCl₂ solution is included should any fine adjustments be required.

Ordering Information

Cat No	Description	Unit	Price
DNP-105R	2x Red Taq Mastermix (includes dNTPs, buffers & dye)	100 Rxns	\$55.00
DNP-205R	2x Red Taq Mastermix (includes dNTPs, buffers & dye)	500 Rxns	255.00

Other Taq Products with Red Loaded Dye

DNP-100R	High Activity Taq Red Polymerase for PCR Assays	500u	\$95.00
DNP-200R	High Activity Taq Red Polymerase for PCR Assays	2500u	340.00

Both product groups available in non-loading dye versions.



Hot-Start Taq Polymerase

- For PCR assays requiring Hot Start
- Ultra-high specificity for multiplex reaction
- Highly suited to real-time assays
- Ready-to-go versions: 2x Hot Start Taq Mastermix & 2x Hot Start Taq Red Mastermix
- Required less pipetting steps = improved reproducibility

PHENIX Hot-Start Taq Polymerase is a heat-activated thermostable DNA polymerase isolated from a novel organism. Hot-Start Taq Polymerase provides improved specificity as compared to standard polymerases and can eliminate the presence of non-specifics, such as primer-dimers and mis-primed products. Hot Start Taq Polymerase is inactive at room temperature and therefore prior to PCR cycling, requires activation by heat treatment for 10 minutes. Subsequently, the reaction can be handled according to the user's existing protocols for thermostable DNA Polymerases.

The specificity and performance of Hot-Start Taq Polymerase can be further improved with the use of 2x PolyMate Additive (which is designed for GC- or AT-rich DNA, "dirty" templates or sequences with a high level of secondary structure).

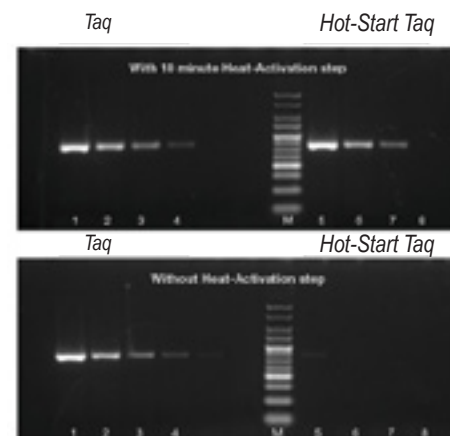


Illustration of Hot-Start Taq Polymerase

To illustrate the heat-activation property, a 125bp DNA fragment from plasmid pGEM was amplified using 1.0 Unit of Taq (lane 1-4) and 1.0 Unit of Hot-Start Taq Polymerase (lane 5-8). The pGEM fragment was amplified from 0.25ng plasmid DNA (pGEM) followed by 2-fold serial dilutions in 50ul reactions containing 1.5mM MgCl₂. Marker is HyperLadder V. Two tests were conducted, one with Hot-Start and one without Hot-Start. Taq exhibited activity in both tests, whereas Hot-Start Taq Polymerase only exhibited activity following a hot-start step.

Ordering Information

Cat No	Description	Unit	Price
DNP-H100	Taq for PCR assays requiring Hot-Start	5u/ul	500u \$210.00
DNP-H200	Taq for PCR assays requiring Hot-Start	5u/ul	2500u 799.00

Other Hot Start Assay Products

DNP-H105	2x Mastermix for PCR Assays - Hot Start	100 Rxns	\$85.00
DNP-H205	2x Mastermix for PCR Assays - Hot Start	500 Rxns	390.00

Both product groups available with Red Loading Dye.



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2x Hot-Start Taq Mastermix

- For PCR assays requiring Hot Start
- Ultra-high specificity for multiplex reaction
- Highly suited to real-time assays
- Ready-to-go version
- Required less pipetting steps = improved reproducibility

PHENIX 2x Hot-Start Taq Mastermix is a complete ready-to-use heat-activated 2x reaction-mix, which simply requires the user to add only water, template and primers, and then pre-heat to 95°C for 10 minutes to successfully carry out PCR assays. The 10-minute activation step eliminates the presence of non-specifics such as primer-dimers and mis-primed products, since the enzyme is inactive at initial low temperatures.

2x Hot-Start Taq Mastermix is based on Hot-Start Taq Polymerase which leaves an 'A' overhang, and has been optimized for a wide variety of templates. An additional 50mM MgCl₂ solution is included should any fine adjustments be required.

2x Hot-Start Taq Mastermix dramatically reduces the time needed to set up reactions, thereby reducing the risk of contamination. Greater reproducibility is ensured, by reducing the number of pipetting steps that can lead to pipetting errors

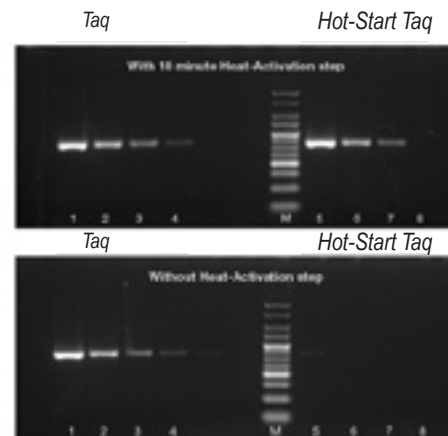


Illustration of Hot-Start Taq Polymerase

To illustrate the heat-activation property, a 125bp DNA fragment from plasmid pGEM was amplified using 1.0 Unit of Taq (lane 1-4) and 1.0 Unit of Hot-Start Taq Polymerase (lane 5-8). The pGEM fragment was amplified from 0.25ng plasmid DNA (pGEM) followed by 2-fold serial dilutions in 50ul reactions containing 1.5mM MgCl₂. Marker is HyperLadder V. Two tests were conducted, one with Hot-Start and one without Hot-Start. Taq exhibited activity in both tests, whereas Hot-Start Taq Polymerase only exhibited activity following a hot-start step.

Ordering Information

Cat No	Description	Unit	Price
DNP-H105	2x Mastermix for PCR Assays - Hot Start	100 Rxns	\$85.00
DNP-H205	2x Mastermix for PCR Assays - Hot Start	500 Rxns	390.00

Other Hot Start Assay Products

DNP-H100	Taq for PCR assays requiring Hot-Start 5u/ul	500u	\$210.00
DNP-H200	Taq for PCR assays requiring Hot-Start 5u/ul	2500u	799.00

Both product groups available with Red Loading Dye.



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2x Hot-Start Taq Red Mastermix

- For PCR assays requiring Hot Start
- Ultra-high specificity for multiplex reaction
- Highly suited to real-time assays
- Ready-to-go version
- Load reactions directly onto gel without additional loading buffer

PHENIX 2x Hot-Start Taq Red Mastermix is a complete ready-to-use heat-activated 2x reaction-mix, which simply requires the user to add only water, template and primers, and then pre-heat to 95°C for 10 minutes to successfully carry out PCR assays. The 10 minute activation step eliminates the presence of non-specifics such as primer-dimers and mis-primed products, since the enzyme is inactive at initial low temperatures.

2x Hot-Start Taq Red Mastermix combines all of the features and advantages of 2x Hot-Start Taq Mastermix, and contains an additional inert red dye. This non-toxic, non-hazardous red dye allows users to load samples directly onto a gel, without the need to add loading buffer since the mix is of sufficiently high density to sink to the bottom of the gel. Adequate mixing is also ensured when reactions are set up.

2x Hot-Start Taq Red Mastermix is based on Hot-Start Taq Polymerase, which leaves an 'A' overhang, and has been optimized for a wide variety of templates. An additional 50mM MgCl₂ solution is included should any fine adjustments be required. 2x Hot-Start Taq Red Mastermix dramatically reduce the time needed to set up reactions, thereby reducing the risk of contamination. Greater reproducibility is ensured, by reducing the number of pipetting steps that can lead to pipetting errors

Ordering Information

Cat No	Description	Unit	Price
DNP-H105R	2x Red Mastermix for PCR Assay requiring Hot-Start	100 Rxns	\$90.00
DNP-H205R	2x Red Mastermix for PCR Assay requiring Hot-Start	500 Rxns	400.00

Also available in non-red loading dye formats.



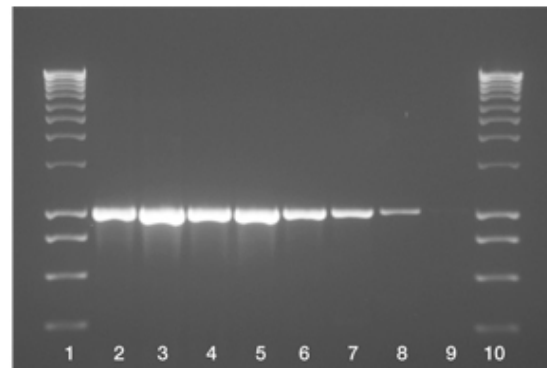
High-Fidelity DNA Polymerase

- Offers high fidelity coupled with robust activity
- Amplifies fragments up to 5Kb
- Can exhibit up to 46x greater accuracy than standard Taq (depending on reaction conditions)
- Produces blunt ends

PHENIX High-Fidelity DNA Polymerase is a thermostable enzyme possessing 5'-3' DNA polymerase and 3'-5' proofreading exonuclease activities, offering high fidelity. High-Fidelity DNA Polymerase produces blunt-ended amplicons of up to 5Kb in length.

PHENIX High-Fidelity DNA Polymerase is supplied with 10x Reaction Buffer containing MgSO₄, which provides optimal final reaction conditions (1.5mM Mg²⁺) for most experiments. In order to allow optimization of reaction conditions, additional MgCl₂ is provided.

The specificity and performance of High-Fidelity DNA Polymerase can be further improved with the use of 2x PolyMate Additive, which is designed for GC or AT-rich DNA, "dirty" templates or sequences with a high level of secondary structure.



High Performance with High-Fidelity DNA Polymerase

A serial dilution of template was performed to demonstrate the high performance of High-Fidelity DNA Polymerase, even at low DNA concentrations.

Lane 1 & 10: Hyperladder I

Lane 2: 0.5ng λ DNA

Lane 3-9: 10-fold dilution series

Ordering Information

Cat No	Description	Unit	Price
DNP-HF104	PCR Enzyme for reduced error rates (mutagenesis etc)	250u	\$95.00
DNP-HF204	PCR Enzyme for reduced error rates (mutagenesis etc)	500u	155.00

Other High Fidelity DNA Products

DNP-HF108	High-Fidelity Enzyme in a Ready-To-Go 2x Mix	100 Rxns	\$65.00
DNP-HF208	High-Fidelity Enzyme in a Ready-To-Go 2x Mix	500 Rxns	280.00



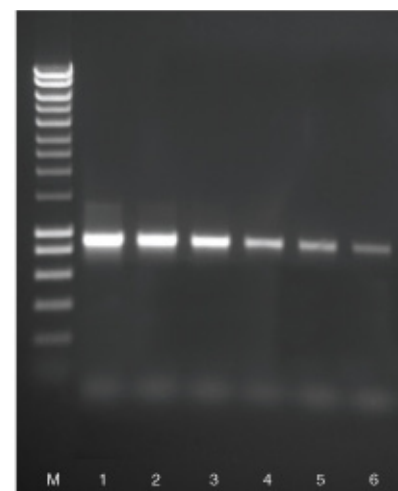
2x High-Fidelity Mastermix

- Offers high-fidelity coupled with robust activity
- Convenient pre-mixed, pre-optimized 2x solution
- Reduced risk of contamination & decreased time required for reaction set up
- Can exhibit up to 46x greater accuracy than standard taq (depending on reaction conditions)
- Produces blunt ends

PHENIX High-Fidelity Mastermix is a convenient pre-mixed and pro-optimized 2x preparation designed for reproducible results time after time. Every ready-to-use reaction mix contains High Fidelity DNA Polymerase, $MgCl_2$ and ultra pure dNTP's; the user adds only water, template and primers.

Recommended for high-throughput, 2x High Fidelity Mix dramatically reduces the time needed to set up experiments, thereby minimizing the risk of contamination. Greater reproducibility is ensured by reducing the number of pipetting steps that can lead to erroneous results.

2x High-Fidelity Mastermix is ideal for applications such as high fidelity PCR[®] for subsequent cloning, blunt-end cloning, DHPLC assays and general end-point PCR[®] amplification reactions of fragments up to 5Kb in size.



High Performance with 2x High-Fidelity Mastermix
An 800bp fragment from human genomic DNA was amplified using 25ul of 2x High Fidelity Mastermix. The fragment was amplified from 0.5ng human genomic DNA (lane 1) followed by a 10-fold serial dilution series of template (lane 2-6). PCR[®] was performed in 50ul reaction mixtures containing 2.5mM $MgCl_2$. Marker is HyperLadder I.

Ordering Information

Cat No	Description	Unit	Price
DNP-HF108	High-Fidelity Enzyme in a Ready-To-Go 2x Mix	100 Rxns	\$65.00
DNP-HF208	High-Fidelity Enzyme in a Ready-To-Go 2x Mix	500 Rxns	280.00

Other High Fidelity DNA Products

DNP-HF104	PCR [®] Enzyme for reduced error rates (mutagenesis etc)	250u	\$95.00
DNP-HF204	PCR [®] Enzyme for reduced error rates (mutagenesis etc)	500u	155.00



PHENIX dNTP Sets & Mastermix

- Available as individual solutions or in a Mastermix configuration
- Ultra-pure quality, functionality tested in a wide range of assays
- Enzymatic synthesis of dNTPs for total absence of PCR inhibitors
- Manufactured in a purpose-built factory for ultimate in purity & consistency

Ultra-Pure dNTPs

PHENIX Ultra-pure dNTPs are enzymatically synthesized from premium quality raw materials, using highly specific production systems in a purpose built facility. The manufacturing process eliminates impurities and PCR-specific inhibitors such as modified nucleotides, tetraphosphates and pyrophosphates commonly observed in other commercially available dNTP products. PHENIX dNTPs are purified with quantitative HPLC and possess at least 99% purity.

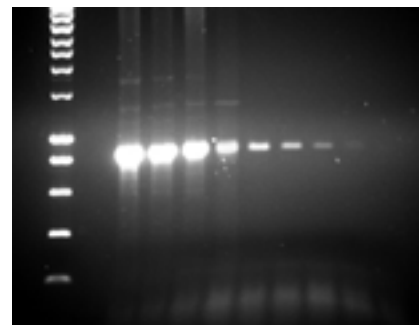
Validated for a wide range of applications

Our dNTP sets possess the highest level of purity in the industry, and have been validated for use in a variety of molecular biology applications including, standard PCR, long range PCR (20Kb), hot-start PCR, real-time PCR, reverse transcription assays, cDNA synthesis, sequencing, site-direct mutagenesis, microarrays, DHPC, etc. A high level of performance for results you can trust. The dNTPs are tested for the absence of DNase, RNase, Protease and Nickase activity and the absence of human, viral and bacterial DNA. Each batch is purified with quantitative HPLC and undergoes functional tests with a wide range of assays to guarantee outstanding results

Improved Stability and Extended Shelf-Life

All our dNTPs are supplied as Lithium salts in purified water at pH 7.5. Lithium salts have greater resistance to repeated freezing and thawing cycles than Sodium salts, and Lithium salt dNTP preparations remain sterile over the entire shelf-life due to the bacteriostatic activity of Lithium towards various microorganisms.

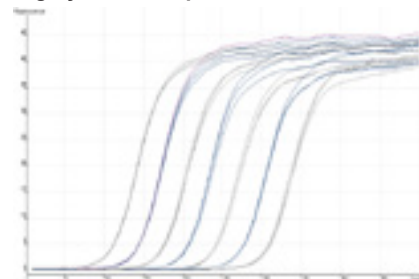
Generation of Highest-Quality cDNA



Reverse Transcription PCR

Template dilution experiment: Various quantities (as indicated) of total HeLa cell RNA were reverse-transcribed using Bioline dNTPs, BioScript and oligo (dT)18 primer in a 20 μ l reaction, i.e.: (1) 50ng, (2) 25ng, (3) 10ng, (4) 1ng, (5) 500pg, (6) 250pg, (7) 100pg, (8) 50pg and (9) 0pg. Subsequently, 5 μ l of each reaction were used in conjunction with β -Actin primer to amplify an 860bp band. Marker is HyperLadder I.

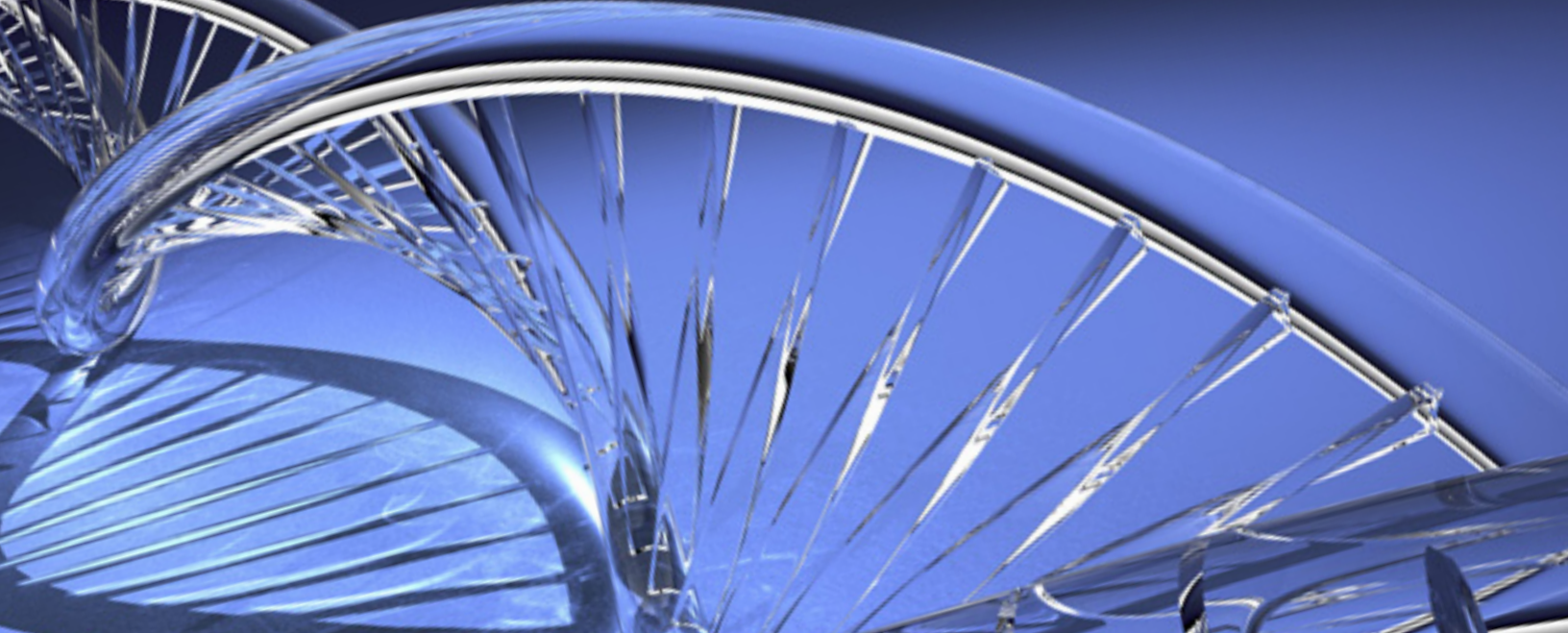
Highly Efficient qPCR Reactions



dNTPs are validated for use in qPCR experiments.

Ordering Information

Cat No	Description	Unit	Price
DNTP-250	100mM Individual dNTP solutions 4 x 25 μ mol	4 x 250 μ l	\$125.00
DNTP-1000	100mM Individual dNTP solutions 4 x 25 μ mol	4 x 1ml	415.00
DNTP-M500	40mM Mastermix (10mM ea)	1 x 500 μ l	50.00
DNTP-M500-4	40mM Mastermix (10mM ea)	4 x 500 μ l	180.00

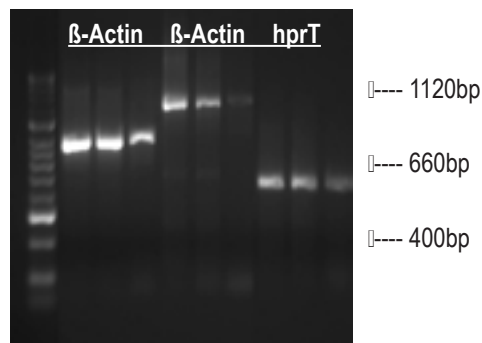


One Step RT-PCR Kit

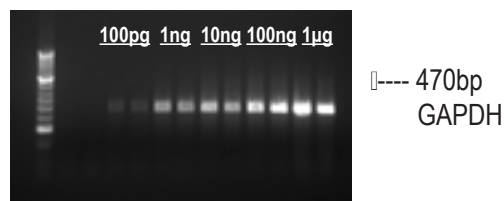
- Highly sensitive blend of Reverse Transcriptase and Hot Start Taq Polymerase
- 2x RT-PCR Mix optimized for as little as 100pg Total RNA
- Simple to use: One-step set-up

PHENIX One-Step RT-PCR Kit has been designed for highly sensitive one-step RT-PCR reactions using any RNA template. The kit employs an enzyme formulation which includes Hot Start Taq Polymerase (our widely used hot-start DNA polymerase) and an ultra-stable reverse transcriptase which is highly sensitive even when the amount of template is a limiting factor.

The kit provides highly specific reverse transcription and PCR in a single tube, using gene-specific primers on either total RNA or mRNA. The kit is provided with RNase inhibitor to protect template RNA from degradation. The proprietary buffer is highly optimized and balanced, leading to outstanding results. The kit is ideal for the synthesis of double-stranded cDNA products for subsequent cloning, sequencing, expression or transcription analysis.



Synthesis of a range of amplicon sizes with the One-Step RT-PCR Kit. PHENIX One-Step RT-PCR Kit was used to generate amplicons of differing sizes using serial dilutions of total RNA from mouse fibroblast strain 3T6 (1µg to 10ng) with a variety of gene-specific primers. Samples were analyzed on a 2% agarose gel. Marker is a HyperLadder II.



Sensitivity of PHENIX One-Step RT-PCR Kit. RT-PCR was carried out on HeLa cell total RNA, at the indicated concentrations, using gene-specific primers. Reverse transcription was performed at 45°C for 30 minutes and then followed by 40 cycles of PCR. Samples were analyzed on a 2% agarose gel. Marker is HyperLadder™ II.

Ordering Information

Cat No	Description	Unit	Price
DNP-RT25	One Step RT-PCR Kit (cDNA synthesis and PCR in one-tube/step)	25 Rxns	\$110.00



First Strand cDNA Synthesis Kit

- cDNA generated is ideal for real-time PCR, cDNA library construction, and RT-PCR assays
- Ultra-stable reverse transcriptase for full length, high yield cDNA
- Highly suited to low abundance Total RNA

The PHENIX First Strand cDNA Synthesis Kit contains all necessary components to generate cDNA from an RNA template. The generated cDNA is suitable for PCR[®] with gene-specific primers or for other downstream applications. The kit is based on our ultra-stable MMLV reverse transcriptase and is suitable for first strand cDNA synthesis, cDNA library construction, and the production of templates for RT-PCR amplifications. The cDNA Synthesis Kit is optimized for RT reactions using a wide range of total RNA amounts (100pg-2µg), such that long and low abundance cDNAs can be detected by amplification after cDNA synthesis.

The kit contains oligo (dT)18 and random hexamer primers together with control RNA template. The kit components are fully optimized to generate maximum yields of full length cDNA. The dNTPs included in the kit are 99% pure.

The cDNA Synthesis Kit contains enough reagents to perform 30 or 100 single-strand reactions.

Ordering Information

Cat No	Description	Unit	Price
DNP-FS30	First Strand cDNA Kit (For subsequent PCR [®] or qPCR [®])	30 Rxns	\$125.00

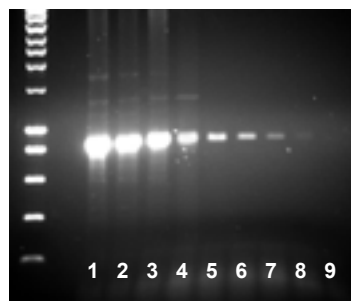
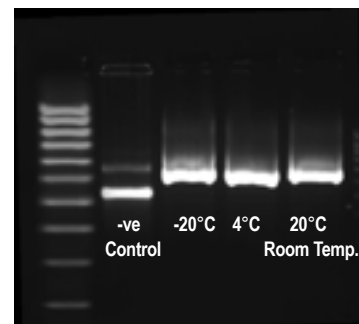


Illustration of High Sensitivity.

High sensitivity was observed with a serial dilution experiment: Various quantities (as indicated) of total HeLa cell RNA were reverse-transcribed using the reverse transcriptase and oligo (dT)18 primer in a 20µl reaction. Lanes: (1) 50ng, (2) 25ng, (3) 10ng, (4) 1ng, (5) 500pg, (6) 250pg, (7) 100pg, (8) 50pg and (9) 0pg.

Subsequently, 5µl of each reaction was used in conjunction with a β -Actin specific primer to amplify an 860bp band from human mRNA. Marker is HyperLadder[™] I.



Stability assay performed on the reverse transcriptase in the cDNA Synthesis Kit.

The First Strand cDNA Synthesis Kit is based on our reverse transcriptase which exhibits no loss of activity even after being subjected to one week storage at diverse temperatures. To demonstrate this advantageous property of the cDNA Synthesis Kit, a 500bp fragment was amplified using the reverse transcriptase which had been stored at room-temperature, +4°C and +20°C respectively. Marker is HyperLadder[™] IV.

1. Control-no reverse transcriptase
2. -20°C for one week
3. +4°C for one week
4. Room temp for one week

Note: lanes 2,3 and 4 show a band corresponding to the RNA:DNA hybrid, as opposed to lane 1 where only RNA is observed.