





Dear Partners,

In 2015 Solis BioDyne celebrates its 20th anniversary. Throughout all these years our commitment has been to provide the right tools to scientists who rely on our quality in their demanding everyday work.

Behind every product there is a client using it. Behind every R&D project there is a client asking for solutions.

You have brought Solis BioDyne to the spot we are in now, and your feedbacks, questions and comments will tell us where to go next.

Thank you for inspiring us!

Sincerely,

Kadri ArtmaManaging Director

About Us

Solis BioDyne manufactures high quality molecular biology reagents since 1995. The company is based in Tartu, Estonia, an international academic city with a growing biotechnology sector.

Our young and professional team is dedicated to provide:

- high quality products
- cost effective solutions
- quick and professional service

Our product line includes DNA polymerases, master mixes for PCR/qPCR and other reagents – all stable at ambient temperature. Each product batch goes through very strict quality control based on ISO 9001:2008 quality management system.



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Solis BioDyne

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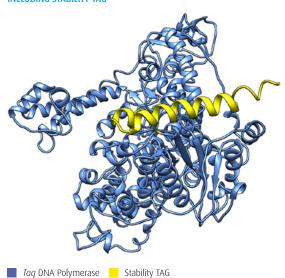
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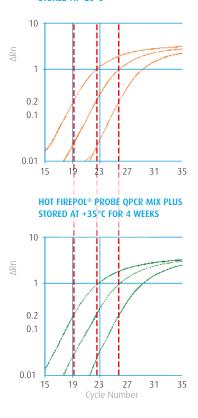
SWIFT/BIC.: HABAEE2X Bank address: Liivalaia 8, 15040 Tallinn, Estonia

Polypeptide Stabilization Technology: **Stability TAG**





HOT FIREPOL® PROBE QPCR MIX PLUS STORED AT -20°C



Unique solution for stability at ambient temperature

All enzymes produced at Solis BioDyne are exceptionally stable at ambient temperature due to a specific genetic modification – Stability TAG (patent pending). Stability TAG increases polypeptide shelf-life and its tolerance for temperature at a wider scale without compromising the properties of the polypeptide itself. After being stored at ambient temperature for one month (tested up to +35°C), the enzyme remains fully active.

Stability TAG does not effect the properties of the protein

A number of tests with different Stability TAG attached proteins revealed no effect on protein properties. For example, pluripotency was maintained in ES cells during gene targeting using Stability TAG-hLIF; amplification of DNA using Stability TAG-*Taq* DNA Polymerase was performed with the same efficiency and accuracy as with regular *Taq*.

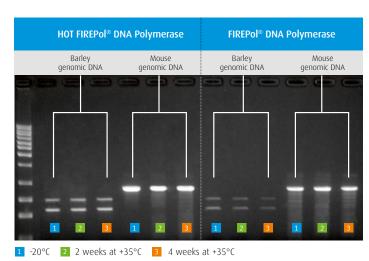
Tested on a variety of proteins

The stabilizing effect of Stability TAG has been successfully tested on a variety of proteins including *Taq* DNA Polymerase, hEPO, PCNA, hLIF and Pyrophosphatase.

Reagents stable at +35°C

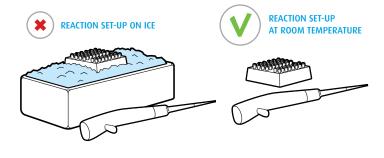
Our products have been tested for stability at +35°C. Our primary enzymes FIREPol® and HOT FIREPol® DNA Polymerase exhibited no alterations in performance after four weeks at +35°C.

Also no change in performance was detected between a qPCR mix stored at -20°C and the qPCR mix stored at +35°C for four weeks.



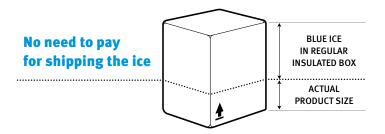
Convenient set-up at room temperature

As all Solis BioDyne products are stable at ambient temperature, reaction set-up does not require ice or other refrigeration systems. There is no need for frequent visits to the freezer, no need for ice baths to be constantly replenished and the reagents can be safely left on the work bench until the procedure is finished. This feature is especially valuable for users of high throughput as keeping cold conditions for hours is quite challenging. Using Solis BioDyne products at room temperature will not affect the reaction performance.

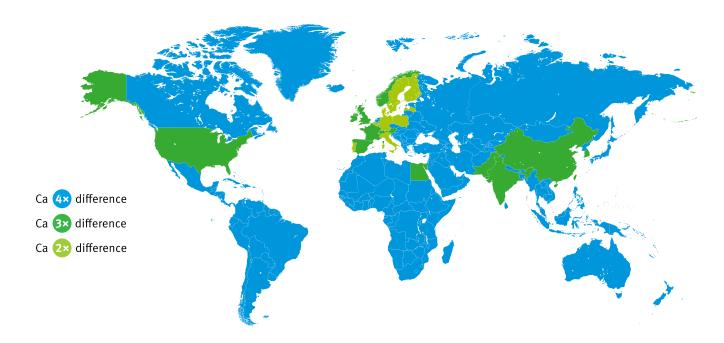


Fast and eco-friendly transportation

- We are committed to shipping standard orders within three business days after the order confirmation.
- Reduced environmental impact and shipping costs through elimination of the need for blue ice and insulation boxes.



Savings in transportation cost: products shipped with vs. without insulated package and blue/dry ice



qPCR Mixes: Specifications

Higher precision and wider scale

All qPCR mixes from Solis BioDyne are produced as 5× mixes that occupy only one fifth of the reaction final volume leaving 2.5 times more room for the template compared with 2× mixes. This is highly advantageous when making wide-range serial dilutions or in case of gene expression studies where the concentration of the target gene is very low. Using the 5× mix enables the researcher to add more cDNA to the reaction which can result in better precision and lower Cycle threshold (Ct) values.

Light protective packaging

DNA intercalating dye EvaGreen® and reference dye ROX necessary in many qPCR mixes are sensitive to light and therefore require protective shielding. Solis BioDyne packs all these qPCR mixes in special dark tubes to prevent harm from potential light exposure during transportation and reaction set-up.



EvaGreen® dye

All Solis BioDyne dye-based qPCR Mixes contain nextgeneration DNA-binding dye with features ideal for use in quantitative qPCR and HRM. EvaGreen® dye is non-toxic, non-mutagenic, and not hazardous to aquatic life.

- **Highly sensitive** produces the most robust PCR signal when used at the recommended concentration
- Low PCR inhibition exhibits much less PCR inhibition than other detection dyes via a smart "release on demand" DNA-binding technology
- Extremely stable simply indestructible under most biochemical conditions. Can be stored at ambient temperature and be subject to repeated freeze-thaw cycles
- **Spectrally similar to other popular dyes** compatible with all major brand real-time thermal cyclers
- Environmentally safe non-mutagenic, non-cytotoxic; safe to aquatic life for easy handling and disposal down the drain.

COMPARISON OF OUR 5× QPCR MIX TO STANDARD 2× QPCR MIX

	2× Standard qPCR Mix	5× Solis BioDyne qPCR Mix
Vial size	1 ml	1 ml
Reactions (20 µl final volume)	100 rxn	250 rxn



Get 2,5× more reactions done with same volume of qPCR Mix

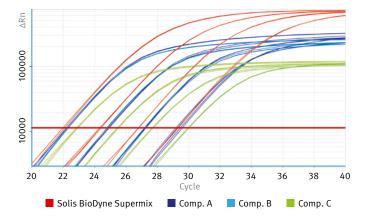
Quality Control

To ensure highest quality and reproducible results in your qPCR assay, every product lot goes through strickt quality control procedure including the following tests below:

- Amplification efficiency ≥ 10⁵ fold
- Functional quality control via qPCR on different templates
- No ds Endodeoxyribonuclease activity
- No ss Exodeoxyribonuclease activity
- No self-priming activity

HIGHLY COMPETITIVE

Four five-fold dilutions of 98 bp fragment of GAPDH gene were amplified from human genomic DNA using 5× HOT FIREPOl® EvaGreen® qPCR Supermix (red) and qPCR mixes from companies A, B and C (dark blue, light blue and green). Reactions were performed on Applied Biosystems Viila™ 7 Real-Time PCR System following cycling protocol recommended by the supplier.



qPCR Mix Compatibility Table: Dye and Probe-based qPCR Mixes

Dye-based approach			ich				Probe- appr			
5× HOT FIREPol® EvaGreen® qPCR Supermix	5× HOT FIREPol® EvaGreen® qPCR Mix Plus (ROX)	5× HOT FIREPol® EvaGreen® qPCR Mix Plus (no ROX)	5× HOT FIREPol® EvaGreen® qPCR Mix Plus (Capillary)	5× HOT FIREPol® EvaGreen® HRM Mix (ROX)	5× HOT FIREPol® EvaGreen® HRM Mix (no ROX)	qPCR Platforms	5× HOT FIREPOI® Probe qPCR Mix Plus (ROX)	5× HOT FIREPOI® Probe qPCR Mix Plus (no ROX)	5× HOT FIREPOl® Probe qPCR Mix Plus (Capillary)	5x HOT FIREPOI® Probe GC qPCR Mix
√	√			√		Applied Biosystems: 5700, 7000, 7300, 7700, 7900 HT, 7500, StepOne™, StepOnePlus™, ViiA™7, QuantStudio™ 12K Flex Real-Time PCR System				√
√	√					Agilent/Stratagene: MX 3000P™, MX 3005P™, MX 4000PM	√			√
√		√			√	BioRad: CFX96™, CFX384™, iQ™5, MyiQ™, Chromo4™, Opticon®2; MiniOpticon®		√		√
√		√				Cepheid®: SmartCycler®		√		√
√		√				Eppendorf: Mastercycler® ep REALPLEX®, Mastercycler® REALPLEX® 2S		√		√
√		√			√	Qiagen: Rotor-gene® 3000, Rotor-gene® 6000, Rotor-gene® Q		√		√
√		√			√	Thermo Scientific: PikoReal™		√		√
√		√			√	Illumina: The Eco™		√		√
√		√			√	Roche Applied Science: LightCycler® 480, LightCycler® Nano, LightCycler® 96		√		√
			√			Roche Applied Science: LightCycler® 1.x, 2.0			√	

FIREPol is a trademark of Solis BioDyne. Applied Biosystems and StepOne are trademarks of Applied Biosystems LLC. QuantStudio and ViiA are trademarks of Life Technologies Corporation, Stratagene, M30005, MX3005P are trademarks of Agilent Technologies inc. Mastercycler is a trademark of Eppendorf AG. Rotor-Gene is a trademark of Qiagen Group. Bio-Rad, CFX96, CFX384, iQ,MyiQ, Opticon 2, Cromo4, MiniOpticon are the trademarks of Bio-Rad Laboratories. Smartcycler and Cepheid are the trademarks of Cepheid. Corporation. LightCycler is a trademark of Roche Molecular Systems Inc. The Eco is a trademark of Illumina Inc. PikoReal is a trademark of Thermo Fisher Scientific Inc. EvaGreen is a trademark of Biotium Inc. 3D model of FIREPol DNA Polymerase by Aare Abroi (Tartu University) and Sebastian Langui (Solis BioDyne), picture on the cover by Sven Začek.



5× HOT FIREPol® EvaGreen® qPCR Supermix

Description

5× HOT FIREPol® EvaGreen® qPCR Supermix is an optimised ready-to-use solution for real time quantitative PCR assays, including EvaGreen® dye. It comprises all the components necessary, except the template and primers, to perform highly sensitive qPCR.

HOT FIREPol® DNA Polymerase is activated by a 12 min incubation step at 95°C.

Hot-start mechanism prevents extension of non-specifically annealed primers and primerdimers formed at low temperatures during qPCR setup.

Features

- Suitable for qPCR cyclers regardless of ROX requirements
- Superior sensitivity on low copy number targets
- Suitable for GC-rich targets and targets up to 500 bp
- UNG treatment capability due to dNTP blend of dUTP/dTTP
- Blue visualization dye for easy pipetting

Applications

- Detection and quantification of DNA and cDNA targets
- Profiling gene expression
- Genotyping
- Microbial detection
- Viral load determination

HOT FIREPOI EvaGreen qPCR Supermix worked well in my standard application. I used cDNA on ABI 7900HT Real Time PCR. The Ct values in a set of 7 samples were lower for the two tested genes compared to our standard method (SYBRgreen). Amplification curves and melting curves looked great.

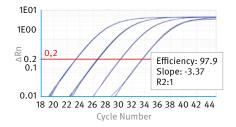
DOREEN SCHWOCHOW-THALMANN, PhD student

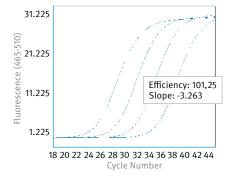
Swedish University of Agricultural Sciences, Sweden



EXCELLENT SENSITIVITY AND SPECIFICITY ON VARIOUS QPCR CYCLERS

Four tenfold dilutions of 98 bp fragment of GAPDH gene were amplified from human genomic DNA using 5× HOT FIREPOl® EvaGreen® qPCR Supermix. Concentration of DNA in one well ranges from 0.01 to 10 ng. Reactions were performed on Applied Biosystems ViiA™7 Real-Time PCR System (upper graph) and on Roche LightCycler® 480 (lower graph) following our standard cycling protocol.





Order Information										
PRODUCT	CONTENT	CAT. NO.	RXN/20µl	SIZE/ml	PRICE					
	HOT FIREPol® DNA Polymerase, 5x	08-36-0000S	50	0.2	Free sample!					
5× HOT FIREPol® EvaGreen® qPCR	EvaGreen® Supermix qPCR buffer,	08-36-00001	250	1	Please inquire!					
Supermix	12,5 mM MgCl ₂ , dNTPs inc. dUTP,	08-36-00008	2000	8	Please inquire!					
	reference dye based on ROX	08-36-00020	5000	20	Please inquire!					

5× HOT FIREPol® EvaGreen® qPCR Mix Plus

Description

HOT FIREPol® EvaGreen® qPCR Mix Plus is an optimized ready-to-use solution for real-time quantitative PCR assays, including EvaGreen® dye. It comprises all the components necessary to perform qPCR: HOT FIREPol® DNA Polymerase, ultrapure dNTPs, MgCl₂, EvaGreen dye and ROX dye according to system requirements. The user simply needs to add water, template and primers.

HOT FIREPol® DNA Polymerase is activated by a 15 min incubation step at 95°C. This prevents the extension of mis-primed products and primer-dimers formed at low temperatures during qPCR setup.

Features

- High sensitivity with broad dynamic range
- Unique stability at ambient temperature
- Based on EvaGreen® dye
- Convenient ready-to-use solution
- Reaction set-up without using ice
- Available with ROX reference dye and without ROX
- Mixes compatible with most real-time thermal cyclers

Applications

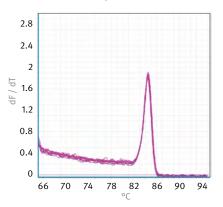
- Detection and quantification of DNA and cDNA targets
- Profiling gene expression
- Genotyping
- Microbial detection
- Viral load determination

10 0.2 0.1

EXCELLENT SENSITIVITY AND SPECIFICITY

The amplification of a 98 bp fragment of GAPDH gene exhibits sensitive and efficient reaction curves (upper

graph) with highly specific peak in melt curve analysis (lower graph) using HOT FIREPOl® EvaGreen® qPCR Mix Plus (no ROX). Amplification was performed on human genomic DNA using Rotor-Gene® 6000 qPCR cycler following cycling protocols recommended by the supplier.



23 25 27 29 31 33 35



I've been using 5× HOT FIREPol® EvaGreen® qPCR Mix Plus and it has given me constantly excellent results. Comparison tests were made with six suppliers and EvaGreen® qPCR Mix Plus was the only one one that gave necessary efficiency – similar to the mix we were using before. As an extra advantage we also like 5× concentration, that allows us to add twice as much cDNA to the reaction mix and saves room in my freezer.

LUIS ALMONACID ROMAIN

Centro Nacional de Biotecnología - CSIC | MADRID - SPAIN

Selected References

0.01

17 19 21

- Amponsah-Dacosta E. et al. Journal of Medical Virology 2014. 918-924
- Herman A.P. et al. BioMed Research International 2014.
 ID 475152
- Safdar M. Et al. Food Research International 2013.1652-1656
- Witkowskia et al. Antimicrobal Agents and Chemotherapy. 2013 Feb. Vol 57. Iss 7.
- Liebminger E et al, Phytochemistry. 2012. 24-30
- Chou M et al. Malaria Journal 2012. 11:295

Order Information					
PRODUCT	CONTENT	CAT. NO.	RXN/20µl	SIZE/ml	PRICE
5× HOT FIREPol® EvaGreen® qPCR Mix Plus (ROX)	HOT FIREPol® DNA Polymerase, 5× EvaGreen® qPCR buffer, 12.5 mM MgCl ₂ , dNTPs, ROX dye	08-24-0000S 08-24-00001 08-24-00008 08-24-00020	50 250 2000 5000	0.2 1 8 20	Free sample! Please inquire! Please inquire! Please inquire!
5× HOT FIREPol® EvaGreen® qPCR Mix Plus (no ROX)	HOT FIREPol® DNA Polymerase, 5× EvaGreen® qPCR buffer, dNTPs, 12.5 mM MgCl ₂	08-25-0000S 08-25-00001 08-25-00008 08-25-00020	50 250 2000 5000	0.2 1 8 20	Free sample! Please inquire! Please inquire! Please inquire!
5× HOT FIREPol® EvaGreen® qPCR Mix Plus (Capillary)	HOT FIREPol® DNA Polymerase, 5× EvaGreen® qPCR buffer, dNTPs, 12.5 mM MgCl ₂ , BSA	08-26-0000S 08-26-00001 08-26-00008 08-26-00020	50 250 2000 5000	0.2 1 8 20	Free sample! Please inquire! Please inquire! Please inquire!

5× HOT FIREPol® EvaGreen® HRM Mix

Description

HOT FIREPol® EvaGreen® HRM Mix is an optimized ready-to-use solution for High Resolution Melt (HRM) Analysis, including EvaGreen® dye. It includes: HOT FIREPol® DNA Polymerase, ultrapure dNTPs, MgCl₂, EvaGreen dye and ROX dye according to system requirements.

HOT FIREPol® DNA Polymerase is activated by a 15 min incubation step at 95°C. This prevents the extension of mis-primed products and primer-dimers formed at low temperatures during qPCR setup.

Features

- Sensitive HRM genotyping
- Unique stability at ambient temperature
- Based on EvaGreen® dye
- Convenient ready-to-use solution
- Reaction set-up without using ice

Selected References

- Ramirez M et al. Molecular and Cellular Endocrinology. 2014. 825-834
- Rawluszko AA et al. BMC Cancer. 2013. 13:526
- Chou M. et al. Malaria Journal. 2012. 11:295
- Uzonur I. et al. African Journal of Pharmacy and Pharmacology. 2012 Vol. 6(21), pp. 1526-1535



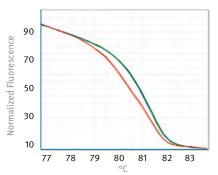
Solis HRM buffer is fabulous, the differences between wildtype and mutants are more obvious in the HRM profile, even in the melt profile of the rt-pcr products.

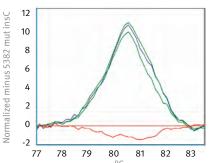
SOTIRIS NIKOLOPOULOS

Center for Molecular Analysis and Research, GREECE

SENSITIVE HRM GENOTYPING

High Resolution Melt Analysis was used to genotype a C insertion in BRCA1 gene, a breast cancer susceptibility gene, with HOT FIREPOl® EvaGreen® HRM Mix (two graphs above). Reactions were performed on Corbett Rotor-Gene® 6000. Green lines represent wildtypes without an insertion, red lines represent a C insertion and blue line represents a patient with unknown phenotype.





No.	Color	Name	Genotype	Confi. %
37		Unknown phenotype	5382 wt	99,18
40		Wildtype 1	5382 wt	97,33
41		Wildtype 2	5382 wt	100,00
42		Mutation 1	5382 mut insC	100,00
43		Mutation 2	5382 mut insC	97,47

Order Information					
PRODUCT	CONTENT	CAT. NO.	RXN/20µl	SIZE/ml	PRICE
5× HOT FIREPol® EvaGreen® HRM Mix (ROX)	HOT FIREPol® DNA Polymerase, 5× EvaGreen® HRM buffer, dNTPs, 12.5 mM MgCl ₂ , ROX dye, BSA	08-33-0000S 08-33-00001 08-33-00008 08-33-00020	50 250 2000 5000	0.2 1 8 20	Free sample! Please inquire! Please inquire! Please inquire!
5× HOT FIREPol® EvaGreen® HRM Mix (no ROX)	HOT FIREPol® DNA Polymerase, 5× EvaGreen® HRM buffer, dNTPs, 12.5 mM MgCl ₂ , BSA	08-31-0000S 08-31-00001 08-31-00008 08-31-00020	50 250 2000 5000	0.2 1 8 20	Free sample! Please inquire! Please inquire! Please inquire!



5× HOT FIREPol® Probe GC qPCR Mix

Description

HOT FIREPol® Probe GC qPCR Mix is optimized for real-time quantitative PCR assays and contains all the components necessary to perform simplex or duplex qPCR, with the exception of template, primers, and probe. The qPCR Mix contains optimized components and HOT FIREPol® DNA Polymerase supplied in a proprietary reaction buffer that enables efficient amplification of GC-rich targets.

HOT FIREPol® Probe GC qPCR Mix is optimized for DNA/LNA hydrolysis probes based on the 5′-3′ exonuclease activity.

HOT FIREPol® DNA Polymerase is activated by a 10 min incubation step at 95°C. This prevents extension of non-specifically annealed primers and primer-dimers formed at low temperatures during qPCR setup.

Features

- Optimal quantitative data from GC-rich samples (GC content up to 75%)
- Suitable for singleplex and duplex assays
- Reaction set-up at room temperature
- Compatible with most qPCR cyclers

Applications

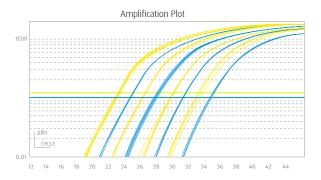
- DNA/LNA hydrolysis probe based assays
- Detection and quantification of DNA and cDNA targets
- Profiling gene expression
- Microbial and viral load determination



HOT FIREPol® Probe GC qPCR Mix is provided with separate tube of 100% DMSO. Providing this reagent separately allows the user to control the final DMSO concentration, increasing the flexibility of the reagent for use with different assays - from regular GC content up to 75%.

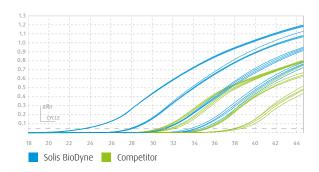
OPCR PERFORMANCE IN A DUPLEX REACTION:

Two genes from human gDNA were amplified in duplex reaction using HOT FIREPol Probe® GC qPCR Mix. Excellent results were obtained from four 10x dilutions (starting from 10 ng/µl) from both gene. BAIP3 (blue) with GC-content 70,3% and efficiency 100% and GAPDH (yellow) with GC-content 56,1% and efficiency 98,4%. Reactions were performed on Applied Biosystems ViiA[™] 7 Real-Time PCR System.



HIGHLY COMPETITIVE QPCR MIX:

Four 10x dilutions of 197 bp long fragment of B4G4 gene with GC-content 75,6% were ampified from human gDNA using 5 x HOT FIREPol® Probe GC qPCR Mix (blue) and qPCR Mix from another vendor (green). Reactions were performed on Applied Biosystems ViiA™ 7 Real-Time PCR System following cycling protocol recommended by each supplier.



Order Information					
PRODUCT	CONTENT	CAT. NO.	RXN/20µl	SIZE/ml	PRICE
5x HOT FIREPol® Probe GC qPCR Mix	5x HOT FIREPOI® Probe GC qPCR Mix (HOT FIREPOI® DNA Polymerase; HOT FIREPOI Probe GC- buffer; 15 MgCl ₂ ; dNTPs inc. dUTP; reference dye based on ROX), 100% DMSO	08-17-0000S 08-17-00001 08-17-00008 08-17-00020	50 250 2000 5000	0.2 1 8 20	Free sample! Please inquire! Please inquire! Please inquire!



5× HOT FIREPol® Probe qPCR **Mix Plus**

Description

HOT FIREPol® Probe qPCR Mix Plus is an optimized ready-to-use solution for realtime quantitative PCR assays with all the components necessary to perform qPCR: HOT FIREPol® DNA Polymerase, ultrapure dNTPs, MqCl₂ and ROX dye according to system requirements. The user simply needs to add water, template, probe and primers. HOT FIREPol® Probe gPCR Mix Plus is compatible for use with most real-time thermal cyclers.

HOT FIREPol® DNA Polymerase is activated by a 15 min incubation step at 95°C. This prevents the extension of mis-primed products and primer-dimers formed at low temperatures during qPCR setup.

HOT FIREPol® Probe qPCR Mix Plus is optimized for DNA hydrolysis probes based on the $5' \rightarrow 3'$ exonuclease activity.

Features

- High sensitivity with broad dynamic range
- Unique stability at ambient temperature
- Convenient ready-to-use solution
- Reaction set-up without using ice
- Available with ROX reference dye and without ROX
- Mixes compatible with most real-time thermal cyclers

Applications

- Detection and quantification of DNA and cDNA targets
- Profiling gene expression
- Genotypina
- Microbial detection

Viral load determination



5x HOT FIREPOI Probe qPCR Mix Plus enables me to perform gene expression analyses at a quarter price of standard qPCR mixes. It works with high reproducibility using TaqMan probes. Moreover, the sensitivity is sufficient for effective mRNA qauntification in small-amount samples obtained from laser capture microdissection. All-in-one ready-to-use mixture and 5x concentration is very convenient to use. Mostly important, we are satisfied with results.

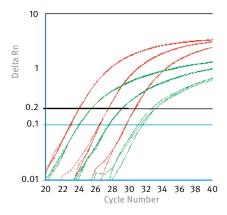


MATÚŠ SOTÁK

Academy of Science Czech Republic (AS CR) Supplied by Baria

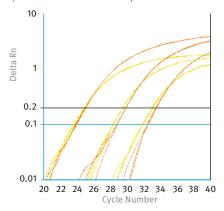
HIGHLY COMPETITIVE

Three tenfold dilutions of 72 bp fragment of Albumin gene were amplified from human genomic DNA using HOT FIREPol® Probe qPCR Mix Plus (red) and a qPCR mix from Company A (green). Reactions were performed on Applied Biosystems 7900HT Real-Time PCR System following cycling protocols recommended by the supplier.



MULTIPLEX COMPATIBLE

Amplification of FAM labelled target SNAI1 (orange) and VIC labelled reference gene HPRT (yellow) was performed in a single reaction using HOT FIREPol® Probe qPCR Mix Plus. This multiplex qPCR was carried out on three tenfold dilutions of human placental cDNA on Applied Biosystems 7900HT Real-Time PCR System.



- Lehto K. et al. European Psychiatry. 2013. 28. 492-498
- Dragojevic J. J. Bone Miner. Metab. 2013. 31:512-519
- Zupan | et al, |. of Biomed. Science. 2012. 19:28
- Rull K et al. I. Of Clinical Endocrinology & Metabolism 2012 March 2011-3192

Order Information					
PRODUCT	CONTENT	CAT. NO.	RXN/20µl	SIZE/ml	PRICE
5× HOT FIREPOI® Probe qPCR Mix Plus (ROX)	HOT FIREPol® DNA Polymerase, 5× Probe qPCR buffer, 15 mM MgCl ₂ , dNTPs, ROX dye	08-14-0000S 08-14-00001 08-14-00008 08-14-00020	50 250 2000 5000	0.2 1 8 20	Free sample! Please inquire! Please inquire! Please inquire!
5× HOT FIREPOI® Probe qPCR Mix Plus (no ROX)	HOT FIREPOl® DNA Polymerase, 5× Probe qPCR buffer, 15 mM MgCl ₂ , dNTPs	08-15-0000S 08-15-00001 08-15-00008 08-15-00020	50 250 2000 5000	0.2 1 8 20	Free sample! Please inquire! Please inquire! Please inquire!
5× HOT FIREPol® Probe qPCR Mix Plus (Capillary)	HOT FIREPol® DNA Polymerase, 5× Probe qPCR buffer, 15 mM MgCl ₂ , dNTPs, BSA	08-16-0000S 08-16-00001 08-16-00008 08-16-00020	50 250 2000 5000	0.2 1 8 20	Free sample! Please inquire! Please inquire! Please inquire!

Product Selection Guide: End-point PCR Products and Other Enzymes

Hot-Start PCR

	SPECIFICATION	SET-UP AT ROOM TEMP.	HOT START	FIDELITY VS TAQ	READY TO LOAD	AMPLIFI- CATION RANGE	CLONING TYPE
HOT FIREPol® DNA Polymerase	Recombinant <i>Taq</i> for hot-start PCR; kit includes two optimized buffers, additive for GC-rich templates, 25 mM MgCl ₂	V	V	1×		3 kb	TA
5x HOT FIREPol® GC Master Mix	5x hot-start Master Mix, GC content up to 79%, suitable for fragment analysis	V	V	1×		3 kb	TA
HOT FIREPol® Blend Master Mix	5× Master Mix; blend of hot-start <i>Taq</i> and proofreading enzyme; suitable for longer templates; four MgCl ₂ concentrations available	V	V	5×		5 kb	Blunt
HOT FIREPol® Blend Master Mix Ready to Load	5× Master Mix; blend of hot-start Taq and proofreading enzyme; suitable for longer templates; four MgCl ₂ concentrations available; includes two loading dyes	V	٧	5×	V	5kb	Blunt

Standard PCR

	SPECIFICATION	SET-UP AT ROOM TEMP.	CLASSICAL PCR	Robust on GC Rich DNA	READY TO LOAD	AMPLIFI- CATION RANGE	CLONING TYPE
FIREPol® DNA Polymerase	Recombinant <i>Taq</i> for standard PCR; kit includes two optimized buffers, additive for GC-rich templates, 25 mM MgCl ₂	V	V	V		3 kb	TA
FIREPol® Master Mix	5× Master Mix; two MgCl ₂ concentrations available	٧				3 kb	TA
FIREPol® Master Mix Ready to Load	5× Master Mix, two MgCl ₂ concentrations available, includes two loading dyes	V			V	3 kb	TA

Primer Extension

	SPECIFICATION	SET-UP AT ROOM TEMP.	HOT START	ddNTPs
HOT TERMIPOI	Thermostable hot-start DNA Polymerase suited for MALDI-TOF and other primer extension platforms	V	V	V
TERMIPol	Thermostable DNA Polymerase suited for MALDI-TOF and other primer extension platforms	V		V

Reverse Transcription

	SPECIFICATION	SET-UP AT ROOM TEMP.	ECONOMICAL CDNA SYNTHESIS	RNA PROTEC- TION FROM RNASE DEGRA- DATION	OPTIMAL WORKING TEMP.	HIGH SENSITIVITY	CDNA COMPATIBLE WITH QPCR
M-MLV RNase H-	Reverse Transcriptase RNase H- DNA Polymerase	V	٧	V	37°C	٧	V



HOT FIREPol® DNA Polymerase

Description

HOT FIREPol® DNA Polymerase is a chemically modified FIREPol® DNA Polymerase. At ambient temperatures it is inactive, having no polymerization activity.

HOT FIREPol® DNA Polymerase is activated by a 15 min incubation step at 95°C. This prevents extension of non-specifically annealed primers and primer-dimers formed at low temperatures during PCR setup. The enzyme has $5' \rightarrow 3'$ polymerase and exonuclease activity but lacks $3' \rightarrow 5'$ exonuclease activity.

Features

- Exceptional stability at ambient temperature
- Increased sensitivity, specificity and yield
- Two buffers and an enhancer for personal optimization
- Supply of active enzyme throughout the entire PCR
- Extension rate 2-4 kb/min at 72°C
- Error rate per nucleotide per cycle: ~2.5×10⁻⁵
- Estimated half life at 95°C is 1.5 hours

Applications

- Hot Start PCR
- DHPLC
- TA clonina

Quality Control

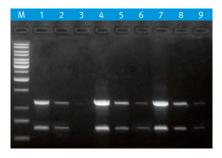
- Amplification efficiency ≥ 10⁵ fold
- Functional quality control via PCR on different templates
- No ds Endodeoxyribonuclease activity
- No ss Exodeoxyribonuclease activity
- No self-priming activity

Selected References

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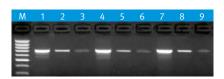
MOUSE GENOMIC DNA

1183 bp and 643 bp fragments were amplified from mouse genomic DNA using HOT FIREPol® DNA Polymerase together with three buffers: A1 (lane 1-3), B1 (lane 4-6) and B2 (lane 7-9). Template DNA was serially diluted tenfold with a starting concentration of 1 ng/µl. The enzyme performed well even with the template's concentration being as low as 0.01 ng/µl. HOT FIREPol® DNA Polymerase was used at 0.04 U/μl.



PLANT GENOMIC DNA

672 bp fragment was amplified from barley genomic DNA using HOT FIREPol® DNA Polymerase together with three buffers: A1 (lane 1-3), B1 (lane 4-6) and B2 (lane 7-9). Template DNA was serially diluted tenfold with a starting concentration of 1 ng/µl. The enzyme performed well even with the template's concentration being as low as 0.01 ng/µl. HOT FIREPol® DNA Polymerase was used at 0.04 U/µl.



We have been using HOT FIREPol for quit some years now for almost all of our standard protocols. And with very good results.

SEBASTIAAN DE LENG

Clinical Genetics, DNA Diagnostics, AMC Amsterdam, NETHERLANDS

Order Information				
PRODUCT	CONTENT	CAT. NO.	SIZE/U	PRICE
HOT FIREPol® DNA Polymerase (5 U/μl)	HOT FIREPol® DNA Polymerase, 10× Buffer B1/B2, 25 mM MgCl ₂ , Solution S	01-02-0000S	100	Free sample!
		01-02-00500	500	Please inquire!
		01-02-01000	1000	Please inquire!



5x HOT FIREPol® GC Master Mix

Description

5x HOT FIREPol® GC Master Mix is designed to provide highly specific high-yield amplification of GC-rich templates. Master Mix is a premixed ready-to-use solution containing all reagents required for PCR (except template, primers and water). 100% DMSO and 25 mM MgCl₃ are included in separated vials.

Features

- Robust performance on templates with high GC-content (up to 79%)
- Validated on GC-rich amplicons up to 3000 bp.
- Suitable for fragment analysis
- Reaction set-up at room temperature

Applications

- Hot Start GC-rich PCR
- Fragment analysis
- TA cloning

Quality Control

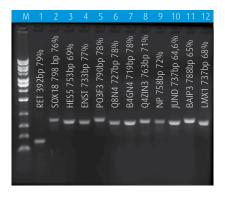
- Amplification efficiency ≥ 105 fold
- Functional quality control via PCR on different templates
- No ds Endodeoxyribonuclease activity
- No ss Exodeoxyribonuclease activity
- No self-priming activity

Solis BioDyne's highly flexible, customer-centered approach has proven to be invaluable when working on more challenging DNA regions. 5x HOT FIREPol® GC Master Mix is a high-quality and yet cost-effective solution for analyzing polymorphisms embedded in GC-rich regions

MARILIIS VAHT, PhD student University of Tartu, ESTONIA

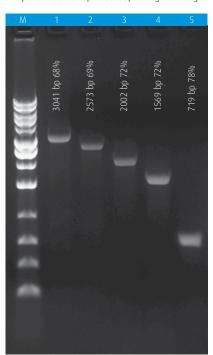
AMPLICONS OF VARIOUS GC-CONTENT

12 GC-rich genes were amplified from human gDNA using HOT FIREPol® GC Master Mix. Template DNA and DMSO were at final concentrations 1ng/µl and 10% respectively. The Master Mix performed well with GC-content up to 79%.



AMPLICONS OF VARIOUS LENGTHS FROM GC-RICH TEMPLATE

GC-rich fragments of various length from human gDNA B4GN4 gene were amplified with HOT FIREPol® GC Master Mix. Template DNA and DMSO were at final concentrations 1ng/µl and 10% respectively. The Master Mix performed well up to 3000bp in fragment length.



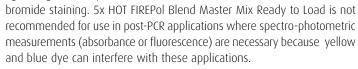
Order Information					
PRODUCT	CONTENT	CAT. NO.	RXN/20µl	SIZE/ml	PRICE
5x HOT FIREPol® GC Master Mix	5x HOT FIREPOl® GC Master Mix (HOT FIREPOl® DNA Polymerase; HOT FIREPOl GC-rich buffer; 7,5 MgCl ₂ ; dNTPs), 100% DMSO, 25mM MgCl ₃	04-33-00515 04-33-00115 04-33-02015	25 250 5000	0.1 1 20	Free sample! Please inquire! Please inquire!

5× HOT FIREPol® Blend Master Mix & Blend Master Mix Ready to Load

Description

5× HOT FIREPOl® Blend Master Mix is a premixed ready-to-use solution containing all reagents required for PCR except template, primers and water. Ready to Load format also includes all compounds necessary for direct loading onto agarose gel with two tracking dyes (blue and yellow) that allow to monitor progress during electrophoresis.

We recommend using 5× HOT FIREPol Blend Master Mix Ready to Load in any PCR application that will be visualized by agarose gel electrophoreses and ethidium

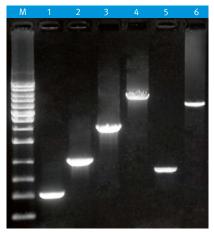


HOT FIREPol® Blend Master Mix contains two carefully optimized enzymes – HOT FIREPol® DNA polymerase and a proofreading polymerase. This enzyme blend has both the $5' \rightarrow 3'$ exonuclease activity as well as the $3' \rightarrow 5'$ proofreading activity. HOT FIREPol® Blend Master Mix exhibits an increased fidelity. Generated PCR products are compatible with blunt-end cloning procedures.



AMPLICONS OF VARIOUS LENGTH FROM DIFFERENT TEMPLATES

Lines 1-4 present an excellent amplification of fragments of various length from λ DNA. Lines 5 and 6 show two different amplicons amplified from mouse genomic DNA. All these reactions were carried out using 5× HOT FIREPOl® Blend Master Mix Ready to Load with 7.5 mM MgCl $_2$.



Lane	Template	Amplicon Lenght
1	λDNA	499 bp
2	λDNA	1003 bp
3	λDNA	1998 bp
4	λDNA	4991 bp
5	Mouse genomic DNA	808 bp
6	Mouse genomic DNA	3838 bp

Features

- Stable at ambient temperature for one month
- Reaction set-up without using ice
- Convenient ready-to-use solution for PCR
 - Decreased set-up time
 - Reduced risk of contamination
 - Less pipetting mistakes
 - Consistent reaction to reaction performance
- Includes dyes for direct loading onto agarose gel
- Increased fidelity and sensitivity
- Longer products
- A choice of different MgCl₂ concentrations

Applications

- Wide range of hot-start PCR assays
- Ready to Load mastermix for easy visualization on gel

The mycology and ecology of biological interaction work groups of Tartu University have shifted to the use of 5× FIREPOI® Blend Master Mix in the PCR analyses involving DNA extracted from fungi, plant tissues and soil. This Master Mix outperforms other products of other companies, because it is easy to store and use, and it provides amplicons at the presence of minor inhibitors. Perhaps most importantly, the price of 5× FIREPOI® Blend Master Mix is the lowest among

products of similar quality, which makes it suitable for

governmental institutions that have a restricted budget.

I have found it especially suitable for large-scale Next Generation sequencing analyses, where multiple PCR replicates need to be prepared simultaneously requiring thousands of PCR reactions in a short period of time.

LEHO TEDERSOO, PhD

Institute of Ecology and Earth Sciences, Natural History Museum, University of Tartu, ESTONIA

Quality Control

- Amplification efficiency ≥ 10⁵ fold
- Functional quality control via PCR on different templates
- No ds Endodeoxyribonuclease activity
- No ss Exodeoxyribonuclease activity
- No self-priming activity

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- Drenkhan R. et al. Forest Pathology. June 2014. 250-254
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Order Information: 5× HOT FIREPol® Blend Master Mix					
PRODUCT	CONTENT	CAT. NO.	RXN/20µl	SIZE/ml	PRICE
5× HOT FIREPol®	HOT FIREPOI® DNA Polymerase, Proofreading enzyme, 5× Blend Master Mix Buffer, 7.5 mM MgCl ₂ , dNTPs, BSA	04-27-00S15	25	0.1	Free sample!
Blend Master Mix		04-27-00115	250	1	Please inquire!
with 7.5 mM MgCl ₂		04-27-02015	5000	20	Please inquire!
5× HOT FIREPol® Blend Master Mix with 10mM MgCl ₂	HOT FIREPol® DNA Polymerase, Proofreading enzyme, 5× Blend Master Mix Buffer, 10 mM MgCl ₂ , dNTPs, BSA	04-27-00S20 04-27-00120 04-27-02020	25 250 5000	0.1 1 20	Free sample! Please inquire! Please inquire!
5× HOT FIREPol®	HOT FIREPol® DNA Polymerase, Proofreading	04-27-00\$25	25	0.1	Free sample!
Blend Master Mix	enzyme, 5× Blend Master Mix Buffer, 12.5	04-27-00125	250	1	Please inquire!
with 12.5 mM MgCl ₂	mM MgCl ₂ , dNTPs, BSA	04-27-02025	5000	20	Please inquire!
5× HOT FIREPol®	HOT FIREPol® DNA Polymerase, Proofreading enzyme, 5× Blend Master Mix Buffer, 15 mM MgCl ₂ , dNTPs, BSA	04-27-00S30	25	0.1	Free sample!
Blend Master Mix		04-27-00130	250	1	Please inquire!
with 15 mM MgCl ₂		04-27-02030	5000	20	Please inquire!

Order Information: 5	Order Information: 5× HOT FIREPol® Blend Master Mix Ready to Load					
PRODUCT	CONTENT	CAT. NO.	RXN/20µl	SIZE/ml	PRICE	
5× HOT FIREPol® Blend Master Mix Ready to Load with 7.5 mM MgCl ₂	HOT FIREPol® DNA Polymerase, Proofreading enzyme, 5× Blend Master Mix Buffer, 7.5 mM MgCl ₂ , dNTPs, BSA, Blue and Yellow loading dye	04-25-00\$15 04-25-00115 04-25-02015	25 250 5000	0.1 1 20	Free sample! Please inquire! Please inquire!	
5× HOT FIREPOI® Blend Master Mix Ready to Load with 10 mM MgCl ₂	HOT FIREPol® DNA Polymerase, Proofreading enzyme, 5× Blend Master Mix Buffer, 10 mM MgCl ₂ , dNTPs, BSA, Blue and Yellow loading dye	04-25-00\$20 04-25-00120 04-25-02020	25 250 5000	0.1 1 20	Free sample! Please inquire! Please inquire!	
5× HOT FIREPOI® Blend Master Mix Ready to Load with 12.5 mM MgCl ₂	HOT FIREPOI® DNA Polymerase, Proofreading enzyme, 5× Blend Master Mix Buffer, 12.5 mM MgCl ₂ , dNTPs, BSA, Blue and Yellow loading dye	04-25-00\$25 04-25-00125 04-25-02025	25 250 5000	0.1 1 20	Free sample! Please inquire! Please inquire!	
5× HOT FIREPol® Blend Master Mix Ready to Load with 15 mM MgCl ₂	HOT FIREPol® DNA Polymerase, Proofreading enzyme, 5× Blend Master Mix Buffer, 15 mM MgCl ₂ , dNTPs, BSA, Blue and Yellow loading dye	04-25-00530 04-25-00130 04-25-02030	25 250 5000	0.1 1 20	Free sample! Please inquire! Please inquire!	



FIREPol® DNA Polymerase

Description

FIREPol® is a highly processive, thermostable DNA Polymerase. Due to its genetic modifications FIREPol® has an enhanced stability at ambient temperature with no activity loss for up to 1 month. The enzyme has $5' \rightarrow 3'$ polymerase and exonuclease activity but lacks $3' \rightarrow 5'$ exonuclease activity.

Features

- Exceptional stability at ambient temperature
- Selection of buffers and an enhancer for personal optimization
- Extension rate 2-4 kb/min at 72°C
- Error rate per nucleotide per cycle: ~2.5 x 10⁻⁵
- Estimated half life at 95°C is 1.5 hours

Applications

- Wide range of PCR assays
- TA cloning

Quality Control

- Amplification efficiency ≥ 10⁵ fold
- Functional quality control via PCR on different templates
- No ds Endodeoxyribonuclease activity
- No ss Exodeoxyribonuclease activity
- No self-priming activity



As a technician working in a lab in French Guiana, buying and carrying regular DNA polymerase and dNTP delivered in dry ice is not economic nor easy for our unit. Before we had to pay additional costs to intermediaries to have an optimal delivery of product bought in France.

After having tested the Solis BioDyne reagents, I chose to work with FIREPol DNA Polymerase and the dNTP, delivered in express courier at ambient temperature. In addition to make savings on the product price and delivery method, I didn't have to readapt our protocols to these new reagents that stay stable at ambient temperature even in our tropical environment.

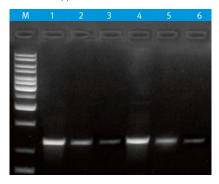
ELIANE LOUISANNA

Joint Research Unit EcoFoG, FRENCH GUIANA



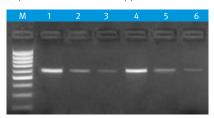
MOUSE GENOMIC DNA

1200 bp fragment of Beta-synuclein gene was amplified from mouse genomic DNA using FIREPol® DNA Polymerase with two different buffers: B (lane 1-3) and BD (lane 4-6). Template DNA was serially diluted tenfold with a starting concentration of 1 ng/ μ l. FIREPol® DNA Polymerase was used at 0.04U/ μ l.



PLANT GENOMIC DNA

672 bp fragments was amplified from barley genomic DNA using FIREPol® DNA Polymerase with two buffers: B (lane 1-3) and BD (lane 4-6). Template DNA was serially diluted tenfold with a starting concentration of 1 ng/µl. The enzyme performed well even with the template's concentration being as low as 0.01 ng/µl. FIREPol® DNA Polymerase was used at 0.04 U/µl.



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Order Information				
PRODUCT	CONTENT	CAT. NO.	SIZE/U	PRICE
		01-01-00005	100	Free sample!
FIREPol® DNA Polymerase	FIREPol® DNA Polymerase, 10× Buffer B/BD,	01-01-00500	500	Please inquire!
(5 U/μl)	25 mM MgCl ₂ , Solution S	01-01-01000	1000	Please inquire!
		01-01-02000	2000	Please inquire!

5× FIREPol® Master Mix & **Master Mix Ready to Load**

Description

5× FIREPol® Master Mix is a premixed ready-to-use solution containing all reagents required for PCR (except template, primers and water). Ready to Load format also includes a compound needed for direct loading onto agarose gel and two tracking dyes (blue and yellow) that allow to monitor progress during electrophoresis.

We recommend using 5× FIREPol® Master Mix Ready to Load in any PCR application that will be visualized by agarose gel electrophoresis and ethidium bromide staining. 5× FIREPol® Master Mix Ready to Load is not recommended for use in post-PCR applications where spectro-photometric measurements (absorbance or fluorescence) are necessary because yellow and blue dyes may interfere with these applications.

Features

- Stable at ambient temperature for one month
- Reaction set-up without using ice
- Convenient ready-to-use solution for PCR
 - Decreased set-up time
 - Reduced risk of contamination
 - Less pipetting mistakes
 - Consistent reaction to reaction performance
- Ready to Load format includes dyes for direct loading
- A choice of two MqCl₃ concentrations

Applications

- Wide range of PCR assays
- PCR product generation for TA cloning
- Ready to Load Master Mix for easy visualization on gel

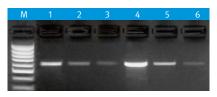
Quality Control

- Amplification efficiency ≥ 10⁵ fold
- Functional quality control via PCR on different templates
- No ds Endodeoxyribonuclease activity
- No ss Exodeoxyribonuclease activity
- No self-priming activity



PLANT GENOMIC DNA

672 bp fragment was amplified from barley genomic DNA using FIREPol Master Mix (lane 1-3) and FIREPol Master Mix Ready to Load (lane 4-6). Template DNA was serially diluted tenfold from a starting concentration of 1 ng/µl. The Master Mixes performed well even with the template's concentration being as low as 0.01 ng/µl.



I daily use the 5x FIREPol Master Mix RTL for genotyping activities. I find it very easy to use, efficient (for the result) and economic. It is a good product with excellent price quality ratio.

PATRICE MEDINA

Service des Animaux Transgeniques, CNRS, FRANCE

- Rasheed F. et al. Heliobacter, 2014
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- Kauts M.L. *et al.* Stem Cell Research, 2013, Vol. 10, Iss. 2, Pp 166–178

Order Information					
PRODUCT	CONTENT	CAT. NO.	RXN/20µl	SIZE/ml	PRICE
5× FIREPol® Master Mix with 7.5 mM MgCl ₂	FIREPOI® DNA Polymerase, 5× Buffer B, 7.5 mM MgCl ₂ , dNTPs, Detergent	04-11-00S15 04-11-00115	25 250	0.1	Free sample! Please inquire!
5× FIREPol® Master Mix with 12.5 mM MgCl ₂	FIREPol® DNA Polymerase, 5× Buffer B, 12.5 mM MgCl ₂ , dNTPs, Detergent	04-11-00S25 04-11-00125	25 250	0.1 1	Free sample! Please inquire!
5× FIREPol® Master Mix Ready to Load with 7.5 mM MgCl ₂	FIREPol® DNA Polymerase, 5× Buffer B, 7.5 mM MgCl ₂ , dNTPs, Detergent, Blue and Yellow Loading Dyes	04-12-00S15 04-12-00115	25 250	0.1 1	Free sample! Please inquire!
5× FIREPol® Master Mix Ready to Load with 12.5 mM MgCl ₂	FIREPol® DNA Polymerase, 5× Buffer B, 12.5 mM MgCl ₂ , dNTPs, Detergent, Blue and Yellow Loading Dyes	04-12-00S25 04-12-00125	25 250	0.1 1	Free sample! Please inquire!

TERMIPol® DNA Polymerase

Description

TERMIPol® DNA Polymerase is a thermostable DNA Polymerase suited for MALDI-TOF mass spectrometry and other primer extension platforms. The enzyme has $5' \rightarrow 3'$ polymerase activity and enhanced efficiency for incorporating unconventional nucleotides such as dideoxynucleotides and acyclonucleotides. TERMIPol® is available in two concentrations: 5 U/µl and 25 U/µl.

HOT TERMIPol® DNA Polymerase adds extra value with its Hot Start function, preventing the extension of mis-primed products and primer-dimers being formed at low temperatures during reaction setup. HOT TERMIPol® DNA Polymerase requires an incubation step at 95°C for 15 minutes.



- Enhanced efficiency for incorporating ddNTPs
- Assay success rate of 99% in MALDI-TOF
- Very high incorporation rate
- Robust and reliable reactions
- Excellent stability at ambient temperature
- Error rate per nucleotide per cycle: ~8 x 10⁻⁵
- Estimated half life at 95°C is 1.5 hours

Applications

- MALDI-TOF mass spectrometry
- Primer extension
- MassARRAY

Quality Control

- Free of nicking and priming activities, exonucleases and unspecific endonucleases
- Activity and stability tested via thermocycling



Our group is using the TERMIPOI already since 10 years for primer extension reactions with subsequent HPLC separation. Compared to similar products on the market TERMIPOI incorporates ddNTPs with high efficiency and low error rates. We highly reccomend using this enzyme for SNP genotyping or bisulfite-based single CpG screening, as low as 1.25 U are sufficient per reaction. Since no detergents are used in storage and reaction buffers, primer extension reactions can be loaded unpurified on HPLC systems which saves time and costs. We are using this enzyme frequently and experienced TERMIPOI as robust and reliable enzyme offering highly efficient and reproducible results.



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DR. SASCHA TIERLING

Universität des Saarlandes, GERMANY

Order Information				
PRODUCT	CONTENT	CAT. NO.	SIZE/U	PRICE
TERMIPol® DNA Polymerase (5 U/μl)	TERMIPol® DNA Polymerase, 10× Buffer C, 100 mM MgCl ₂	01-03-0000S 01-03-00500 01-03-02000	500 500 2000	Free sample! Please inquire! Please inquire!
TERMIPol® DNA Polymerase HC (25 U/µl)	TERMIPol® DNA Polymerase, 10× Buffer C, 100 mM MgCl ₂	01-07-0000S 01-07-01000 01-07-05000	1000 1000 5000	Free sample! Please inquire! Please inquire!
HOT TERMIPol® DNA Polymerase (5 U/µl)	HOT TERMIPOI® DNA Polymerase, 10× Buffer C, 100 mM MgCl ₂	01-06-0000S 01-06-00500 01-06-02000	500 500 2000	Free sample! Please inquire! Please inquire!

M-MLV Reverse Transcriptase RNase H- DNA Polymerase

Description

The M-MLV Reverse Trancriptase RNase H Minus DNA Polymerase is a genetically modified M-MLV RT which exhibits RNA or DNA dependent DNA polymerase, but lacks ribonuclease H activity. This enzyme can synthesize a complementary DNA strand initiating from a primer using RNA or DNA templates. Removal of the RNase H activity results in an increase of fulllength cDNA products. The enzyme has RNA polymerization-dependent and DNA polymerization dependent activities but lacks ribonuclease H activity.

Features

- No RNase H activity
- High sensitivity
- Improved efficiency for full length cDNA synthesis

Applications

- cDNA synthesis
- RNA analysis by primer extension
- DNA labeling
- cDNA compatible with real-time PCR

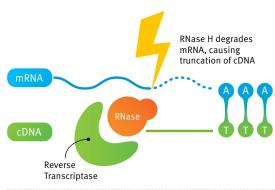
Quality Control

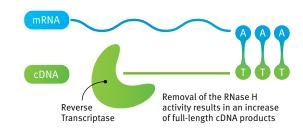
- Free of endo- and exonucleases, phosphatases and ribonucleases
- Activity and stability tested in first strand cDNA synthesis

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- Wen B. *Et al.* PLoS ONE 2014, DOI: 10.1371/journal.pone.0091597









Order Information				
PRODUCT	CONTENT	CAT. NO.	SIZE/U	PRICE
M-MLV Reverse Transcriptase RNase H Minus (200 U/µl)	M-MLV RT RNase H Minus, 5× RT Buffer 1, 5× RT Buffer 2, 25 mM MgCl ₂ , 20 mM MnCl ₂ , 100 mM DTT	06-21-00000S 06-21-010000 06-21-050000	2000 10000 50000	Free sample! Please inquire! Please inquire!



dNTP Mix and Set

Description

All Solis BioDyne's dNTPs are chemically synthesized nucleotides that are 99% pure by HPLC. Our nucleotides are available as a dNTP set containing four separate solutions of dNTPs and as ready-to-use mix of dATP, dCTP, dGTP and dTTP. Ready-to-use dNTP mix can be added directly to amplification reaction, and is designed to save time, reduce the risk of contamination and ensure the reproducibility of results. A separate vial of dUTP is available at a concentration of 100 mM.

In 2005 we started to use the Solis Biodyne dNTP Set in our lab. Comparing the performance of Solis Biodyne dNTPs with two other suppliers in a mutation detection assay, we found similar or even higher FRET signals in our analysed samples. Since then, we use the Solis Biodyne dNTP Set in our lab in a wide range of DNA and RNA amplification techniques like end point PCR, mutation detection in FRET

JUERGEN SIEVERTSEN

Bernhard Nocht Institute for Tropical Medicine (BNITM), GERMANY

assays, qPCR, high resolution

melting analysis etc.

Stability

All Solis BioDyne's dNTPs are extra stable - we guarantee 100% stability for 3 years thanks to our special storage buffer.

Features

- Ultrapure: >99% by HPLC
- Reliable, consistent results
- Available both as a ready-to-use mix and a set
- Wide range of applications

Applications

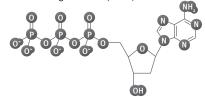
- Suited for a wide range of PCR and qPCR applications
- cDNA synthesis
- Primer extension
- DNA sequencing
- DNA labeling
- Mutagenesis

Quality Control

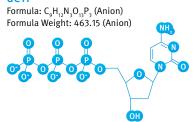
- Purity assay (HPLC) >99%
- Free of pyrophosphate, DNA and RNA
- DNase, RNase and nickase free
- Tested for qPCR, PCR and reverse transcription applications

dATP

Formula: C₁₀H₁₂N₅O₁₂P₃ (Anion) Formula Weight: 487.18 (Anion)

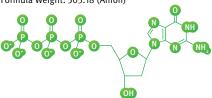


dCTP



dGTP

Formula: C₁₀H₁₂N₅O₁₃P₃ (Anion) Formula Weight: 503.18 (Anion)



dTTP

Formula: C₁₀H₁₂N₃O₁₃P₃ (Anion)
Formula Weight: 478.16 (Anion)

Order Information				
PRODUCT	CONTENT	CAT. NO.	SIZE/ µmol	PRICE
dNTP Set	A set of dATP, dCTP, dTTP and dGTP in separate vials (100 mM of each)	02-21-0001S 02-21-00100 02-21-00400	4×1 4×25 4×100	Free sample! Please inquire! Please inquire!
dNTP Mix	Mix of dATP, dCTP, dTTP and dGTP (20 mM of each)	02-31-0001S 02-31-00020 02-31-00100	0.8 20 100	Free sample! Please inquire! Please inquire!
dutp	100 mM dUTP	02-41-0000S 02-41-00025	2.5 25	Free sample! Please inquire!

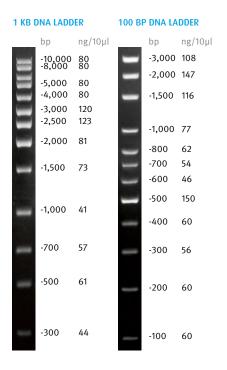
100 bp DNA Ladder 1 kb DNA Ladder

Description

The 1 kb DNA Ladder and the 100 bp DNA Ladder are ready-to-use molecular weight markers suitable for DNA fragment size determination on gel electrophoresis. They are formulated to run accurately and to provide crisp band patterns with blue dyes to serve as visual aid to monitor the progress of migration during agarose gel electrophoresis. The 1 kb DNA Ladder contains 13 discrete DNA fragments ranging from 300 bp to 10,000 bp. The 100 bp DNA Ladder contains 12 discrete DNA fragments ranging from 100 bp to 3,000 bp.

Features

- Ready-to-use solutions
- Crisp band patterns
- Includes dyes for ease of use
- Stable at ambient temperature

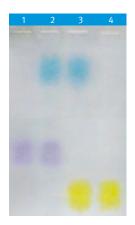


6× DNA Loading Dye Buffers

Description

6× DNA Loading Dye Buffers are used to prepare DNA markers and samples for loading on agarose or polyacrylamide gels. The optimized solutions contain different mixtures of three dyes: Bromophenol Blue, Xylene Cyanol FF and Orange G for visual tracking of DNA migration during electrophoresis.

6× DNA Loading Dye Buffers containing Orange G are recommended for the analysis of small DNA molecules and have no DNA masking during gel exposure to UV light. 6× DNA Loading Dye Buffer Blue and Dye Buffer Double Blue make pipetting visually easy with its dark blue color.



LOADING DYE BUFFERS

In 1% agarose gel 1× TBE, Xylene Cyanol FF migrates along with~3500 bp fragments, Bromophenol Blue migrates along with ~300 bp fragments and Orange G migrates along with ~40 bp fragments.

DNA Loading Dye Buffer Lane

- Double Blue
- Orange and Blue Orange

Order Information				
PRODUCT	CONTENT	CAT. NO.	SIZE	PRICE
100 bp DNA Ladder Ready to Load	12 discrete DNA fragments ranging from 100 bp to 3,000 bp	07-11-0000S 07-11-00050	1.5 µg 50 µg	Free sample! Please inquire!
1 kb DNA Ladder Ready to Load	13 discrete DNa fragments ranging from 300 bp to 10,000 bp	07-12-0000S 07-12-00050	1.5 µg 50 µg	Free sample! Please inquire!
6× DNA Loading Dye Buffer Blue	Bromophenol Blue, 6× Dye Buffer	07-01-0000S 07-01-00001 07-01-00010	0.1 ml 1 ml 10 ml	Free sample! Please inquire! Please inquire!
6× DNA Loading Dye Buffer Double Blue	Bromophenol Blue and Xylane Cyanole, 6× Dye Buffer	07-02-0000S 07-02-00001 07-02-00010	0.1 ml 1 ml 10 ml	Free sample! Please inquire! Please inquire!
6× DNA Loading Dye Buffer Orange and Blue	Orange G and Xylene Cyanole, 6× Dye Buffer	07-03-0000S 07-03-00001 07-03-00010	0.1 ml 1 ml 10 ml	Free sample! Please inquire! Please inquire!
6× DNA Loading Dye Buffer Orange	Orange G, 6× Dye Buffer	07-04-0000S 07-04-00001 07-04-00010	0.1 ml 1 ml 10 ml	Free sample! Please inquire! Please inquire!





10× GC-rich Enhancer

Description

10× GC-rich Enhancer is used as PCR additive for difficult GC-rich templates. The optimized solution modifies melting behavior of nucleic acids and often enhances amplification of suboptimal PCR systems with high degree of secundary structures and GC-rich regions.

 $10 \times$ GC-rich Enhancer should be used at a defined working concentration (1×, 2× or 3× solution) and only if non-specific amplification occurs.

Applications

Additive for PCR reaction



25 mM MgCl,

Description

Magnesium Chloride $(MgCl_2)$ is an important component of PCR reactions. Concentration of $MgCl_2$ should be optimized according to reaction conditions (primer, template, dNTP, polymerase concentration).

Applications

- Optimization of PCR, qPCR and RT-PCR reactions
- All other molecular biology techniques where MgCl₂ is needed



PCR Grade Water

Description

PCR Grade Water is deionized and autoclaved water suitable for use in all experiments that require nuclease-free water. PCR Grade Water is prepared without chemical additives and it is DNase, RNase and nuclease-free.

Applications

- PCR, qPCR and RT-PCR
- All other molecular biology techniques where pure water is needed

Order Information			
PRODUCT	CAT. NO.	SIZE/ml	PRICE
10× GC-rich Enhancer	05-16-0000S 05-16-00010 05-16-00050 05-16-00200	0.1 1 5 20	Free sample! Please inquire! Please inquire! Please inquire!
25 mM MgCl ₂	05-11-00025 05-11-00050 05-11-00200	2.5 5 20	Please inquire! Please inquire! Please inquire!
PCR Grade Water NB! General shipping terms do not apply for PCR Grade Water. Please contact us for shipping cost quotation.	water-025 water-100 water-500	25 100 500	Please inquire! Please inquire! Please inquire!

Ordering

All Solis BioDyne products are shipped at ambient temperature.

Our products can withstand ambient temperature up to 1 month without any loss of activity. However, regular storage at -20°C is recommended.



Free samples

Solis BioDyne provides free samples of the entire product range enabling our clients to thoroughly test our products.

How to Order

Orders can be placed:

• Via E-Shop: www.sbd.ee By emailing: solis@sbd.ee Via fax: +372 740 2079

Required Information

Following information is required while placing an order:

- Shipping and invoice address
- VAT number (EU only)

Shipping Cost*

In case of free samples, the purchaser is expected to cover the shipping cost of express courier service (35€). Shipping cost of sample order will be deducted from the first product order.

For product orders smaller than € 200 shipping cost € 50 will apply. Starting from an order value € 200 shipping cost € 35 will apply. Shipping cost for orders exceeding € 1000 will be covered by Solis BioDyne.

Customer Care

We are committed to providing our customers excellent service. All inquiries will be responded to within 24 hours at most. All technical questions will be given high priority and our full attention.

Please contact us through Skype: support.sbd or via e-mail: solis@sbd.ee

* General shipping terms do not apply for PCR Grade Water. Please contact us for shipping cost quotation.

Customized solutions

This product catalogue contains standard products, tube sizes and kits. Solis BioDyne offers customized solutions to its customers. Please contact us for details about this service.

Shipping

Unless agreed otherwise, all shipments abroad will be arranged via TNT express. Orders are confirmed within one working day (Monday to Friday, 8AM to 5PM, UTC+2) after reception. In most cases orders are shipped within one or two business days.

Taxes and Other Charges

Client is responsible for any customs and/or import fees imposed by their local or governmental agencies. Client should consult with their local authorities in regards to regulations and inform Solis BioDyne as needed. If any additional documentation is required, Solis BioDyne should be notified beforehand.

Payment Options

Solis BioDyne accepts payments by:

- Wire transfer, based on invoice
- PayPal, based on invoice or for orders placed through E-Shop
- Credit Card (VISA or Master Card) for orders placed through our E-Shop

Cancellation and Return Policy

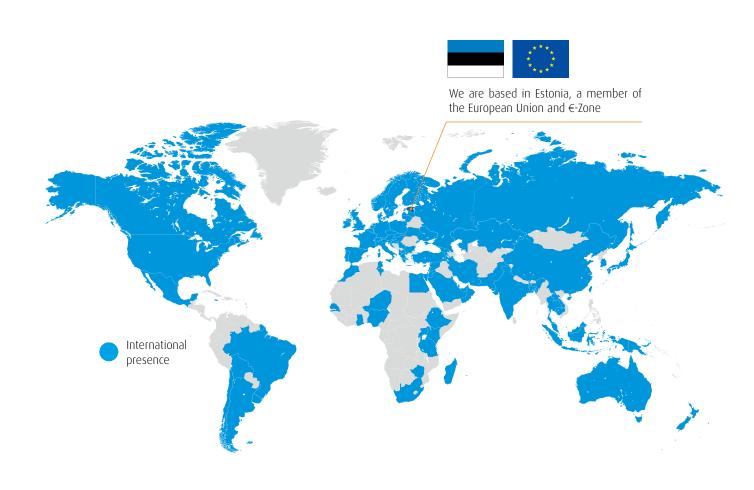
If the order has been cancelled before it has been shipped out please contact Solis BioDyne and no charges will be applied. If the payment has been made, Solis BioDyne will transfer funds back to purchaser account (transfer charges will be deducted).

When the client has submitted an order to Solis BioDyne and order conformation has been accepted, the client shall not have the right to return goods as expiration period of the goods is limited and upon returning goods, Solis BioDyne would be unable to make sure whether packaging of the goods has been opened by client or not. In case of problems with the performance of our products, please contact Solis BioDyne and we will find the best solution together. If wrong product has been sent out by accident, Solis BioDyne will replace the products without any charge.

Products and ordering conditions are subject to change without notice. Current conditions will be confirmed at the time of your order.

International Presence

Solis BioDyne currently has clients in 94 countries. We make our reagents accessible globally either by supplying them directly or in some areas by relying on local distributors who share our high standards in service and technical support. Please see the distributors section on next page or contact us directly to find the most convenient way to order in your region.



Distributors

AFRICA

DELTA Trading & Development SAE

T: +20 2 3573 6679 E: ahmed@deltatd.com www.deltatd.com

Separations

South Africa

T: +27 11 919 1000 E: info@separations.co.za www.separations.co.za

ASIA

Diamed

Bangladesh

T: 880-2-7168780 & 7168781, 9570366 E: habibur.rahman@diamedbd.com www.diamedbd.com

Biogenuix Medsystems Pvt. Ltd. India

T: +91 11 2561 2008 E: contact@biogenuix.com www.biogenuix.com

PT. Sentra Biosains Dinamika

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BM Equipment Co., Ltd.

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Sinapse Biotecnologia Ltda

T: +55-11-2605-5655

 $\textbf{E:} \ sinapse@sinapsebiotecnologia.com.br$ www.sinapsebiotecnologia.com.br

Fermelo Biotec

Chile

T/F: +562 2247 2978 E: info@fermelo.cl www.fermelo.cl

Product List

qPCR Mixes			
	CAT. NO.	SIZE	PRICE
5× HOT FIREPol® EvaGreen® qPCR Supermix	08-36-0000S	50 rxn/20 או	Free sample!
	08-36-00001	250 rxn/20 או	Please inquire!
	08-36-00008	2000 rxn/20 או	Please inquire!
	08-36-00020	5000 rxn/20 או	Please inquire!
5× HOT FIREPol® EvaGreen® qPCR Mix Plus (ROX)	08-24-0000S	50 rxn/20 µl	Free sample!
	08-24-00001	250 rxn/20 µl	Please inquire!
	08-24-00008	2000 rxn/20 µl	Please inquire!
	08-24-00020	5000 rxn/20 µl	Please inquire!
5× HOT FIREPol® EvaGreen® qPCR Mix Plus (no ROX)	08-25-0000S	50 rxn/20 µl	Free sample!
	08-25-00001	250 rxn/20 µl	Please inquire!
	08-25-00008	2000 rxn/20 µl	Please inquire!
	08-25-00020	5000 rxn/20 µl	Please inquire!
5× HOT FIREPol® EvaGreen® qPCR Mix Plus (Capillary)	08-26-00005	50 rxn/20 μl	Free sample!
	08-26-00001	250 rxn/20 μl	Please inquire!
	08-26-00008	2000 rxn/20 μl	Please inquire!
	08-26-00020	5000 rxn/20 μl	Please inquire!
5× HOT FIREPol® EvaGreen® HRM Mix (ROX)	08-33-0000S	50 rxn/20 μl	Free sample!
	08-33-00001	250 rxn/20 μl	Please inquire!
	08-33-00008	2000 rxn/20 μl	Please inquire!
	08-33-00020	5000 rxn/20 μl	Please inquire!
5× HOT FIREPol® EvaGreen® HRM Mix (no ROX)	08-31-00005	50 rxn/20 או	Free sample!
	08-31-00001	250 rxn/20 או	Please inquire!
	08-31-00008	2000 rxn/20 או	Please inquire!
	08-31-00020	5000 rxn/20 או	Please inquire!
5x HOT FIREPol® Probe GC qPCR Mix NEW	08-17-0000S	50 rxn/20 או	Free sample!
	08-17-00001	250 rxn/20 או	Please inquire!
	08-17-00008	2000 rxn/20 או	Please inquire!
	08-17-00020	5000 rxn/20 או	Please inquire!
5× HOT FIREPOIR Probe qPCR Mix Plus (ROX)	08-14-00005	50 rxn/20 או	Free sample!
	08-14-00001	250 rxn/20 או	Please inquire!
	08-14-00008	2000 rxn/20 או	Please inquire!
	08-14-00020	5000 rxn/20 או	Please inquire!
5× HOT FIREPol® Probe qPCR Mix Plus (no ROX)	08-15-0000S	50 rxn/20 או	Free sample!
	08-15-00001	250 rxn/20 או	Please inquire!
	08-15-00008	2000 rxn/20 או	Please inquire!
	08-15-00020	5000 rxn/20 או	Please inquire!
5× HOT FIREPol® Probe qPCR Mix Plus (Capillary)	08-16-0000S	50 rxn/20 µl	Free sample!
	08-16-00001	250 rxn/20 µl	Please inquire!
	08-16-00008	2000 rxn/20 µl	Please inquire!
	08-16-00020	5000 rxn/20 µl	Please inquire!
Regular PCR Enzyme and Mixes			
	CAT. NO.	SIZE	PRICE .
FIREPol® DNA Polymerase (5 U/μl)	01-01-0000S	100 U	Free sample!
	01-01-00500	500 U	Please inquire!
	01-01-01000	1000 U	Please inquire!
	01-01-02000	2000 U	Please inquire!
5× FIREPol® Master Mix with 7,5 mM MgCl ₂	04-11-00S15	25 rxn/20 μl	Free sample!
	04-11-00115	250 rxn/20 μl	Please inquire!
5× FIREPol® Master Mix with 12.5 mM MgCl ₂	04-11-00S25	25 rxn/20 μl	Free sample!
	04-11-00125	250 rxn/20 μl	Please inquire!
5× FIREPol® Master Mix Ready to Load with 7,5 mM MgCl ₂	04-12-00S15	25 rxn/20 μl	Free sample!
	04-12-00115	250 rxn/20 μl	Please inquire!
5× FIREPol® Master Mix Ready to Load with 12,5 mM MgCl ₂	04-12-00525	25rxn/20 μl	Free sample!
	04-12-00125	250 rxn/20 μl	Please inquire!
Other Enzymes			
	CAT. NO.	SIZE	PRICE
TERMIPol® DNA Polymerase (5 U/μl)	01-03-0000S	500 U	Free sample!
	01-03-00500	500 U	Please inquire!
	01-03-02000	2000 U	Please inquire!
TERMIPol® DNA Polymerase HC (25 U/μl)	01-07-0000S	1000 U	Free sample!
	01-07-01000	1000 U	Please inquire!
	01-07-05000	5000 U	Please inquire!
HOT TERMIPol® DNA Polymerase (5 U/µl)	01-06-0000S	500 U	Free sample!
	01-06-00500	500 U	Please inquire!
	01-06-02000	2000 U	Please inquire!
M-MLV Reverse Transcriptase RNase H Minus (200 U/μl)	06-21-00000S	2000 U	Free sample!
	06-21-010000	10000 U	Please inquire!
	06-21-050000	50000 U	Please inquire!

Hot-start PCR Enzyme and Mixes			
	CAT. NO.	SIZE	PRICE
HOT FIREPol DNA Polymerase (5U/μl)	01-02-0000S	100 U	Free sample!
	01-02-00500	500 U	Please inquire!
	01-02-01000	1000 U	Please inquire!
5x HOT FIREPol® GC Master Mix NEW	04-33-00515	25 rxn/20 µl	Free sample!
	04-33-00115	250 rxn/20 µl	Please inquire!
	04-33-02015	5000 rxn/20 µl	Please inquire!
5× HOT FIREPol® Blend Master Mix with 7.5 mM MgCl ₂	04-27-00515 04-27-00115 04-27-02015	25 rxn/20 µl 250 rxn/20 µl 5000 rxn/20 µl	Free sample! Please inquire! Please inquire!
5× HOT FIREPol® Blend Master Mix with 10 mM MgCl ₂	04-27-00520 04-27-00120 04-27-02020	25 rxn/20 ב 250 rxn/20 ב 1ט 7xn/20 ב	Free sample! Please inquire! Please inquire!
5× HOT FIREPol® Blend Master Mix with 12.5 mM MgCl ₂	04-27-00\$25 04-27-00125 04-27-02025	25 rxn/20 ב 250 rxn/20 ב 1ט 7xn/20 ב	Free sample! Please inquire! Please inquire!
5× HOT FIREPol® Blend Master Mix with 15 mM MgCl ₂	04-27-00530 04-27-00130 04-27-02030	25 rxn/20 ב 250 rxn/20 ב 1ט 2000 rxn/20 ב	Free sample! Please inquire! Please inquire!
5× HOT FIREPol® Blend Master Mix Ready to Load with 7.5 mM MgCl ₂	04-25-00S15 04-25-00115 04-25-02015	25 rxn/20 ב 250 rxn/20 ב 5000 rxn/20 ב	Free sample! Please inquire! Please inquire!
5× HOT FIREPol® Blend Master Mix Ready to Load with 10 mM MgCl ₂	04-25-00520 04-25-00120 04-25-02020	14 25 rxn/20 250 rxn/20 ב 5000 rxn/20 און	Free sample! Please inquire! Please inquire!
5× HOT FIREPol® Blend Master Mix Ready to Load with 12.5 mM MgCl ₂	04-25-00525 04-25-00125 04-25-02025	25 rxn/20 און 250 rxn/20 און 5000 rxn/20 און	Free sample! Please inquire! Please inquire!
5× HOT FIREPol® Blend Master Mix Ready to Load with 15 mM MgCl ₂	04-25-00530 04-25-00130 04-25-02030	25 rxn/20 ב וע 250 rxn/20 ב الر 5000 rxn/20 ב	Free sample! Please inquire! Please inquire!
Other PCR Reagents	,		
	CAT. NO.	SIZE	PRICE
dNTP Set	02-21-0001S	4×1 μmol	Free sample!
	02-21-00100	4×25 μmol	Please inquire!
	02-21-00400	4×100 μmol	Please inquire!
dntp Mix	02-31-0001S	0.8 µmol	Free sample!
	02-31-00020	20 µmol	Please inquire!
	02-31-00100	100 µmol	Please inquire!
dutp	02-41-0000S	2.5 µmol	Free sample!
	02-41-00025	25 µmol	Please inquire!
100 bp DNA Ladder Ready to Load	07-11-0000S	1.5 µg	Free sample!
	07-11-00050	50 pg	Please inquire!
1 kb DNA Ladder Ready to Load	07-12-0000S	1.5 μg	Free sample!
	07-12-00050	50 μg	Please inquire!
6× DNA Loading Dye Buffer Blue	07-01-0000S	0.1 ml	Free sample!
	07-01-00001	1 ml	Please inquire!
	07-01-00010	10 ml	Please inquire!
6× DNA Loading Dye Buffer Double Blue	07-02-0000S	0.1 ml	Free sample!
	07-02-00001	1 ml	Please inquire!
	07-02-00010	10 ml	Please inquire!
6× DNA Loading Dye Buffer Orange and Blue	07-03-0000S	0.1 ml	Free sample!
	07-03-00001	1 ml	Please inquire!
	07-03-00010	10 ml	Please inquire!
6× DNA Loading Dye Buffer Orange	07-04-0000S	0.1 ml	Free sample!
	07-04-00001	1 ml	Please inquire!
	07-04-00010	10 ml	Please inquire!
10× GC-rich Enhancer	05-16-0000S	0.1 ml	Free sample!
	05-16-00010	1 ml	Please inquire!
	05-16-00050	5 ml	Please inquire!
	05-16-00200	20 ml	Please inquire!
25 mM MgCl ₂	05-11-00025	2.5 ml	Please inquire!
	05-11-00050	5 ml	Please inquire!
	05-11-00200	20 ml	Please inquire!
PCR Grade Water	water-025	25 ml	Please inquire!
	water-100	100 ml	Please inquire!
	water-500	500 ml	Please inquire!



EXCELLENT PRICE-QUALITY RATIO

PLEASE ASK FOR FREE SAMPLES!

Solis BioDyne

Riia 185a, 51014 Tartu, Estonia

Tel: +372 7409 960 **Fax:** +372 7402 079 **E-mail:** solis@sbd.ee **Skype:** solis.biodyne

VAT No: EE100587614 **Reg. No:** 10242922

Bank details: Swedbank AS

IBAN code: EE692200221005142234

SWIFT/BIC.: HABAEE2X Bank address: Liivalaia 8, 15040 Tallinn, Estonia