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FHIFIN-RO Roche

FastStart™ High Fidelity PCR System, dNTPack

Synonym(s):
PCR Kit, dntp

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SKU	Pack Size	Availability	Price	Quantity
4738284001	50 reactions	Only 2 left in stock (more on the way)	Details...\$148.00	- +
4738292001	200 reactions	Available to ship on December 13, 2023	Details...\$557.00	- +

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Feedback

RECOMMENDED PRODUCTS



Roche
FHIFI-RO
FastStart™ High Fidelity
PCR System



Roche
11218590910
DNA Molecular
Marker II, DIG

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PROPERTIES

usage	sufficient for ≤200 reactions (04738292001) sufficient for ≤50 reactions (04738284001)
Quality Level	100
packaging	pkg of 125 U (04738284001) pkg of 500 U (04738292001 [2 x 250 U])
manufacturer/tradename	Roche
parameter	72 °C optimum reaction temp.
storage temp.	-20°C

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This Item  Roche FHIFIN-RO FastStart™ High Fidelity PCR System, dNTPack View Price and Availability packaging pkg of 125 U (04738284001)	 Roche FHIFI-RO FastStart™ High Fidelity PCR System View Price and Availability
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This Item**packaging**

pkg of 2,500 U (03553361001 [10 x 250 U]), pkg of 500 U (03553400001 [2 x 250 U])

manufacturer/tradename

Roche

manufacturer/tradename

Roche

parameter

72 °C optimum reaction temp.

parameter

72 °C optimum reaction temp.

storage temp.

-20°C

storage temp.

-20°C

Quality Level

100

Quality Level

100

DESCRIPTION

General description

The enzyme dNTPack comprises the FastStart High Fidelity PCR System and a ready-to-use solution of PCR grade nucleotides. The FastStart High Fidelity PCR System is a blend of FastStart Taq DNA Polymerase and a thermostable proofreading protein, which is also chemically modified. This protein mediates proofreading activity, but carries no polymerase activity. Both proteins are inactive below +75°C and are activated by heating to +95°C for two minutes. The FastStart® High Fidelity PCR System is the ideal tool for all amplification experiments where a combination of high specificity, sensitivity, accuracy, and yield is needed. Hot start protocols have improved specificity, sensitivity, and PCR yield. Heat-labile blocking groups on amino acid residues of FastStart Taq DNA Polymerase make the enzyme inactive at room temperature. There is no elongation at low temperatures when primers bind nonspecifically.

Application

The FastStart® High Fidelity PCR System – an optimized enzyme blend for hot start PCR – combines all the benefits of FastStart Taq DNA Polymerase with fourfold higher accuracy and the ability to amplify fragments up to 5kb.^{[1][2][3]}

- Hot start PCR

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- Multiplex PCR
- Hot Start RT-PCR
- GC-rich template amplification
- Difficult or challenging PCRs
- precapture ligation-mediated PCR (LM-PCR)
- PCR amplification of cDNA^[4] 16S rRNA gene^{[5][6]}

The FastStart High Fidelity PCR System is the product of choice for multiplex PCR^[7]

Features and Benefits

- **Achieve excellent multiplex performance:** For fast high quality results, also use Roche's PCR Optimization Kit.
- **Increase fidelity:** Achieve fourfold higher fidelity compared to Taq DNA Polymerase and FastStart Taq DNA Polymerase.
- **Amplify challenging DNA:** DMSO, a PCR additive, for working with difficult templates, is supplied.
- **Cost-effective:** Use the convenient premixed solution of PCR grade dNTPs.

Packaging

1 kit containing 6 components

- FastStart High Fidelity Enzyme Blend, (5 U/μl) in storage buffer
- FastStart High Fidelity Reaction Buffer, 10x concentrated, with 18mM MgCl₂
- FastStart High Fidelity Reaction Buffer, 10x concentrated, without MgCl₂
- MgCl₂ Stock Solution, 25mM
- DMSO
- PCR Nucleotide Mix (each dNTPack contains the 10mM additive-free sodium salt nucleotides in a ready-to-use mix)

Quality

Each lot is PCR function-tested using human genomic DNA and primers specific for a 1.8 kb fragment of the EPO gene, and primers specific for a 4.8 kb fragment of the tPA gene.

Unit Definition

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Volume Activity: 5 U/μl

Preparation Note

Working concentration: For a standard 50 μl PCR, we recommend using 2.5 U of the enzyme blend.

Other Notes

Contents

- FastStart High Fidelity Enzyme Blend, (5 U/μl) in storage buffer
- FastStart High Fidelity Reaction Buffer, 10x concentrated, with 18 mM MgCl₂
- FastStart High Fidelity Reaction Buffer, 10x concentrated, without MgCl₂
- MgCl₂ Stock Solution, 25 mM
- DMSO
- PCR Nucleotide Mix

Each dNTPack contains the 10 mM additive-free sodium salt nucleotides in a ready-to-use mix.

Legal Information

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FastStart is a trademark of Roche
Roche is a registered trademark of Roche Molecular Systems, Inc.

Kit Components Only

Product No.	Description
	FastStart High Fidelity Enzyme Blend, in storage buffer 5 U/μl
	FastStart High Fidelity Reaction Buffer, with 18 mM MgCl ₂ 10x concentrated
	FastStart High Fidelity Reaction Buffer, without MgCl ₂ 10x concentrated
	MgCl ₂ Stock Solution 25 mM
	DMSO
	PCR Nucleotide Mix

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SAFETY INFORMATION

Storage Class Code

10 - Combustible
liquids

WGK

WGK 1

Flash Point(F)

203.0 °F

Flash Point(C)

95 °C

DOCUMENTATION



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Lot/Batch Number

e.g. 023J5431

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How to Find a Lot/Batch Number for COA

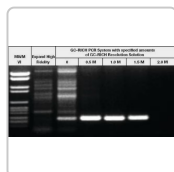


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dNTPack

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Scientific reports, 9, 7064-7064 (2019)

[High HEV presence in four different wild boar populations in East and West Germany.](#)

Cornelia Adlhoch et al.*Veterinary microbiology, 139(3-4), 270-278 (2009-07-15)*

Swine Hepatitis E virus (HEV) can be transmitted from pigs to humans causing hepatitis. A high prevalence of HEV in wild boar populations is reported for several European countries, but actual data for Germany are missing. During the hunting season

Microarray-Based Capture of Novel Expressed Cell Type--Specific Transfrags (CoNECT) to Annotate Tissue-Specific Transcription in *Drosophila melanogaster*

<BIG>Hong X, et al</BIG>

G3 (Bethesda, Md.), 2, 873-882 (2012)

Differential contribution of cis and trans gene transcription regulatory mechanisms in amygdala and prefrontal cortex and modulation by social stress

Reuveni E, et al

Scientific reports, 8, 6339-6339 (2018)

Vertical profiles of bacteria in the tropical and subarctic oceans revealed by pyrosequencing.

Hongmei Jing et al.

PloS one, 8(11), e79423-e79423 (2013-11-16)

Community composition of Bacteria in the surface and deep water layers were examined at three oceanic sites in the Pacific Ocean separated by great distance, i.e., the South China Sea (SCS) in the western tropical Pacific, the Costa Rica Dome

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PROTOCOLS AND ARTICLES

Articles

Hot Start PCR

The purpose of Hot Start PCR is to inhibit the PCR reaction in order to reduce nonspecific amplification, prevent the formation of primer dimers, and increase product yields.

Sample Preparation & Gel Electrophoresis Troubleshooting

The possible causes and potential remedies for challenges encountered during preparation of samples for SDS-PAGE (sodium dodecyl sulfate polyacrylamide gel electrophoresis) and optimizing electrophoresis...

TECHNICAL SERVICE

Our team of scientists has experience in all areas of research including Life Science, Material Science, Chemical Synthesis, Chromatography, Analytical and many others.

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