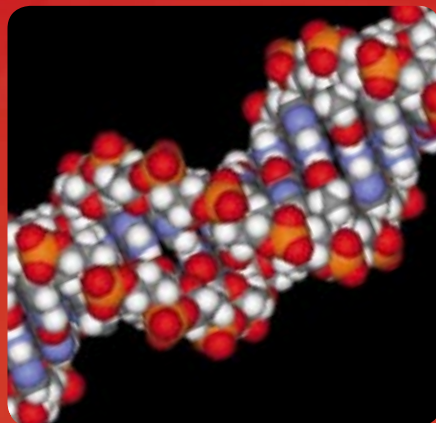


Nucleotides and PCR reagents



THE NUCLEOTIDE COMPANY

LAROVA
For the complete LAROVA product portfolio
please view www.larova.com

Company Profile



ABOUT LAROVA GMBH

The origins of the company reach back to 1992 and are based on a fundamental discovery in nucleic acids enzymology which has been implemented into applied biosciences. In the last decade the company has successfully grown from a start-up to a professional profitable organization being presently the quality leader of nucleic substance manufacturing on the international market.

PRODUCTS AND SUPPORT

LAROVA's key products are nucleic acid substances – monomers that are enzymatically synthesized using our proprietary unique technology. These monomers – pyrophosphate-free dNTPs, ddNTPs and NTPs – are functionally approved for PCR- and related reactions including Real-Time PCR, in vitro transcription assays and DNA sequencing in diagnostics and molecular biology. Additionally, LAROVA provides custom synthesis of modified nucleotides for third parties. The annual manufacturing capacity reaches multiple kilogram scale at our Teltow site – just in the vicinity of Berlin, the German capital. LAROVA offers strong technical support in quality issues and customers' product development. Within a well-organized logistic system the main products are shipped the same day after order placement. Our distributors world wide are able to locally dispatch their stocks of LAROVA products promptly.

REGULATORY SYSTEM

ISO 9001
CERTIFIED

Since November 1st, 2001 LAROVA is ISO 9001:2000 certified (Quality Management System) providing our customers consistently with high quality material.

CUSTOMERS

LAROVA serves three major customer groups:

- (1) *Laboratory reagent kit producers, a smaller group of customers (<50 major customers worldwide) who purchase substantial quantities of nucleotide monomers as raw material for specialized kits for use in research laboratories.*
- (2) *Diagnostic kit producers who use our nucleotide monomers as diagnostic agents in hospitals, blood collection agencies and pathology laboratories primarily for amplification.*
- (3) *Research laboratories in Universities, industry, government and hospital & medical schools.*

LAROVA has a number of local distributors around the world contributing to the marketing and sales activities of our home office.



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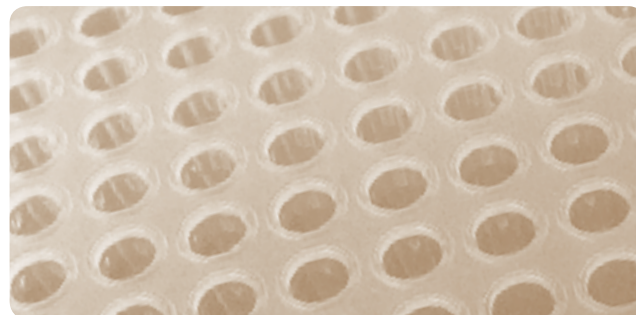
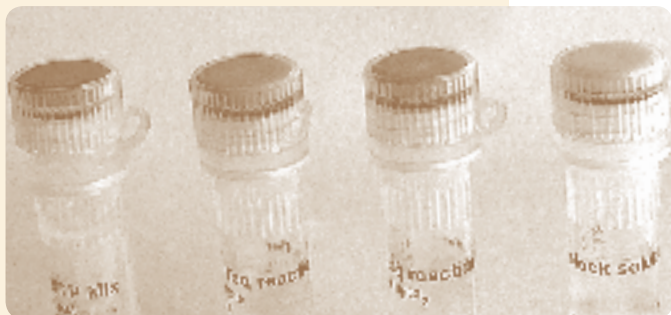
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Product	Cat.-Nr.	Convenience	Yield	Specificity
Ready-to-Use Mixes / direct gel loading				
Red Load Taq Master	PCR-108	++++	++	++
Red Load Taq Master / high yield	PCR-106	++++	+++	+
Ready-to-Use Mixes				
Taq Master	PCR-102	+++	++	++
Taq Master / high yield	PCR-101	+++	+++	+
Hot Start Master	PCR-103	+++	++	+++
Thermophilic Polymerases				
Taq Pol	PCR-202	+	++	++
Taq Pol / high yield	PCR-201	+	+++	+
Hot Start Pol	PCR-203	+	++	+++
High Fidelity Pol	PCR-204	+	+++	++
Supplements				
PCR Optimization Kit	PCR-251	+++	+++	+++
PCR Additives Kit	PCR-252	++	+++	++
PCR Control Kit	PCR-253	+++	---	---



Fidelity	Application
+	<ul style="list-style-type: none"> • Routine PCR / optimized for minimal by-product formation • Plate based PCR and automated pipetting
+	<ul style="list-style-type: none"> • Routine PCR / optimized for high efficiency in a broad range of reaction conditions • Not recommended for plate based PCR and automated pipetting
+	<ul style="list-style-type: none"> • Routine PCR / optimized for minimal by-product formation • Plate based PCR and automated pipetting
+	<ul style="list-style-type: none"> • Routine PCR / optimized for high efficiency in a broad range of reaction conditions • Not recommended for plate based PCR and automated pipetting
+	<ul style="list-style-type: none"> • High specificity PCR / high sensitivity PCR • Plate based PCR and automated pipetting
+	<ul style="list-style-type: none"> • Routine PCR / optimized for minimal by-product formation • Plate based PCR and automated pipetting
+	<ul style="list-style-type: none"> • Routine PCR / optimized for high efficiency in a broad range of reaction conditions • Incorporation of labeled or other modified nucleotides
+	<ul style="list-style-type: none"> • High specificity PCR / high sensitivity PCR • Plate based PCR and automated pipetting
+++	<ul style="list-style-type: none"> • High fidelity PCR • Amplification of GC-rich and other difficult templates
---	<ul style="list-style-type: none"> • Easy optimization of the MgCl₂ concentration for difficult primer-template pairs • Identification of optimal enzyme / buffer / enhancer combinations
---	<ul style="list-style-type: none"> • Enhancer for GC-rich and other difficult templates • Taq Stabilizer to increase amplification yield
---	<ul style="list-style-type: none"> • Quality and benchmark tests / positive control of PCR reactions / internal lab standard • Includes primer and template for amplification of the β-actin gene from human DNA

Standard PCR



Ready-to-Use Mixes for Maximum Convenience

Ready-to-Use Mixes for direct gel loading contain an inherent red dye and allow the direct loading of the PCR reaction product onto an agarose or acrylamide gel. The Taq master mixes are recommended for use in routine PCR reactions and ensure fast and easy preparation with a minimum of pipetting steps. The Hot start master mix is based on a heat-activatable Taq polymerase for high specificity applications. The mixes contain all reagents required for PCR (except template and primer) in a premixed 5x concentrated solution.

Ready-to-Use Mixes / direct gel loading

Red Load Taq Master	PCR-108S	100 reactions
Master mix for direct gel loading	PCR-108L	500 reactions
Red Load Taq Master / high yield	PCR-106S	100 reactions
Master mix for direct gel loading	PCR-106L	500 reactions

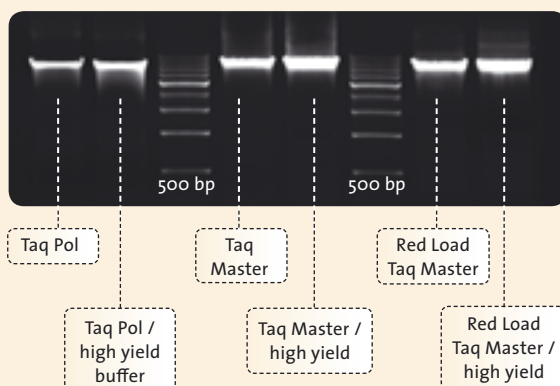
Ready-to-Use Mixes are convenient Pre-Mixes containing all reagents required for PCR (except template and primer) in a 5x concentrated solution. Premium quality enzymes and dNTPs ensure the highest quality of amplification results.

Ready-to-Use Mixes

Taq Master	PCR-102S	100 reactions
Master mix of thermostable DNA polymerase	PCR-102L	500 reactions
Taq Master / high yield	PCR-101S	100 reactions
Master mix of thermostable DNA polymerase for high amplification rates	PCR-101L	500 reactions
Hot Start Master	PCR-103S	100 reactions
Master mix of thermally activated DNA polymerase for high specificity	PCR-103L	500 reactions

Taq Pol Master Mixes allow efficient amplification of long fragments

PCR from Lambda phage DNA, 4 kbp fragment



Thermophilic Polymerases for Maximum Flexibility

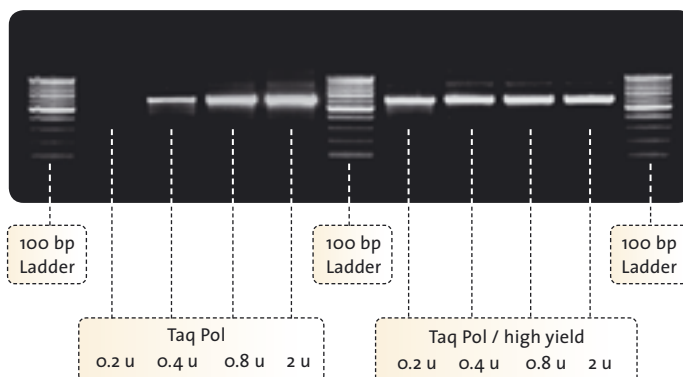
LAROVA offers a broad range of optimized Thermophilic Polymerases. Make your selection from Taq polymerases for routine PCR applications, hot start polymerases for high specific amplifications or proofreading enzyme blends for high fidelity and long range PCR. All enzymes ensure reliable, high performance results and guarantee maximum success for their particular application.



Thermophilic Polymerases		
Taq Pol Thermostable DNA polymerase	PCR-202S	200 units
	PCR-202L	1000 units
Taq Pol / high yield Thermostable DNA polymerase for high amplification rates	PCR-201S	200 units
	PCR-201L	1000 units
Hot Start Pol Thermally activated DNA polymerase for high specificity	PCR-203S	200 units
	PCR-203L	1000 units
High Fidelity Pol Thermostable DNA polymerase for high accuracy	PCR-204S	100 units
	PCR-204L	500 units
Supplements		
PCR Optimization Kit Individual optimization of PCR assays	PCR-251	3 × 50 reactions
PCR Additives Kit Stabilizer and Enhancer	PCR-252	500 reactions
PCR Control Kit Amplification of a beta-actin gene fragment from human genomic DNA	PCR-253	500 reactions

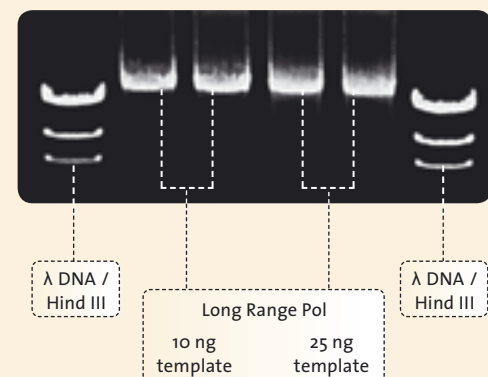
Taq Pol shows excellent amplification at low concentrations

Human EPO-gene, 560 bp fragment



Long Range Pol allows efficient amplification of extremely long templates

Lambda DNA, 30 kbp fragment



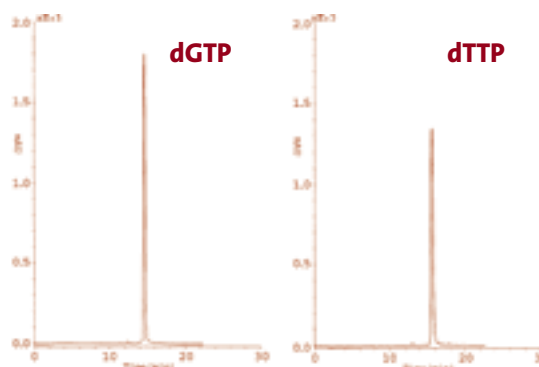
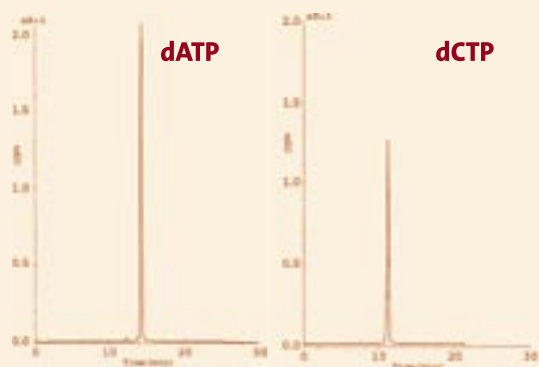
Deoxynucleotides (dNTPs)



Premium Quality dNTPs – at prices you can't ignore...!

LAROVA's enzymatic dNTP manufacturing process and refined purification protocols ensure highest quality of deoxynucleotides. All our dNTPs are ultrapure (>99%) and quality checked by a set of PCR, RT-PCR and Klenow reactions.

Mixes		
dNTP Mix Premix of 10 mM dATP, dCTP, dGTP and dTTP	NU-1006S	200 µl
	NU-1006L	1 ml
dNTP Mix including dUTP Premix of 10 mM dATP, dCTP, dGTP and 20 mM dUTP	NU-1020S	200 µl
	NU-1020L	1 ml
Sets		
dNTP Set 4× 100 mM (dATP, dCTP, dGTP, dTTP)	NU-1005S	4× 200 µl
	NU-1005L	4× 1 ml
dNTP Set including dUTP 4× 100 mM (dATP, dCTP, dGTP, dUTP)	NU-1009S	4× 200 µl
	NU-1009L	4× 1 ml
Single Solutions		
dATP, 100 mM	NU-1001	1 ml
dCTP, 100 mM	NU-1002	1 ml
dGTP, 100 mM	NU-1003	1 ml
dTTP, 100 mM	NU-1004	1 ml
dITP, 100 mM	NU-1007	1 ml
dUTP, 100 mM	NU-1008	1 ml
Lyophilisates		
dATP	NU-1001-10	10 mg
dCTP	NU-1002-10	10 mg
dGTP	NU-1003-10	10 mg
dTTP	NU-1004-10	10 mg



Ultrapure dNTPs from LAROVA

- Superior performance in PCR reactions with long templates
- Increased sensitivity in Real-Time PCR applications
- Available from small (ml) to large (liters) quantities
- Offered at very competitive prices
- For larger amounts than shown here, please inquire at: info@larova.com

Dideoxynucleotides (ddNTPs)

Sets		
ddNTP Set 10 mM each (ddATP, ddCTP, ddGTP, ddTTP)	NU-1019S	4× 200 µl
	NU-1019L	4× 1 ml
Single Solutions		
ddATP 10 mM	NU-1015S	200 µl
	NU-1015L	1 ml
ddCTP 10 mM	NU-1016S	200 µl
	NU-1016L	1 ml
ddGTP 10 mM	NU-1017S	200 µl
	NU-1017L	1 ml
ddTTP 10 mM	NU-1018S	200 µl
	NU-1018L	1 ml



Termination Mixes for DNA Sequencing

Termination Mixes (containing 7-deaza-dGTP) for cycle sequencing		
Terminator A 150 µM each dNTP (dATP, dCTP, dGTP / 7-deaza dGTP, dTTP), 1.5 µM ddATP	PCR-411	1 ml
Terminator C 150 µM each dNTP (dATP, dCTP, dGTP / 7-deaza dGTP, dTTP), 1.5 µM ddCTP	PCR-412	1 ml
Terminator G 150 µM each dNTP (dATP, dCTP, dGTP / 7-deaza dGTP, dTTP), 1.5 µM ddGTP	PCR-413	1 ml
Terminator T 150 µM each dNTP (dATP, dCTP, dGTP / 7-deaza dGTP, dTTP), 1.5 µM ddTTP	PCR-414	1 ml
Termination Mixes (containing 7-deaza-dGTP) for non-cycle sequencing		
Terminator A 80 µM each dNTP (dATP, dCTP, dGTP / 7-deaza dGTP, dTTP), 8 µM ddATP	PCR-416	1 ml
Terminator C 80 µM each dNTP (dATP, dCTP, dGTP / 7-deaza dGTP, dTTP), 8 µM ddCTP	PCR-417	1 ml
Terminator G 80 µM each dNTP (dATP, dCTP, dGTP / 7-deaza dGTP, dTTP), 8 µM ddGTP	PCR-418	1 ml
Terminator T 80 µM each dNTP (dATP, dCTP, dGTP / 7-deaza dGTP, dTTP), 8 µM ddTTP	PCR-419	1 ml

Ribonucleotides (NTPs)



Ultrapure nucleotide triphosphates for in vitro transcription experiments

Purity >98% for solutions, >95% for solids

Nucleotide Triphosphates (NTPs) are available as solutions and solids from mg...kg scale. Our NTP solutions are optimized for in vitro transcription with the common polymerases and the major commercially available transcription kits. NTP solids (lyophilisates) are routinely available at a purity of >95% (HPLC). For certificate of analysis of a particular batch, for higher purity (>98%) or for volumes larger than shown below please contact us at info@larova.com.

Sets

NTP Set

100 mM each (ATP, CTP, GTP, UTP)

NU-1014S 4× 200 µl

NU-1014L 4× 1 ml

Single Solutions

ATP, 100 mM

NU-1010 1 ml

CTP, 100 mM

NU-1011 1 ml

GTP, 100 mM

NU-1012 1 ml

UTP, 100 mM

NU-1013 1 ml

Lyophilisates

ATP

NU-1010-10G 10 g

NU-1010-100G 100 g

CTP

NU-1011-100 100 mg

NU-1011-1G 1 g

NU-1011-10G 10 g

NU-1011-100G 100 g

GTP

NU-1012-100 100 mg

NU-1012-1G 1 g

NU-1012-10G 10 g

NU-1012-100G 100 g

UTP

NU-1013-100 100 mg

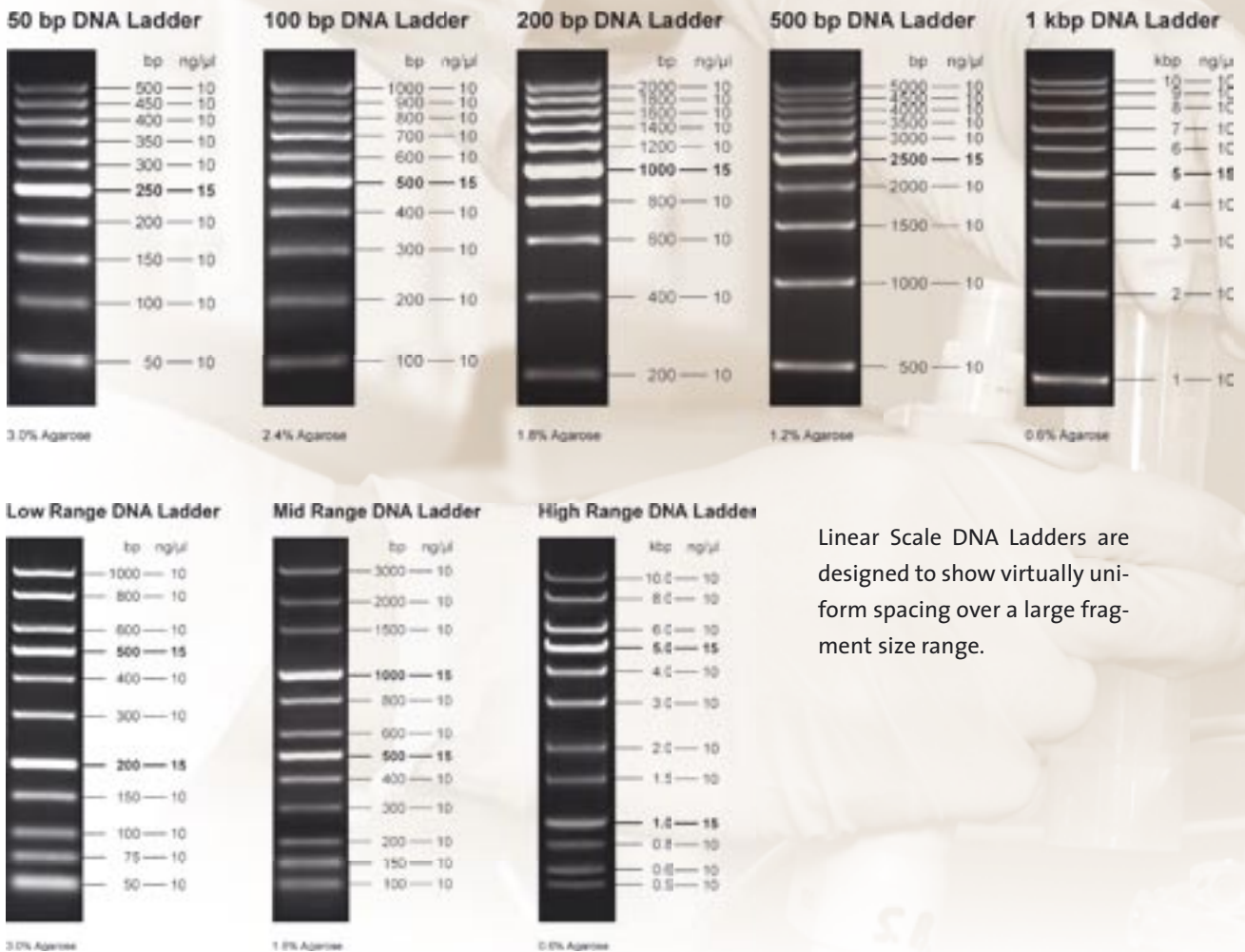
NU-1013-1G 1 g

NU-1013-10G 10 g

NU-1013-100G 100 g

DNA Ladders

Log Scale DNA Ladders are well suited for standard gel electrophoresis applications. The ladders can be combined if small and large fragments need to be analyzed on the same gel.



Linear Scale DNA Ladders are designed to show virtually uniform spacing over a large fragment size range.

Log Scale DNA Ladders

50 bp DNA Ladder (50–500 bp)	M-213	500 μl / 100 lanes
100 bp DNA Ladder (100–1000 bp)	M-214	500 μl / 100 lanes
200 bp DNA Ladder (200–2000 bp)	M-215	500 μl / 100 lanes
500 bp DNA Ladder (500–5000 bp)	M-216	500 μl / 100 lanes
1 kbp DNA Ladder (1–10 kbp)	M-217	500 μl / 100 lanes

Linear Scale DNA Ladders

Low Range DNA Ladder (50–1000 bp)	M-202	500 μl / 100 lanes
Mid Range DNA Ladder (100–3000 bp)	M-203	500 μl / 100 lanes
High Range DNA Ladder (0.5–10 kbp)	M-204	500 μl / 100 lanes

DNA Preparation

Our **Plasmid Mini-Prep Kit** is designed for isolation of high-purity plasmid or cosmid DNA from cells for subsequent sequencing, restriction digests, or transformations. Spin column based preparation provides an easy and efficient way of DNA isolation without shearing or significant loss of product and allows elution in a small volume of low-salt buffer. It eliminates time consuming phenol-chloroform extraction and alcohol precipitation and can be used either in micro-centrifuges or on vacuum manifolds. The kit allows the extraction of up to 20 µg DNA per preparation.



The **PCR Purification Kit** allows easily the work-up of PCR reactions (removal of nucleotides, primers, proteins, salts and other impurities). The preparation is based on a silica-membrane technology for binding DNA in high-salt and its elution in low-salt buffer. The kit provides a simple and

efficient way to purify linear or circular DNA in the range from 100 bp to 10 kbp and is optimized for working with DNA amounts from 50 to 500 ng. It does not require any organic extractions or precipitation and guarantees high yields and reproducibility.

The **Agarose Gel Extraction Kit** is designed for high-yield recovery of DNA from agarose gels with simultaneous removal of primers, nucleotides, proteins, salts, agarose, ethidium bromide and other impurities. The preparation is based on a silica-membrane technology for binding DNA in high-salt and its elution in low-salt buffer. The kit provides a simple and efficient way to purify DNA in a size range between 100 bp and 10 kbp. It does not require any organic extractions or precipitation and guarantees high yields and reproducibility.



6x2 ml taken from a 50 ml overnight culture of recombinant *E. coli* strain with an 8 kbp plasmid. Aliquots 2–4 were purified with the Plasmid Mini-Prep Kit from LAROVA and aliquots 5–7 were purified with a competitor's kit. Purified plasmid was loaded onto a 1% agarose gel.

DNA Preparation Kits

Plasmid Mini-Prep Kit

PP-203S

50 preparations

PP-203L

250 preparations

PCR Purification Kit

PP-201S

50 preparations

PP-201L

250 preparations

Agarose Gel Extraction Kit

PP-202S

50 preparations

PP-202L

250 preparations

Ordering

The following options are available for ordering products directly from LAROVA GmbH:

- Online ordering
- 24 hour fax ordering
- Telephone orders
- Mail orders

Please provide the following information when ordering:

- Your name, name of institution
- Billing and shipping address
- PO number (if applicable)
- Catalog number of products and quantity needed
- Contact person and contact data for questions

E-mail ordering

Please direct your orders to info@larova.com or your local distributor.

Telephone ordering

We will accept telephone orders from Monday to Friday between 8:00 AM and 4:00 PM Central European Time.

+49 - 3328 - 39 56 0

24 hour fax ordering

Please send your fax orders to:

+49 - 3328 - 39 56 39

Mail ordering

Please send your mail orders to the following address:

LAROVA GmbH

Rheinstr. 17A

14513 Teltow

Germany

Important Notice:

Products that have been ordered by mistake cannot be returned to LAROVA. Products that are returned unrequestedly to LAROVA will not be accepted, but fully charged to the customer's account.

Shipping Terms

All customers will receive a fax confirmation of the order with invoice and tracking number. Products are shipped by TNT to most European countries and by FedEx to other destinations. All domestic shipments within Germany are sent by trans-o-flex. If you wish your order to be shipped by a different carrier, please contact us and provide all necessary information with your order. All orders are shipped EXW (Incoterms 2000).

Prices and Charges

Please note that the prices of products in the catalog and on our website do not include freight charges, duties, taxes or customs fees. Freight charges will be prepaid and added to the invoice. If you need information on freight charges for your particular order, please contact us with all necessary information. Larova will not pay any duties, taxes or customs fees. Products and prices are subject to change without notice. Current pricing will be confirmed at the time of your order. No minimum order required. Products that are in stock are shipped immediately (same or next day). If products are on back order, the estimated delivery date is indicated on the order confirmation. Shipping charges only apply to the first shipment, all back order items will be shipped free of charge.

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FAX Order Form

Please copy this page, fill in your order and fax it to +49 - 3328 - 39 56 39

Shipping address

Name

University / Company

Institute / Department

Address

P.O. Box

Postcode / City

Phone

Fax

Email

Billing address

Customer number

Name

Address

Address

Address

Address

VAT number (EEC only)

PO number

Date / Signature

If you wish to pay by credit card, please provide the following credit card information: I want to pay by







Card holder

Card number

Expiry date

Security code

(VISA / Mastercard: 3 digits on card's back side, upper right corner of signature field; AmEx: 4 digits, card's front side, above card number)

	Catalog number	Product	Quantity	Net Price per Item EURO	Net Price all Items EURO
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
				Total	

LAROVA LAROVA LAROVA

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