

Product Catalog

**New
Edition
2020**

POLYMERASES
MASTER MIXES
NUCLEOTIDES
REVERSE TRANSCRIPTION
DNA MARKER
PURIFICATION
SPECIAL ENZYMES
CHEMICALS
DEVICES

New Product:
Single Cell WGA Kit

see page 11

New Product:
Ron's Cell-free DNA Extraction Kit

see page 18

Now featuring:
BIORON RealLine Cyclers

see page 23

 **BIORON**
life science



BIORON GmbH is a producer and worldwide acting trader of molecular biological and diagnostic products since 2002.

Our customers are distributors, hospitals, diagnostic labs, research institutes and biotech companies. We are experienced in OEM- and tender business.

We have a long tradition in supplying ready-to-use solutions for professionals, i.e. high concentrated polymerases without glycerol for lyophilisation or our unique SD Polymerase. Our customers value us for our personalised support.

You can contact us via mail to info@bioron.net or phone +49 6232 298 45 0

Place your order online at www.bioron.net

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BIORON's DNA Polymerases: general overview

BIORON offers a wide range of polymerases for various applications. All polymerases are provided with advanced reaction buffers. For optimization on customers' side we provide different buffer systems (based on ammonium or potassium) for most of our polymerases.

DNA Polymerases	PCR-Application & Features	HotStart	Ref No	Pack Size
DFS-Taq 5 U/μl	• Standard • Real-Time • Pathogen diagnostics	No	101005 101025 101100	500 U 2500 U 10000 U
DFS-HotTaq 5 U/μl	• Standard • Real-Time • Multiplex • Pathogen diagnostics	Yes (antibody)	101004 101024	500 U 2500 U
HighTaq 5 U/μl	• Standard • Real-Time • Pathogen diagnostics • High robustness against inhibitors	No	111105 111125	500 U 2500 U
HighTaq HC 75 U/μl	• Standard • Real-Time • Pathogen diagnostics • Lyophilisation • High robustness against inhibitors	No	111106	1000 U
SuperHotTaq 5 U/μl	• Standard • Multiplex • Real-Time • Complex genomic or cDNA templates	Yes (antibody)	119002 119010	200 U 1000 U
SuperHotTaq HC 30 U/μl	• Standard • Real-Time • Multiplex • Lyophilisation • Complex genomic or cDNA templates	Yes (antibody)	119030HC	2000 U
SuperHotTaq HC GF 25 U/μl			119025HC-GF	2000 U
AptaHotTaq 5 U/μl	• Standard • Real-Time • Multiplex	Yes (aptamer)	119602 119610	200 U 1000 U
AptaHot Taq HC 30 U/μl			119630	2000 U
Tth Polymerase 5 U/μl	• Reverse Transcription • Multiplex • DNA labelling with modified dNTPs	No	104005 104025	500 U 2500 U
Sequencing Taq 5 U/μl	• (Cycle) Sequencing • dUTP/bio-dUTP incorporation reactions	No	117005 117025	500 U 2500 U
DF-Pfu 5 U/μl	• High fidelity-proof reading • Amplification of bacterial sequences	No	108105 108125	500 U 2500 U



DNA Polymerases	PCR-Application & Features	HotStart	Ref No	Pack Size
Klen SNPase 25 U/μl	• SNP analysis • Mini & DNA sequencing • Real-Time PCR with intercalating dyes	No	108205 108225	500 U 2500 U
SNPase HotStart 20 U/μl	• SNP analysis • Mini & DNA sequencing • High fidelity • Real-Time PCR with intercalating dyes	Yes (antibody)	108210 108250	500 U 2500 U
SD Polymerase 10 U/μl	• Isothermal Amplifikation • Strand displacement (LAMP¹, WGA², RCA³, MDA⁴) • PCDR⁵ • Standard • Multiplex • Long Range	No	108702	200 U
SD Polymerase HC 50 U/μl			108710	1000 U
SD Polymerase HotStart 10 U/μl			108800 108850	1000 U 5000 U
		Yes (antibody)	108902 108910	200 U 1000 U

¹ Loop Mediated Amplifikation

²Whole Genome Amplifikation

³Rolling Circle Amplifikation

⁴ Multiple Displacement Amplifikation

⁵Polymerase Chain Displacement Reaction

HC: high concentrated

GF: glycerol free

Customized Service

At BIORON we also offer customized services to a variety of PCR applications like high concentrated Taq polymerases for lyophilization and kit production. Please ask us for more information - your problem is our challenge to find the optimal solution!



BIORON's DNA Polymerases: detailed overview

Characteristics	DFS-Taq	DFS-HotTaq	High-Taq	SuperHotTaq	Apta-HotTaq
5 – 3' Exonuclease	Yes	Yes	Yes	Yes	Yes
3' – 5'- Exonuclease (proof reading)	No	No	No	No	No
Elongation rate [bases/sec]	70-100	70-100	70-100	70-100	70-100
Processivity [bases/min]	1000	1000	1000	1000	1000
Error rate	2.4×10^{-5}	2.4×10^{-5}	2.4×10^{-5}	2.4×10^{-5}	2.4×10^{-5}
Half-life at 95°C*	40 min	120 min	40 min	120 min	100 min
Longest amplicon	5 kb	5 kb	5 kb	5 kb	5 kb
Addition of poly A	Yes	Yes	Yes	Yes	Yes
Sensitivity	+	++	+	++	++
Specificity	–	–	–	–	–
Reverse Transcriptase activity	No	No	No	No	No

Characteristics	Tth	DF-Pfu	SNPase HotStart	SD Polymerase	SD HotStart
5 – 3' Exonuclease	Yes	Yes	No	No	No
3' – 5'- Exonuclease (proof reading)	No	Yes	No	No	No
Elongation rate [bases/sec]	N/A	20	N/A	70-100	70-100
Processivity [bases/min]	N/A	500	N/A	N/A	N/A
Error rate	N/A	0.4×10^{-5}	10^{-5}	8×10^{-6}	8×10^{-6}
Half-life at 95°C*	120 min	180 min	120 min	40 min (92°C)	40 min (92°C)
Longest amplicon	4 kb	500 bp	500 bp	30 kb	30 kb
Addition of poly A	Yes	No	Yes	Yes	Yes
Sensitivity	–	–	++	+	++
Specificity	+	–	+++	+	+
Reverse Transcriptase activity	Yes	No	No	No	No

* thermostability & remaining activity



HotStart DNA Polymerases

HotStart polymerases provide improved sensitivity and specificity by inhibition of Taq Polymerase at room temperature. The inactivation prevents formation of unwanted by-products. BIORON offers different kinds of blocked HotStart polymerases (see pages 4 to 6). Polymerases blocked by DNA-aptamers are inactive until aptamers dissociate at temperatures above 50 °C. This reaction is reversible if the temperature decreases. The most common method for blocking polymerases is by antibodies, where the polymerase is inactive until higher temperature. Antibodies also stabilize the polymerase during the PCR.

AntiTaq antibodies

As one of the largest manufacturer BIORON is offering AntiTaq antibodies derived from a hybridoma cell line. The highly purified antibodies are mouse IgG type. AntiTaq is available in storage buffer with and without glycerol.

Product	Application	Ref No	Pack Size
AntiTaq 2 mg/ml	• Blocking of polymerase activity at ambient temperature	121005	500 µg
AntiTaq, glycerol free 5 mg/ml		151005	500 µg

Carry-over protection

During a PCR, a million copies of a specific DNA sequence are produced. DNA fragments in the lab environment, like from a previous PCR, can cause contaminations if amplified during the reaction. For preventing this carry-over contamination we recommend the use of Uracil-DNA Glycosylase (UDG). UDG efficiently hydrolyzes uracil from single-stranded or double-stranded DNA, but not from oligomers.

Enzyme	Features and Application	Ref No	Pack Size
Uracil-DNA Glycosylase (UDG)	• Recombinant • Hydrolysis of uracil from DNA • PCR carry-over protection	111005	200 U
		111025	1000 U



SD Polymerase – setting the standard

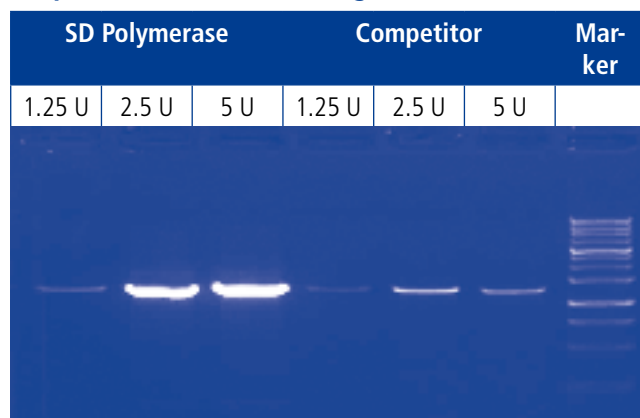
BIORON's novel patented SD Polymerase is a universal thermostable Strand Displacement DNA polymerase lacking the 5'-3' exonuclease activity. This enzyme can combine the possibilities of Isothermal Amplification and regular PCR. It is efficient for high GC-content and difficult targets.

Initial denaturation steps can increase the accessibility of single strands during Isothermal Amplification and therefore raise the efficiency of the reaction. The optional blocking by antibody inactivates the enzyme until initial heating.

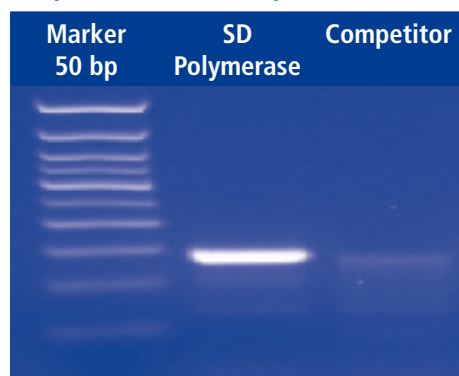
SD Polymerase has been tested for:

- Whole Genome Amplification (please see pages 10 & 11)
- Rolling Circle Amplification
- T-ARMS
- Strand Displacement Amplification
- Loop Mediated Amplification
- Real-Time PCR
- Multiplex and Long Range PCR
- PCDR
- Library generation

Amplification of GC rich targets (1.3 Kb, GC content 64%)



Amplification of Hairpin structures*



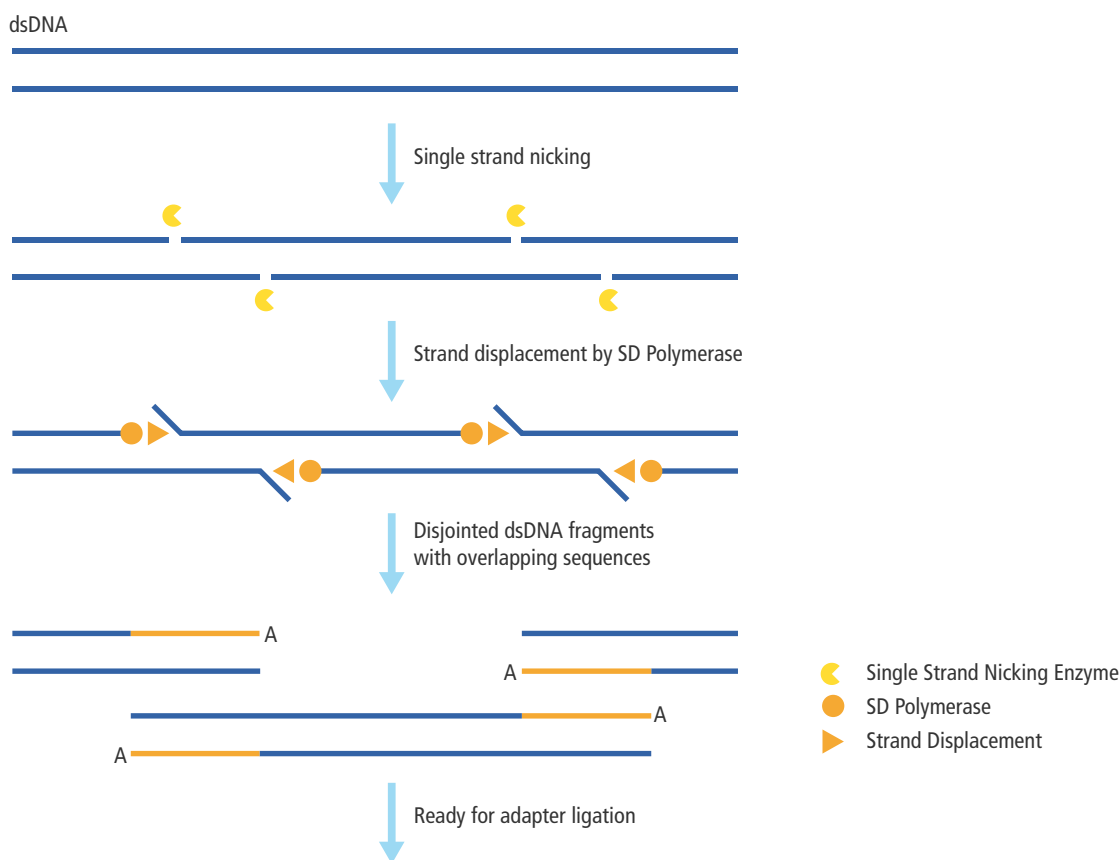
* Amplification of 135 bp artificial hairpin structure



Library Generation with SD Polymerase

The SD Polymerase is the perfect enzyme for generating DNA libraries since it lacks any exonuclease activity but has a strong strand displacement activity. By introducing single strand nicks that can be filled by the SD Polymerase, the generated fragments are overlapping. The generation of libraries with the SD Polymerase is superior compared to regular techniques where nucleotides are lost during preparation. The integration of the dA-tailing in the strand displacement procedure makes it easy and there are no additional handling steps. So the fragments can be used directly for adapter ligation and following NGS.

Principle:



DNA Polymerases	PCR-Application & Features	HotStart	Ref No	Pack Size
SD Polymerase 10 U/μl	- Isothermal Amplifikation - Strand displacement (LAMP¹, WGA², RCA³, MDA⁴) - PCDR⁵ - Standard - Multiplex - Long Range	No	108702	200 U
SD Polymerase HC 50 U/μl			108710	1000 U
SD Polymerase HotStart 10 U/μl		Yes (antibody)	108800 108850	1000 U 5000 U
			108902 108910	200 U 1000 U

¹ Loop Mediated Amplifikation

²Whole Genome Amplifikation

³Rolling Circle Amplifikation

⁴ Multiple Displacement Amplifikation

⁵Polymerase Chain Displacement Reaction



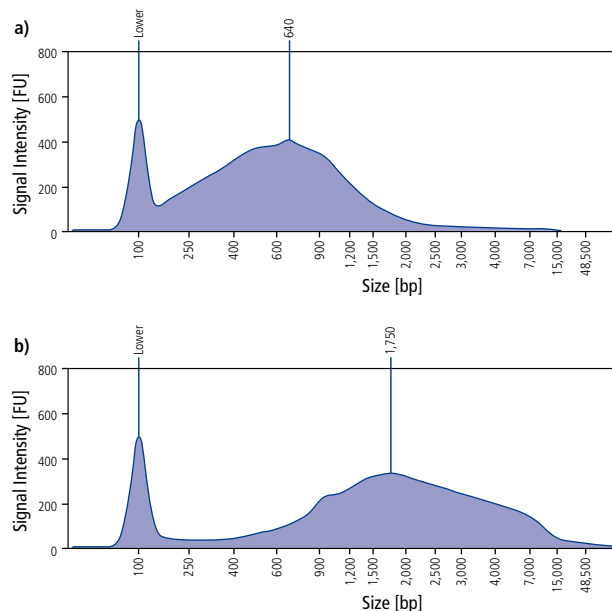
One Step WGA Kit

BIORON offers a new type of Whole Genome Amplification Kit containing the unique SD Polymerase and using a Multiple Displacement Amplification (MDA). Less hands-on time due to the use of a single step protocol and ready-to-use buffers.

Coverage of the Kit is around 60% of the genome but differs to the coverage of other available Kits. In combination 80% coverage can be reached. Especially GC-rich regions and difficult targets can be amplified. Up to 9000 bp of fragment length are achieved within less than 2 hours.

Applications

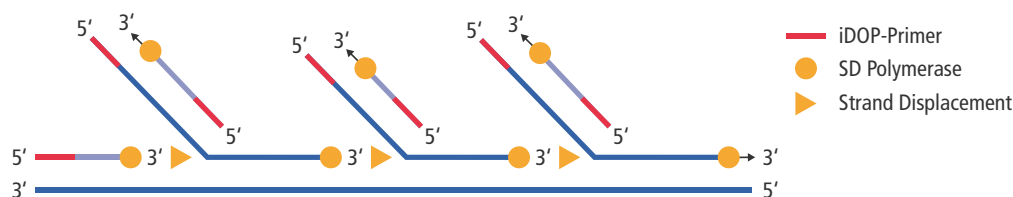
- Suitable for Single Cell DNA Analysis
- NGS ready
- SNP genotyping
- qPCR- and PCR-based mutation detection
- STR and RFLP analysis
- Array technologies (comparative genomic hybridization)



other WGA Kit (a) and BIORON One Step WGA Kit (b)

One Tube genome amplification

- Take genomic DNA, transfer into cup with WGA-Kit components and amplify. Ready!



Product	Content	Ref No	Pack Size
One Step WGA Kit	SD Polymerase, 2.5x Ready Master Mix, control DNA, water	108725	25 rcs
		108750	50 rcs

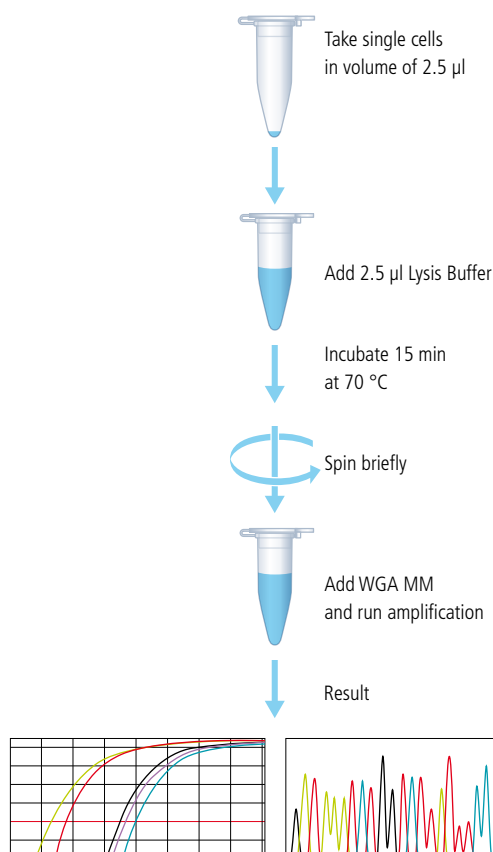


Single Cell WGA Kit

This is a new developed and improved version of the One Step WGA Kit. It is capable of efficiently analysing single cells with one lysis step and one amplification step within less than 3 hours. Products can be used for further PCR analyses or directly for library generation.

The Kit contains all necessary components for cell lysis and Whole Genome Amplification. It can be used with most common cell types like single blastomere, single cells from culture lines, single sperm cells or polar bodies with high amplification efficiency especially in difficult and GC-rich regions.

The Kit generates reproducible long fragments that can be amplified or analysed by various techniques like qPCR, Sanger sequencing or Next Generation Sequencing. Applications are preimplantation genetic screening and diagnosis (PGS/PGD), cancer research and CTC (circulating tumor cells), forensic analysis or SNP genotyping.



Product	Content	Ref No	Pack Size
Single Cell WGA Kit	SD Polymerase, 2.5x Ready Master Mix, water, Lysis Buffer	118710	25 rcs
		118750	50 rcs



Master Mixes

PCR Master Mixes from BIORON contain all necessary components for PCR: DNA polymerase, magnesium salts, dNTPs, water and optimized reaction buffer. Only primers and template have to be added by the user. Working with Master Mixes saves time, reduces the risk of contaminations and simplifies the entire workflow.

Liquid Master Mixes from BIORON are 2x concentrated and suitable for all regular PCR applications. Storage at -20°C.

- Taq Master Mix is suitable for Standard or Real-Time PCR and also pathogen detection up to 5 kb
- SuperHot Master Mix contains SuperHot Taq from BIORON and is suitable for different PCR applications with limited amount of template
- HotRox Master Mixes with ROX reference dye are used to normalize the fluorescent signal on instruments compatible with this option, ROX concentration is depending on used instrument
- TaqMan MasterMix is optimized on assays using TaqMan probes or similar 5'-exonuclease reactions and provides strong signals in Multiplex-PCR with 6 or more parallel amplified targets; is free of background noise and prevents false positive results due to antibody blocked Taq Polymerase

Master Mix	Standard PCR	Multiplex PCR	Real-Time PCR	Hot Start	Dye	Ref No	Pack Size
Taq Master Mix	Yes	No	Yes	No	No	101605 101625	200 rcs 5x 200 rcs
SuperHot Master Mix	Yes	Yes	Yes	Yes	No	119102 119110	200 rcs 5x 200 rcs
HotRox Master Mix, low Rox	No	Yes	Yes	Yes	Rox	119505	200 rcs
HotRox Master Mix, high Rox	No	Yes	Yes	Yes	Rox	119550	200 rcs
TaqMan Master Mix	Yes	Yes	Yes	Yes	No	119104-BI	200 rcs





Standard dNTPs

Each particular dNTP is tested for purity by HPLC (>98%), UV and NMR spectroscopy and for absence of nucleases including RNAses.

PCR performance of deoxynucleotides are tested with Taq DNA Polymerase.

Standard dNTPS	Ref No	Pack Size
4you4 dNTP Mix, 10 mM each	110001	200 µl
	110002	1 ml
Set of 4 dNTPs, 4 x 10 mM each	110031	4x 200 µl
	110032	4x 1 ml
Set of 4 dNTPs, 4 x 100 mM each	110011	4x 200 µl
	110012	4 x 1 ml
Set of 3 + 1 dNTPs, with dUTP, 4 x 100 mM (dATP, dCTP, dGTP, dUTP)	110014	4x 200 µl
	110015	4x 1 ml
dATP, 100 mM	110003	200 µl
	110004	1 ml
dCTP, 100 mM	110005	200 µl
	110006	1 ml
dGTP, 100 mM	110007	200 µl
	110008	1 ml
dTTP, 100 mM	110009	200 µl
	110010	1 ml
dUTP, 100 mM	109001	200 µl
	109004	1 ml

Modified dNTPs

BIORON offers modified dNTPs for DNA labelling in high quality and highest purity.

Modified dNTPS	Ref No	Pack Size
Bio-11-dUTP, 1mM	509005	100 µl
Flu-12-dUTP, water solution, 1 mM	507004	40 µl
Aminoallyl-dUTP, 10 mM	513001	100 µl
AZT triphosphate, 100 mM	503010	100 µl
7-deaza-dGTP, 50 mM	508105	40 µl



Reverse Transcription

Products for RNA, cDNA and Kits for RT qPCR

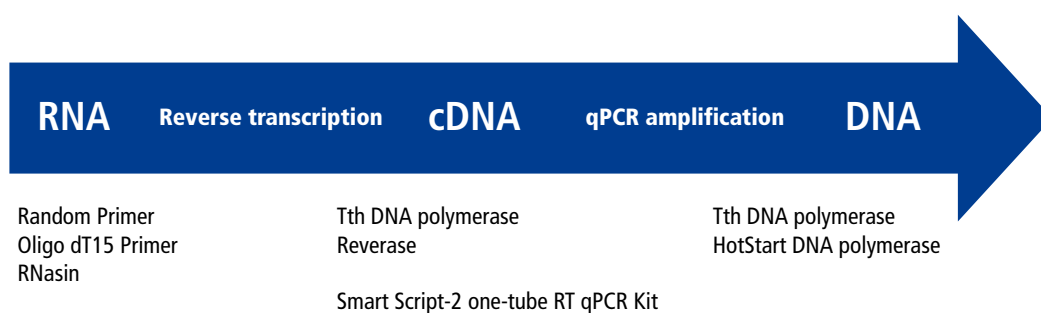
BIORON offers enzymes and kits for reverse transcription (RT) into cDNA and PCR amplification and also protection against RNA degradation with highest activity. The enzymes are provided with optimised buffers.

Reverase, based on Moloney murine leukemia virus reverse transcriptase, is the flagship for efficient and complete synthesis of RNA into cDNA.

Tth DNA Polymerase is an enzyme with dual function: reverse transcription of RNA to cDNA and PCR amplification

Enzymes	Features	Application	Ref No	Pack Size
Reverase (M-MuLV, RNase H minus)	- Reverse transcriptase - Recombinant - RNase H minus	- cDNA synthesis - cDNA libraries - Reverse transcription	105100	10000 U
			105250	50000 U
Tth Polymerase	- higher specificity - higher yield	- Reverse Transcription - cDNA synthesis - labeling with modified dNTPs	104005	500 U
			104025	2500 U
RNase Inhibitor	Inhibits RNase activity	RNA protection	105302	2000 U
			105320	10000 U

Primer	Features	Application	Ref No	Pack Size
Random Primer	Mixture of single-stranded random hexanucleotides	For cDNA synthesis	402001	30 µg
Oligo (dT) 15 Primer	- Synthetic single stranded 15-mer primer - Oligo (dT)15 hybridize to Poly(A)-tail of mRNA	Primer for reverse transcription of mRNA: first strand cDNA	509001	30 µg





Kits for reverse transcription and PCR amplification

BIORON offers a one-step and one-tube reverse transcriptase qPCR kit for faster reaction, reduced risk for contamination and improved sensitivity.

Smart Script-2 one-tube RT qPCR Kit

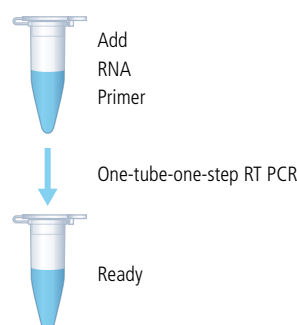
One-tube one-step reverse transcriptase Real-Time PCR amplification Kit with special M-MuLV reverse transcriptase (Reverse) for effective cDNA synthesis of RNA and DFS HotTaq DNA polymerase for Real-Time PCR amplification in only one tube without further pipetting steps.

Kit content: Enzyme mix, 2x Buffer with dNTPs, PCR-grade water

Product	Features	Application	Ref No	Pack Size
Smart Script-2 one-tube RT qPCR Kit	• One-tube reaction • Minimal pipetting steps • Two enzymes: one for RT and one for PCR • For RT: 50 °C • Enzyme mix M-MuLV (RNase H-) HotStart DNA polymerase • Optimised buffer system	• cDNA synthesis • Real-Time PCR amplification • Diagnostic • Multiplex PCR	105600	50 rcs

RT and qPCR in one-tube

- Take purified RNA (viral, mRNA, total), add primer / probe
- + Smart Script-2 one-tube RT qPCR Kit
- Run reverse transcription (20 minutes, 50 °C) followed by PCR (classical or qPCR) in one tube
- Analyse by Real-Time PCR or agarose gel electrophoresis
- Ready





Marker and DNA Ladders

BIORON offers different Marker and DNA Ladders for sizing of DNA fragments in agarose gel electrophoresis:

DNA Size	Product	With stain	Ref No	Pack Size
50 bp	50 bp plus DNA Ladder 9 fragments (50-500 bp)	No	304008	50 µg
			304016	250 µg
	50 bp plus DNA Ladder ready to use 9 fragments (50-500 bp)	Yes	304007	50 µg
			304017	250 µg
100 bp	100 bp DNA Ladder 10 fragments (100-1000 bp)	No	304005	50 µg
			304025	250 µg
	100 bp DNA Ladder ready to use 10 fragments (100-1000 bp)	Yes	306009	50 µg
			306017	250 µg
	100 bp plus DNA Ladder 11 fragments (100-1500 bp)	No	306005	50 µg
			306025	250 µg
	100 bp plus DNA Ladder ready to use 11 fragments (100-1500 bp)	Yes	304105	50 µg
			304125	250 µg
1 kb	1 kb DNA Ladder 13 fragments (250-10.000 bp)	No	305005	50 µg
			305025	250 µg
	1 kb DNA Ladder ready to use 13 fragments (250-10.000 bp)	Yes	305105	50 µg
			305125	250 µg

DNA	Product	Ref No	Pack Size
Phage Lambda	Phage Lambda DNA/Hind III Marker 9 fragments (50-500 bp)	302005	50 µg
		302025	250 µg
	Phage Lambda DNA/Bst E II Marker 10 fragments (100-1000 bp)	303005	50 µg
		303025	250 µg
	Phage Lambda DNA/Sty I Marker 11 fragments (100-1500 bp)	307005	50 µg
		307025	250 µg
Plasmid pBR322	pBR322/Hae III Marker 13 fragments (250-10.000 bp)	312005	50 µg
		312025	250 µg

Loading Buffer adds density and color to the DNA sample being loaded on the gel.

Product	Ref No	Pack Size
Loading Buffer IV (10x)	306105	0.5 ml
Loading Buffer II (6x)	306205	0.5 ml



BIORON's DNA Extraction Kits



BIORON offers different silica spin column based kits for extraction of genomic DNA from different matrices (i.e. blood, cells, food, bacteria) and purification kits for plasmids, gel extraction and PCR preps.

A magnetic beads based kit for extraction of cell-free DNA from plasma and serum expands and completes the product range.

Extraction and separation technology

BIORON's extraction kits use the reversible binding properties of silica-based membranes, combined with the speed of mini-column spin technology. The other separation technology uses special coated iron beads with DNA binding characteristics. In both technologies cellular debris, proteins and other potential inhibitors are washed away by specific buffers. The high quality DNA can be used for PCR or sequencing.

Product	Sample	Separation technology	Application
PureColumn DNA Extraction Kit	• Food • Bacteria • Blood • Cells	Silica Spin Column	• Forensic use • Genotyping • Blotting • Sequencing • qPCR
Ron's Line	• Tissue • Plasmid • Gels from electrophoresis • PCR preps		• PCR • Sequencing • Cloning
Ron's Cell-free DNA Extraction Kit	• Plasma • Serum	Magnetic beads	• qPCR • ddPCR



Ron's Cell-Free DNA Extraction Kit from Serum and Plasma

Ron's Cell-Free DNA Extraction Kit is a magnetic bead based kit for extraction of nucleic acids from plasma and serum.

For DNA Extraction

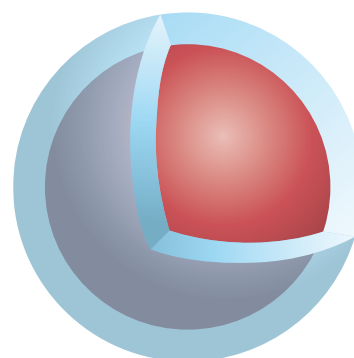
- Modular buffer system with magnetic beads

For DNA separation

- Magnetic racks with foldable magnet bar

Features

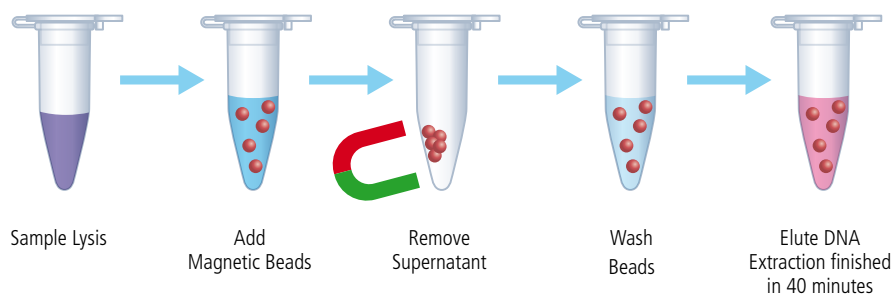
- Fast and easy protocol
- For isolation of circulating tumor DNA
- Scalability from plasma volume from 500 μ L – 5 ml
- For Real-Time and digital PCR application
- Novel class of magnetic beads
- Highest recovery for small and larger DNA fragments
- For extraction automats



New generation of magnetic beads with novel silica surface

Kit content

The kit contains buffer for lysis and binding, washing, elution, magnetic beads and collection tubes



Ron's Extraction Kits

Product	Volume	Ref .No	Pack Size
Ron's Cell-free DNA Extraktion Kit I	500 μ l – 1 ml	804050	50 preps
Ron's Cell-free DNA Extraktion Kit II	1 ml – 5 ml	804060	50 preps

Magnetic racks for separation

Product	For number of tubes	Ref .No	Pack Size
MagicMag Rack	12x 2 ml	BI87000	1 piece
MagicMag Stand	2x 50 ml	BI87050	1 piece



PureColumn DNA Extraction Kit

- Excellent yields
- Pure DNA
- Effective removal of inhibitors
- Fast and easy
- Highly processed food

Kit content

The kit contains buffer for lysis, binding, washing, elution, Proteinase K and spin columns with collection tubes.

Product	Purification	Ref .No	Pack Size
PureColumn DNA Extraction Kit	• Food	BI88050	50 preps
	• Blood	BI88100	5x 50 preps
	• Bacteria		
	• Cells		

Ron's column based purification system

- For numerous applications
- No need of organic compounds
- Yield up to 25 µg DNA
- Fast and easy protocol
- Effective removal of inhibitors

Kit content

The kit contains buffer for lysis, DNA binding, washing, elution, spin columns, collection tubes and appropriate enzymes like proteinase K or RNases.

Product	Purification	Ref .No	Pack Size
Ron's Plasmid Mini Kit	Plasmids	806942	50 preps
		806942L	5x 50 preps
Ron's PCR Pure Mini Kit	PCR samples	806493	50 preps
		806493L	5x 50 preps
Ron's Gel Extraction Mini Kit	Agarose gels	802501	50 preps
		802501L	5x 50 preps
Ron's Blood /Cell DNA Mini Kit	Eucaryotic cells	803482	50 preps
		803482L	5x 50 preps
Ron's Tissue DNA Mini Kit	Tissue	803496	50 preps
		803496L	5x 50 preps



Enzymes, DNA and Fine Chemicals

BIORON offers a set of various enzymes and other products for molecular biological applications such as cloning and DNA sequencing, PCR carry-over protection. Proteinase K for purification and isolation of nucleic acids is available as solution or lyophilized powder. The enzymes are purified, available in highest activity and provided with optimised buffers.

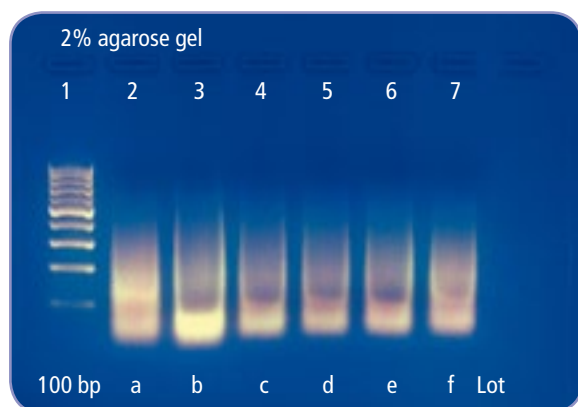


Enzyme	Features and Application	Ref No	Pack Size
Proteinase K	• Broad-spectrum protease • Highest stability against urea, SDS • For nucleic acid purification • Free of RNase/DNase	405002	200 mg
		405010	1 g
Proteinase K Solution		405102	1 ml
		405152	5 x 1 ml
T4 DNA Ligase	• Recombinant enzyme • For cloning of restriction fragments (sticky- and blunt ends) • Free of endo-/ exonuclease	402002	2000 U
		402010	10000 U
T4 Polynucleotide Kinase	• Phosphorylation of DNA/RNA • Free of endo-/exonuclease	403005	500 U
		403025	2500 U
DNA Polymerase I, large Fragment (Klenow)	• DNA sequencing • Fill-in/ removal reaction for blunt ends • 2nd strand cDNA synthesis	401002	200 U
		401010	1000 U
Uracil-DNA Glycosylase (UDG)	• Recombinant • Hydrolysis of uracil from DNA • PCR carry-over protection	111005	200 U
		111025	1000 U

Product	Features and Application	Ref No	Pack Size
Agarose, Molecular Biology Grade	• Electrophoretic separation of nucleic acids • Free of DNase/RNase • Resolution: 50 bp – 50 kb	604001	100 g
		604005	500 g
Linear Polyacrylamide Solution 5 mg/ml	• Enhancing small amounts of DNA and RNA for PCR applications	130101	1ml
		130105	5x 1ml



DNA for special application



COT I human DNA: size distribution of lots a – f

BIORON also offers different kinds of DNA for several applications.

Human DNA

BIORON is one of the largest manufacturers of COT I Human DNA. It is prepared from human male placenta DNA and consists mainly of rapidly annealing repetitive elements. The manufacturing process of COT I Human DNA is improved to guarantee a constant size distribution of 50 to 300 base pairs.

COT I Human DNA suppresses a non-specific hybridisation of probes while detecting human DNA. This improves the signal to noise ratio and decreases false positive signals for applications like Microarrays, In Situ Hybridisations and Southern Blots.

Product	Features and Application	Ref No	Pack Size
Human DNA	- Human placental chromosomal DNA - Southern blot hybridisation - Genomic analysis - Construction genomic library	401005	2 g bulk on request
COT I Human DNA	- DNA from Human Placenta enriched by highly repetitive sequences - Background reduction	401001	500 µg
COT I Human DNA High Concentrated	- Saturation of unspecific sequences in filter and microarray hybridisation experiments 98% repetitive sequences	customized production on request	

Plasmid and Phage DNA

Product	Features and Application	Ref No	Pack Size
Phage T7 DNA	- Bacteriophage T7 DNA - Linear DNA, 39937 bp	310005	50 µg
		310025	250 µg
pUC 19 plasmid DNA	Cloning	309005	50 µg
		309025	250 µg
Phage Lambda DNA	Phage Lambda cl857 Sam7 DNA isolated from E. coli	301005	50 µg
		301025	250 µg
		301100	1 mg



Restriction Enzymes

Restriction endonucleases provide the right sticky end for gene cloning. BIORON offers a set of Restriction Endonucleases in best purity and highest activity.

Enzyme	Ref No	Pack Size	Enzyme	Ref No	Pack Size	Enzyme	Ref No	Pack Size
Alu I	250101S	600 U	Hinf I	250117S	2500 U	Sal I	250130S	2000 U
ApaI I	250148S	2000 U	Hpa I	250118S	750 U	Sca I	250131S	1200 U
Asu II	250102S	3500 U	Kpn I	250119S	3500 U	Sfi I	250132S	400 U
BamH I	250103S	7500 U	Mbo I	250120S	300 U	SgrB I (Sac II)	250133S	1600 U
Bcl I	250104S	2500 U	MspC I (Afl II)	250121S	1300 U	Sla I (Xho I)	250134S	5000 U
Bgl I	250105S	2000 U	Nco I	250123S	600 U	Sma I	250135S	1100 U
Bgl II	250106S	1300 U	Nhe	250146S	550 U	SseB I (Stu I)	250138S	1500 U
BseA I (BspM II)	250107S	650 U	Not I	250124S	300 U	Ssp I	250139S	600 U
BshF I (Hae III)	250110S	7000 U	Nru I	250125S	700 U	Sty I	250141S	6000 U
BstE II	250144S	1750 U	PspPI (Sau96I)	250126S	500 U	Taq I	250142S	3500 U
EcoR I	250114S	5000 U	Pst I	250127S	8000 U	Xba I	250143S	3500 U
EcoR V	250115S	3000 U	Pvu II	250128S	4500 U			
Hind III	250116S	2000 U	Rsa I	250129S	1000 U			



Real-Time Cyclers

RealLine Cyclers for Real-Time-PCR Assays are available in 48 well and 96 well format for research or high sample throughput lab applications. Both types of devices can be provided with four or five channels (FAM, HEX, ROX, Cy5, Cy5.5). RealLine Cyclers are compatible to commercially available plates and tubes.

Product	Block Size	REF
RealLine Cycler 48-4	48 wells	910484
RealLine Cycler 48-5	48 wells	910485
RealLine Cycler 96-4	96 wells	910964
RealLine Cycler 96-5	96 wells	910965



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Unless agreed otherwise the single transactions between client and BIORON are to be carried out according to

- International: The General Conditions of Export, www.bioron.net/en/terms/
- Germany: Allgemeine Geschäfts- und Lieferbedingungen, www.bioron.net/de/agb/

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Imprint

BIORON GmbH

In den Rauhweiden 20

67354 Römerberg, Germany

Phone +49 623 2298 450

Fax +49 623 2298 4529

info@bioron.net

www.bioron.net

Legal form:

Managing Director:

Commercial Register:

VAT ID

Limited Liability Company

Dr. Sergey Kovalenko

AG Ludwigshafen, HRB 4965

DE 813 346 946

BIORON GmbH

In den Rauhweiden 20
67354 Römerberg
Germany

Phone +49 623 2298 45 0
Fax +49 623 2298 45 29

info@bioron.net
www.bioron.net