

III. DNA/RNA Purification

Product Overview

DNA Purification

- DNA Extraction from Gel
- Purification of PCR Products
- Dye Terminator Removal
- Purification of BAC DNA

DNA/Protein Purification Kits

RNA/ DNA Isolation

Product Overview

DNA Purification Kits

JustSpin Gel Extraction columns (Kit for isolation of DNA from gels)

Prod.No.	Product	Pack-size	Price in €
S5337.0004	JustSpin Gel Extraction columns	4 columns	on request
S5337.0050	JustSpin Gel Extraction columns	50 columns	58.52
S5337.0250	JustSpin Gel Extraction columns	250 columns	211.35

The Just-Spin Gel Extraction Kit is a very convenient kit for fast and reliable isolation and purification of DNA from gels. In 5 minutes you get your DNA from each agarose gel. No low melting agarose needed. Stable at RT for long time.

Protocol and further details can be found on the Genaxxon bioscience webpage: www.genaxxon.com

Purification of PCR Products

Prod.No.	Product	Pack-size	Price in €
S5303.2196	PSI Clone 96 high throughput PCR purification kit	1 x 96 plate	162.57
S5303.2496	PSI Clone 96 high throughput PCR purification kit	4 x 96 plates	487.72

Dye Terminator Removal (Fast and reliable purification of DNA from Dye Terminator impurities for sequencing)

Prod.No.	Product	Pack-size	Price in €
S5303.0296	CentriSep 96 High Throughput dye terminator purification kit	2 x 96 plates	214.29
S5303.5096	CentriSep 96 High Throughput dye terminator purification kit	50 x 96 plates	4024.40
S5300.0020	CentriSep Accessory Kit	20 columns	61.93
S5300.0128	CentriSep Dye Terminator Removal	12 x 8 strips	279.94
S5300.0032	CentriSep Dye Terminator Removal	32 columns	99.09
S5300.0100	CentriSep Dye Terminator Removal	100 columns	266.31
S5300.0050	ProSpin Columns	50 columns	117.60

CentriSep is intended to be used in conjunction with the Taq DyeDeoxy™, BigDye™ and ABI Prism™ terminator cycle sequencing kits, including those with AmpliTaq® FS, used on the ABI 310, 373A, 377A and 7700 sequencers.

CentriSep has been optimised for the rapid and reliable removal of excess dye terminators and small molecules from completed DNA sequencing reactions. Samples from 20µl up to 100µL can be processed reliably and consistently in under 10 minutes. The dry matrix of the CentriSep columns can be stored indefinitely at RT. Greater than 98% removal of salts, dNTPs and other unwanted low molecular weight impurities. High, uniform signal intensity for base calls from base 1 to over 700.

Storage and shipping

Stable at RT for long time.

Protocol and further details can be found on the Genaxxon bioscience webpage: www.genaxxon.com

DNA/Protein Purification Kits

Prod.No.	Product	Pack-size	Price in €
S5301.1020	CentriSpin 10 Columns for DNA, RNA and protein purification; for DNA >10 bp and proteins >5.0 kDa	20 columns	77.42
S5301.1050	CentriSpin 10 Columns for DNA, RNA and protein purification; for DNA >10 bp and proteins >5.0 kDa	50 columns	139.36
S5301.2020	CentriSpin 20 Columns for DNA, RNA and protein purification; for DNA >20 bp and proteins >25 kDa	20 columns	77.42
S5301.2050	CentriSpin 20 Columns for DNA, RNA and protein purification; for DNA >20 bp and proteins >25 kDa	50 columns	139.36
S5301.4020	CentriSpin 40 Columns for DNA, RNA and protein purification; for DNA <135 bp and proteins >100 kDa	20 columns	77.42
S5301.4050	CentriSpin 40 Columns for DNA, RNA and protein purification; for DNA <135 bp and proteins >100 kDa	50 columns	139.36
S5301.0000	CentriSpin Combi Pack for DNA, RNA and protein purification: Contains 10 columns CentriSpin10, CentriSpin20 and CentriSpin40 each	30 columns	92.90
S5302.0550	Big BAC DNA Isolation Kit	5 x 50 mL cult.	97.55
S5350.0005	Immunosorb A	5 mL	236.25

III. DNA/RNA Purification

DNA/Protein Purification Kits

Prod.No.	Product	Pack-size	Price in €
S5350.0050	Immunosorb A	50 mL	404.25
S5350.0100	Immunosorb A	100 mL	1925.70
S5350.0200	Immunosorb A	200 mL	3209.85

CentriSpin Columns: Fast isolation of DNA or protein by spin column application

Isolation and purification of DNA according a spin column protocol, that enables isolation of pure DNA. Procedure for RNA and DNA purification are the same, but special precautions have to be taken for the RNA isolation. Details can be found in the protocol (attachement on our webpage: www.genaxxon.com).

CentriSpin 10: CentriSpin 10 columns are used for the fast and efficient purification of larger molecules (proteins, nucleic acids, complex carbohydrates, etc.), from small molecules (nucleotides, buffer salts, etc.). The CentriSpin 10 gel will provide excellent recovery of DNA fragments with sizes greater than 10 base pairs or 10-mer, while removing > 98 % of salts, dNTP's and other unwanted low-molecular-weight impurities. Proteins, peptides, and protein conjugates \geq 5 kDa can also be efficiently separated/desalted from unwanted low-molecular-weight impurities.

CentriSpin 20:

CentriSpin 20 columns provide excellent recovery of oligonucleotide fragments with sizes greater than 20 base pairs while removing > 98% of salts, dNTPs, and other unwanted low-molecular weight impurities. Proteins, peptides and their conjugates > 25 kDa can also be efficiently desalted or separated from unwanted low molecular weight impurities. CentriSpin 20 are optimal suited for: 1. removal of free and labelled dNTPs form DNA/RNA, as in nick translation, end-labelling and PCR reactions. 2. Primer removal. 3. Removal of hexamers and octamers from primer-walking and random primer labelling. 4. Desalting, buffer exchange, and removal of trace amounts of phenol, as in multiple restriction digests. 5. Desalting / purification / buffer exchange of peptides or proteins > 25 kDa.

CentriSpin 40:

CentriSpin 40 columns will retain up to 80% of short oligonucleotides (< 25 mer) while providing excellent recovery of up to 70% of large DNA/RNA fragments with size greater than 135 base pairs. Proteins, peptides and their conjugates > 100 kDa can also be efficiently desalted or separated from unwanted low-molecular-weight impurities. CentriSpin 40 columns are optimal suited for: 1. Removal of primers or primer dimers from PCR extension products (> 150 kDa). 2. Desalting and purification of proteins > 100 kDa. 3. Removal of the following impurities from solution: a) transferrin, b) BSA, c) hemoglobin, d) albumin.

Storage and shipping

Stable at RT for long time.

Protocol and further details can be found on the Genaxxon bioscience webpage: www.genaxxon.com

Flow Diagram CentriSpin columns:

Column hydration

- a: add 0.65mL water of buffer
- b: vortex
- c: remove air bubbles

Removal of interstitial liquid

- a: spin both column and wash tube
- b: discard tube and interstitial fluid

Sample processing

- a: load sample onto gel bed
- b: place column into collection tube
- c: spin and collect purified sample

RNA/DNA Isolation Reagents

β -Agarase (from *Pseudomonas atlantica*)

Prod.No.	Product	Pack-size	Price in €
S5223.0050	β -Agarase (EC 3.2.1.81)	50 units	145.71
S5223.0100	β -Agarase (EC 3.2.1.81)	100 units	214.44

β -Agarase is used for the recovery of pure DNA and RNA from low melting agarose gels (Ishumatsu K. et al. (1956) Sci. and Ind. (Japan), 30, 137). One β -Agarase unit will solubilise 500 mg of low melting agarose gel at 40-42 °C within one hour.

Specification

Concentration: 100 units/ μ L; solubilised in 10 mM PBS (pH 6.1); stabilised with 0.01% BSA, 50% glycerol; 10X reaction buffer is supplied with the enzyme.

Storage and shipping

β -Agarase should be stored at -20 °C; shipped: refrigerated.

Cesium Chloride (Molecular biology grade, CsCl, MW = 168.36 g/mol)

Prod.No.	Product	Pack-size	Price in €
M3207.0100	Cesium chloride (99.9 %), Molecular biology grade	100 g	67.60
M3207.0250	Cesium chloride (99.9 %), Molecular biology grade	250 g	112.66
M3207.0500	Cesium chloride (99.9 %), Molecular biology grade	500 g	202.80
M3207.1000	Cesium chloride (99.9 %), Molecular biology grade	1 kg	345.50

Cesium Chloride ultra pure

Prod.No.	Product	Pack-size	Price in €
M3208.0050	Cesium chloride (99.999 %), ultra pure	50 g	52.58
M3208.0100	Cesium chloride (99.999 %), ultra pure	100 g	88.63
M3208.0500	Cesium chloride (99.999 %), ultra pure	500 g	309.45
M3208.1000	Cesium chloride (99.999 %), ultra pure	1 kg	545.29

Specifications

min. 99.999%; density (d_{20/4} °C) 3.983 g/cm³; MP 646 °C; BP: 1300 °C; DNase/RNase: not detectable. A_{260nm}: max. 0.006, A_{280nm}: max. 0.004; Al: max. 0.0001%; Ba: max. 0.0001%; Ca: max. 0.0001%; Cr: max. 0.0001%; Fe: max. 0.0001%; K: max. 0.0001%; Li: max. 0.0001%; Na: max. 0.0001%.

Storage and shipment

Shipped at RT, store at 2-8 °C.

Use

For density gradient centrifugation (Miller H. (1987) *Methods Enzymol.*, 152, 145; Dorin M. and Bornecque C.A (1995) *BioTechniques*, 18, 90)

DEPC (Diethylpyrocarbonate, C₆H₁₀O₅, MW = 162.14 g/mol)

Prod.No.	Product	Pack-size	Price in €
M3189.0010	DEPC	10 mL	38.31
M3189.0025	DEPC	25 mL	82.62
M3189.0050	DEPC	50 mL	148.72
M3189.0100	DEPC	100 mL	240.35
M3189.0250	DEPC	250 mL	516.75

Specification

Assay: min. 97%; refractive index (n_{20°/D}): 1.398; density (d_{20°/4°}): 1.122 g/mL; BP = 160-163 °C.

Safety

R: 26/27/28-32-34; S: 26-36/37/39-45

Storage: Store at 2 °C to +8 °C, shipped at RT

Use

DEPC modifies histidyl groups in proteins and leads to their inactivation. Mainly used as strong inhibitor of RNase activity (Berger S.L. (1975) *Biochim. Biophys. Acta*, 400, 428). In addition DEPC reacts with adenosine of single-stranded nucleic acids (Ehrenberg L. et al. (1976) *Progr. Nucl. Acid Res. Mol. Biol.*, 16, 189).

Guanidine Hydrochloride (Molecular biology grade, CH₅N₃, MW = 95.53 g/mol)

Prod.No.	Product	Pack-size	Price in €
M3281.0100	Guanidine hydrochloride, Molecular biology grade	100 g	56.73
M3281.0250	Guanidine hydrochloride, Molecular biology grade	250 g	114.17
M3281.0500	Guanidine hydrochloride, Molecular biology grade	500 g	195.28
M3281.1000	Guanidine hydrochloride, Molecular biology grade	1 kg	315.46

Specification

Assay: min. 99.5%; MP = 184-186 °C; pH (6M in water): 4.5-6.0 solubility (20 °C): 2000 g/L; A (1cm/50% in water) at 230nm: max. 0.1, at 260nm: max. 0.01; chloride: max. 0.001%; cyanide: max. 0.0005%; nitrate: max. 0.005%; sulphate: max. 0.005%; Pb: max. 0.00005%; Fe: max. 0.0002%; Cu: max. 0.0002%; water: max. 0.5%.

Safety: R: 22-36/38; S: 22

Use

Guanidine hydrochloride initiates a reversible denaturation of proteins and is used in RNA extraction protocols (McDonald R.J. et al.(1987) *Methods Enzymol.*, 152, 219; Cockle S.A. et al. (1978) *J. Biol. Chem.*, 253, 8019).

Storage: Shipped and stored at RT

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Lithium Chloride (Analytical grade, LiCl, MW = 42.39 g/mol)

Prod.No.	Product	Pack-size	Price in €
M3282.0050	Lithium chloride p.A.	50 g	25.54
M3282.0100	Lithium chloride p.A.	100 g	43.56
M3282.0250	Lithium chloride p.A.	250 g	82.62
M3282.0500	Lithium chloride p.A.	500 g	148.72

Specification

Min. 99%; solubility (water, 20): 820 g/L; MP = 614 °C; sulphate:
max. 0.01%, As: max. 0.005%; Ca: max. 0.01%; Fe: max. 0.005%;
Na: max. 0.01%

Safety R: 22-36/38; S: 28

Use

LiCl is commonly used in the precipitation step for RNA extraction procedures (Auffray C. & Rougeon F. (1980) Eur. J. Biochem., 107, 303; Wallace D.M. (1987) Methods Enzymol., 152, 41).

Storage Shipped and stored at RT