

Nucleic Acid Purification Selection Guide

Chemistry and Instrument Capabilities at All Scales



Manual Processing

Small to Medium Scale Automation

High-Throughput Automation

Promega nucleic acid extraction chemistries cover a full range of sample throughput needs – from single-prep manual solutions through benchtop automation to plate-based systems compatible with robotic liquid handlers.

Optimization of extraction methodologies is key for success, especially with challenging sample types and demanding downstream applications. The target nucleic acid should be purified free of contaminants, including proteins, other cellular components, and undesired nucleic acids.

Here, you'll find a range of nucleic acid extraction products that generate high yields of high-quality genomic DNA, plasmid DNA, RNA or total nucleic acid from many sample types. We also provide products for cleanup and concentration of DNA or RNA from dilute solutions, gel slices or PCR.





DNA Purification

Sample Type	Sample Volume (or amount)	Time to Process (minutes) ¹	Format (Manual/ Automated)	Product	Cat.#
BACTERIA 	1 – 5 ml culture	60	M	Wizard® Genomic DNA Purification Kit ³	A1120, A1125, A1620
	1 ml culture	90	M	Wizard® HMW DNA Extraction Kit ³	A2920
	Up to 5 × 10 ⁶ cells	20	M	Wizard® SV Genomic DNA Purification System ³	A2360, A2361
	Up to 5 × 10 ⁶ cells	30	M/A	Wizard® SV 96 Genomic DNA Purification System ³	A2370, A2371
	5 × 10 ⁶ (mammalian tissue) 2 × 10 ⁹ (bacterial cells)	≤ 48 samples in 45	A	Maxwell® RSC Cultured Cells DNA Kit ³	AS1620
	Up to 800 µl of food matrix	≤ 48 samples in 40	A	Maxwell® RSC PureFood Pathogen Kit ³	AS1660
BLOOD 	≤ 200 µl	≤ 30	M	ReliaPrep™ Blood gDNA Miniprep System ³	A5081, A5082
	50 µl – 10 ml	60	M	Wizard® Genomic DNA Purification Kit ³	A1120, A1125, A1620
	300 µl	90	M	Wizard® HMW DNA Extraction Kit ³	A2920
	50 – 300 µl	≤ 48 samples in < 70	A	Maxwell® CSC Blood DNA Kit ²	AS1321
	50 – 300 µl	≤ 48 samples in < 70	A	Maxwell® CSC Genomic DNA Kit ²	AS1850
	500 µl	≤ 48 samples in < 60	A	Maxwell® CSC Whole Blood DNA Kit ²	AS1820
	50 – 300 µl	≤ 48 samples in < 70	A	Maxwell® RSC Blood DNA Kit ³	AS1400, ASB1400
	50 – 300 µl	≤ 48 samples in < 70	A	Maxwell® RSC Genomic DNA Kit ³	AS1880
	50 – 500 µl	≤ 48 samples in 60	A	Maxwell® RSC Whole Blood DNA Kit ³	AS1520, ASB1520
	< 350 µl	96 samples in < 150	A	Maxwell® HT 96 gDNA Blood Isolation System ³	A2670, A2671
	≤ 350 µl	90 no sample transfer, 120 with sample transfer	A	Maxwell® HT Genomic DNA Kit ³	A6050
	1 – 10 ml	32 samples in < 240	A	ReliaPrep™ Large Volume HT gDNA Isolation System ³	A2751
BONE MARROW 	50 – 300 µl	≤ 48 samples in < 70	A	Maxwell® CSC Genomic DNA Kit ²	AS1850
	50 – 300 µl	≤ 48 samples in < 70	A	Maxwell® RSC Genomic DNA Kit ³	AS1880
BUFFY COAT 	300 µl – 1 ml ⁴	60	M	Wizard® Genomic DNA Purification Kit ³	A1120, A1125, A1620
	50 – 300 µl	≤ 48 samples in < 70	A	Maxwell® CSC Genomic DNA Kit ²	AS1850
	50 – 250 µl	≤ 48 samples in 50	A	Maxwell® RSC Buffy Coat DNA Kit ³	AS1540
	50 – 300 µl	≤ 48 samples in < 70	A	Maxwell® RSC Genomic DNA Kit ³	AS1880
	50 – 300 µl	120	A	Maxwell® HT 96 gDNA Blood Isolation System ³	A2670, A2671
	50 – 300 µl	90 no sample transfer, 120 with sample transfer	A	Maxwell® HT Genomic DNA Kit ³	A6050
	Up to 1 ml ⁴	60	A	ReliaPrep™ Large Volume HT gDNA Isolation System ³	A2751



DNA Purification

Sample Type	Sample Volume (or amount)	Time to Process (minutes) ¹	Format (Manual/ Automated)	Product	Cat.#
CELLS 	≤ 8 × 10 ⁶ tissue culture cells	60	M	Wizard® Genomic DNA Purification Kit ³	A1120, A1125, A1620
	3 × 10 ⁶ cells	90	M	Wizard® HMW DNA Extraction Kit ³	A2920
	1 × 10 ⁴ to 5 × 10 ⁶ tissue culture cells	20 – 30	M	Wizard® SV Genomic DNA Purification System ³	A2360, A2361
	1 × 10 ⁴ to 5 × 10 ⁶ tissue culture cells	60	M/A	Wizard® SV 96 Genomic DNA Purification System ³	A2370, A2371
	Up to 5 × 10 ⁶ mammalian cells and cell pellets from biological fluids	≤ 48 samples in < 70	A	Maxwell® CSC Genomic DNA Kit ²	AS1850
	< 10,000 cells	≤ 48 samples in 45	A	Maxwell® RSC Cell DNA Purification Kit ³	AS1370
	5 × 10 ⁶ (mammalian cells) 2 × 10 ⁹ (bacterial cells)	≤ 48 samples in 45	A	Maxwell® RSC Cultured Cells DNA Kit ³	AS1620
	Up to 5 × 10 ⁶ mammalian cells and cell pellets from biological fluids	≤ 48 samples in < 70	A	Maxwell® RSC Genomic DNA Kit ³	AS1880
	350 µl or 700 µl (Oragene Sample)	96 samples in < 150	A	Maxwell® HT 96 gDNA Blood Isolation System ³	A2670, A2671
	5 × 10 ⁶ (mammalian cells) 2 × 10 ⁹ (bacterial cells)	90 no sample transfer, 120 with sample transfer	A	Maxwell® HT Genomic DNA Kit ³	A6050
FECAL 	50 – 250 mg	40	M	ReliaPrep™ Blood gDNA Miniprep System ³	A5081, A5082
	100 – 300 mg	≤ 48 samples in 60	A	Maxwell® RSC Fecal Microbiome DNA Kit ³	AS1700
	≤ 100 mg	90 no sample transfer, 120 with sample transfer	A	Maxwell® HT Fecal Microbiome Kit ³	A6040
FFPE 	≤ 100 µm tissue sections	150 including deparaffinization	M	ReliaPrep™ FFPE gDNA Miniprep System ³	A2351, A2352
	Up to 2.0 mm ³ tissue sections	≤ 48 samples in ~ 300 – overnight	A	Maxwell® CSC DNA FFPE Kit ²	AS1350
	Up to 2.0 mm ³ tissue sections	≤ 48 samples in ~ 300 – overnight	A	Maxwell® RSC DNA FFPE Kit ³	AS1450, ASB1450
	Up to 2.0 mm ³ tissue sections	~ 300	A	Maxwell® HT DNA FFPE Isolation System ³	A6372
FOOD 	200 mg – 1 g	60	M	Wizard® Magnetic DNA Purification System for Food ³	FF3750, FF3751
	200 mg food or seed, or up to 2 mg food sample with additional processing	≤ 48 samples in 40	A	Maxwell® RSC PureFood GMO Authentication Kit ³	AS1600

DNA Purification

Sample Type	Sample Volume (or amount)	Time to Process (minutes) ¹	Format (Manual/ Automated)	Product	Cat.#
FRAGMENTS 	Up to 200 µl PCR sample	20	M	Wizard® SV 96 PCR Clean-Up System ³	A9340, A9341 A9342, A9345
	Up to 350 mg agarose gel slice or up to 1ml enzymatic reaction	15	M	Wizard® SV Gel and PCR Clean-Up System ³	A9281, A9282, A9285, A9283, A9284
	25 – 300 µl	10	M	ReliaPrep™ DNA Clean-Up and Concentration System ³	A2891, A2892, A2893
	20 µl sequencing reaction	35 – 90	A	Wizard® MagneSil® Sequencing Reaction Clean-Up System ³	A1831, A1832, A1835
INSECTS 	5 x 10 ⁶ cells	60	M	Wizard® Genomic DNA Purification Kit ³	A1120, A1125, A1620
PLANT 	40 mg	60	M	Wizard® Genomic DNA Purification Kit ³	A1120, A1125, A1620
	40 mg	90	M	Wizard® HMW DNA Extraction Kit ³	A2920
	≤ 30 mg	120	M	Wizard® Magnetic 96 DNA Plant System ³	FF3760, FF3761
	20 mg	≤ 48 samples in 60	M	Wizard® SV Genomic DNA Purification System ³	A2360, A2361
	5 x 10 ⁶ cells, 20 mg	20	M/A	Wizard® SV 96 Genomic DNA Purification System ³	A2370, A2371
	≤ 20 mg	≤ 48 samples in 60	A	Maxwell® RSC Plant DNA Kit ³	AS1490
	≤ 200 mg plant material (feed/seed)	60 on KingFisher; 90 no sample transfer, 120 with sample transfer	A	Maxwell® HT Genomic DNA Kit ³	A6050
PLASMA/ SERUM 	300 µl or 10 ml plasma or serum	60	M	Wizard® Genomic DNA Purification Kit ³	A1120, A1125, A1620
	0.2 – 1.0 ml of plasma	≤ 48 samples in 70	A	Maxwell® RSC ccfDNA Plasma Kit ³	AS1480
	2 – 8 ml of plasma (higher input volumes also achievable)	≤ 48 samples in 120	A	Maxwell® RSC LV ccfDNA Plasma Kit ³	AS1840
	Scalable up to 20 ml plasma or serum	Various depending on input volume and automation	A	Maxwell® HT ccfDNA Kit ³	A6030
PLASMIDS 	600 µl – 3 ml culture	10	M	PureYield™ Plasmid Miniprep System ³	A1223, A1222
	50 – 250 ml culture	30	M	PureYield™ Plasmid Midiprep System ³	A2492, A2495, A2496
	100 – 250 ml culture	60	M	PureYield™ Plasmid Maxiprep System ³	A2392, A2393
	1 – 10 ml culture	45	M	Wizard® Plus SV Minipreps DNA Purification System ³	A1330, A1460, A1465, A1340, A1470
	4 OD ₆₀₀ culture	≤ 60 per plate	M/A	Wizard® SV 96 and SV 9600 Plasmid DNA Purification Systems ³	A2250, A2255, A2258
	6 OD ₆₀₀ culture	< 90 per plate	A	Wizard® MagneSil® Plasmid Purification System ³	A1630, A1631, A1635
	6 OD ₆₀₀ culture	45 or less per plate	A	Wizard® MagneSil Tfx™ System ³	A2380

DNA Purification

Sample Type	Sample Volume (or amount)	Time to Process (minutes) ¹	Format (Manual/ Automated)	Product	Cat.#
SALIVA / BUCCAL 	1 swab	30	M	ReliaPrep™ gDNA Tissue Miniprep System ³	A2051, A2052
	Up to 2 swabs	≤ 48 samples in < 80	A	Maxwell® CSC Genomic DNA Kit ²	AS1850
	1 swab	≤ 48 samples in 90	A	Maxwell® RSC Buccal Swab DNA Kit ³	AS1640
	Up to 2 swabs	≤ 48 samples in < 80	A	Maxwell® RSC Genomic DNA Kit ³	AS1880
	Up to 1 ml stabilized saliva	≤ 48 samples in 60	A	Maxwell® RSC Stabilized Saliva DNA Kit ³	AS1630
	700 µl stabilized saliva	120	A	Maxwell® HT 96 gDNA Blood Isolation System ³	A2670, A2671
	1 – 10 ml	60	A	ReliaPrep™ Large Volume HT gDNA Isolation System ³	A2751
TISSUE 	1.2 cm (mouse tail) or up to 20 mg or one buccal swab	20 – 30	M	ReliaPrep™ gDNA Tissue Miniprep System ³	A2051, A2052
	11 mg (mouse liver) 0.5 – 1 cm (mouse tail) 40 mg (tomato leaf)	60	M	Wizard® Genomic DNA Purification Kit ³	A1120, A1125, A1620
	20 – 60 mg	90	M	Wizard® HMW DNA Extraction Kit ³	A2920
	Up to 20 mg	60	M	Wizard® SV 96 Genomic DNA Purification System ³	A2370, A2371
	1.2 cm (mouse tail) or up to 20 mg	20 – 30	M	Wizard® SV Genomic DNA Purification System ³	A2360, A2361
	5 – 50 mg	≤ 48 samples in < 180 – overnight	A	Maxwell® CSC Genomic DNA Kit ²	AS1850
	5 – 50 mg	≤ 48 samples in < 180 – overnight	A	Maxwell® RSC Genomic DNA Kit ³	AS1880
	Up to 50 mg (mammalian)	≤ 48 samples in 45	A	Maxwell® RSC Tissue DNA Kit ³	AS1610
	Varies	90 no sample transfer, 120 with sample transfer	A	Maxwell® HT Genomic DNA Kit ³	A6050
URINE 	≤ 200 µl	40	M	ReliaPrep™ Blood gDNA Minipreps ³ System	A5081, A5082
	≤ 50 ml	Various depending on input volume and automation	A	Maxwell® HT ccfDNA Kit ³	A6030
YEAST - FUNGI 	1.9 x 10 ⁸ cells/ml	60	M	Wizard® Genomic DNA Purification Kit ³	A1120, A1125, A1620

RNA Purification

Sample Type	Sample Volume (or amount)	Time to Process (minutes) ¹	Format (Manual/ Automated)	Product	Cat.#
BACTERIA					
	1 ml of bacteria culture	60	M	SV Total RNA Isolation System ³	Z3101, Z3100, Z3105
BLOOD					
	≤ 20 µl fresh whole blood (96-well) ≤ 5 µl fresh whole blood (384-well)	≤ 50	M	MagneSil® Total RNA Mini-Isolation System ³	Z3351
	100 µl whole blood	60	M	SV Total RNA Isolation System ³	Z3101, Z3100, Z3105
	100 µl whole blood	60	M/A	SV 96 Total RNA Isolation System ³	Z3500, Z3505
	2.5 ml fresh human whole blood	≤ 48 samples in < 120	A	Maxwell® CSC RNA Blood Kit ²	AS1410
	2.5 ml fresh whole blood	≤ 48 samples in < 120	A	Maxwell® RSC simplyRNA Blood Kit ³	AS1380, ASB1380
	2.5 ml fresh whole blood	90 no sample transfer, 120 with sample transfer	A	Maxwell® HT simplyRNA Kit, Custom ³	AX7890
CELLS					
	1 × 10 ⁶ to 1 × 10 ⁸ cells	45	M	PolyAtract® System 1000 ³	Z5420, Z5400
	1 × 10 ² to 1 × 10 ⁶ tissue culture cells	40	M	ReliaPrep™ miRNA Cell and Tissue Miniprep System ³	Z6210, Z6211, Z6212
	100 to 5 × 10 ⁶ tissue culture cells	30	M	ReliaPrep™ RNA Cell Miniprep System ³	Z6010, Z6011, Z6012
	≤ 5 × 10 ⁶ tissue culture cells	< 60	M	SV Total RNA Isolation System ³	Z3101, Z3100, Z3105
	≤ 5 × 10 ⁶ tissue culture cells	< 60	M/A	SV 96 Total RNA Isolation System ³	Z3500, Z3505
	Up to 5 × 10 ⁶ cells	≤ 48 samples in 60	A	Maxwell® RSC simplyRNA Cells Kit ³	AS1390
	≤ 1 × 10 ⁵ tissue culture cells	30	A	MagneSil® Total RNA Mini-Isolation System ³	Z3351
	< 1 × 10 ⁷ (1 M) tissue culture cells	90 no sample transfer, 120 with sample transfer	A	Maxwell® HT simplyRNA Kit, Custom ³	AX7890
FFPE					
	5 – 50 µm tissue sections	90 including deparaffinization	M	ReliaPrep™ FFPE Total RNA Miniprep System ³	Z1001, Z1002
	Up to 2 mm ³ tissue sections	≤ 48 samples in < 180	A	Maxwell® CSC RNA FFPE Kit ²	AS1360
	Up to 2 mm ³ tissue sections	≤ 48 samples in < 180	A	Maxwell® RSC RNA FFPE Kit ³	AS1440
mRNA					
	1 – 5 mg of total RNA (3 isolations) 10 – 1,000 µg of total RNA (15 isolations)	45	M	PolyAtract® mRNA Isolation Systems ³	Z5200, Z5210, Z5300, Z5310



RNA Purification

Sample Type	Sample Volume (or amount)	Time to Process (minutes) ¹	Format (Manual/ Automated)	Product	Cat.#
PLANT	30 mg	60	M	SV Total RNA Isolation System ³	Z3500, Z3505
	20–100 mg plant tissue	≤ 48 samples in 50	A	Maxwell® RSC Plant RNA Kit ³	AS1500
	4 mm leaf punch, 2 – 50 mg leaf tissue or single seed	90 KingFisher	A	Maxwell® HT simplyRNA Kit, Custom ³	AX7890
PLASMA/ SERUM	100 µl plasma or serum	60	M	SV Total RNA Isolation System ³	Z3500, Z3505
	100 – 500 µl plasma or serum; 50 – 200 µl exosomes	≤ 48 samples in 90	A	Maxwell® RSC miRNA Plasma and Serum Kit ³	AS1680
	100 – 500 µl plasma or serum; 50 – 200 µl exosomes	90 no sample transfer, 120 with sample transfer	A	Maxwell® HT miRNA Kit ³	BX2500
TISSUE	5 mg – 2 g	45	M	PolyATtract® System 1000 ³	Z5420, Z5400
	0.25 – 20 mg	40	M	ReliaPrep™ miRNA Cell and Tissue Miniprep System ³	Z6210, Z6211, Z6212
	≤ 20 mg	30	M	ReliaPrep™ RNA Tissue Miniprep System ³	Z6110, Z6111, Z6112
	15 – 60 mg	60	M	SV Total RNA Isolation System ³	Z3101, Z3100, Z3105
	> 3 mg	< 60	M/A	SV 96 Total RNA Isolation System ³	Z3500, Z3505
	≤ 20 mg	≤ 48 samples in 70	A	Maxwell® RSC miRNA Tissue Kit ³	AS1460
	≤ 20 mg	≤ 48 samples in 60	A	Maxwell® RSC simplyRNA Tissue Kit ³	AS1340
	≤ 2 mg tissue lysate in 100 µl	30	A	MagneSil® Total RNA Mini-Isolation System ³	Z3351
	~ 25 mg	90 no sample transfer, 120 with sample transfer	A	Maxwell® HT simplyRNA Kit ³	AX7890
YEAST - FUNGI	0.6 – 1.0 OD ₆₀₀ culture	90	M	SV Total RNA Isolation System ³	Z3101, Z3100, Z3105
					



TNA Purification

Sample Type	Sample Volume (or amount)	Time to Process (minutes) ¹	Format (Manual/ Automated)	Product	Cat.#
BLOOD 	200 µl	< 90 no sample transfer, 120 with sample transfer	A	Maxwell® HT Viral TNA Kit, Custom ³	AX2340
FECAL 	100 – 500 mg	≤ 48 samples in 80	A	Maxwell® CSC Pathogen Total Nucleic Acid Kit ²	AS1860
	100 – 500 mg	≤ 48 samples in 80	A	Maxwell® RSC Pathogen Total Nucleic Acid Kit ³	AS1890
Pap MEDIA 	300 µl	≤ 48 samples in 60	A	Maxwell® CSC Pathogen Total Nucleic Acid Kit ²	AS1860
	300 µl	≤ 48 samples in 60	A	Maxwell® RSC Pathogen Total Nucleic Acid Kit ³	AS1890
PLASMA/ SERUM 	200 µl of plasma	30	M	ReliaPrep™ Viral Total Nucleic Acid Miniprep, Custom ³	AX4820
	300 µl of plasma	≤ 48 samples in 60	A	Maxwell® CSC Pathogen Total Nucleic Acid Kit ²	AS1860
	100 – 300 µl plasma or serum	≤ 48 samples in 60	A	Maxwell® CSC Viral Total Nucleic Acid Purification Kit ²	AS1780
	300 µl of plasma	≤ 48 samples in 60	A	Maxwell® RSC Pathogen Total Nucleic Acid Kit ³	AS1890
	100 – 300 µl plasma or serum	≤ 48 samples in 60	A	Maxwell® RSC Viral Total Nucleic Acid Purification Kit ³	AS1330
SPUTUM/ BRONCHOALVEOLAR LAVAGE 	100 – 300 µl	≤ 48 samples in 70	A	Maxwell® CSC Pathogen Total Nucleic Acid Kit ²	AS1860
	100 – 300 µl	≤ 48 samples in 70	A	Maxwell® RSC Pathogen Total Nucleic Acid Kit ³	AS1890
	200 µl	90 no sample transfer, 120 with sample transfer	A	Maxwell® HT Viral Total Nucleic Acid Kit ³	AX2340
STABILIZED SALIVA 	200 µl	≤ 48 samples in 60	A	Maxwell® CSC Viral Total Nucleic Acid Purification Kit ²	AS1780
	200 µl	≤ 48 samples in 60	A	Maxwell® RSC Viral Total Nucleic Acid Purification Kit ³	AS1330



TNA Purification

Sample Type	Sample Volume (or amount)	Time to Process (minutes) ¹	Format (Manual/ Automated)	Product	Cat.#
URINE 	300 µl – 30 ml	≤ 48 samples in 70	A	Maxwell® CSC Pathogen Total Nucleic Acid Kit ²	AS1860
	300 µl – 30 ml	≤ 48 samples in 70	A	Maxwell® RSC Pathogen Total Nucleic Acid Kit ³	AS1890
UTM/VTM 	300 µl	≤ 48 samples in 60	A	Maxwell® CSC Pathogen Total Nucleic Acid Kit ²	AS1860
	200 µl	≤ 48 samples in 60	A	Maxwell® CSC Viral Total Nucleic Acid Purification Kit ²	AS1780
	300 µl	≤ 48 samples in 60	A	Maxwell® RSC Pathogen Total Nucleic Acid Kit ³	AS1890
	200 µl	≤ 48 samples in 60	A	Maxwell® RSC Viral Total Nucleic Acid Purification Kit ³	AS1330
	200 µl	90 no sample transfer, 120 with sample transfer	A	Maxwell® HT Viral Total Nucleic Acid Kit ³	AX2340
WASTEWATER 	40 ml of wastewater	≤ 25 samples in 120	M	Wizard® Enviro Total Nucleic Acid Kit ³	A2991
	40 ml of wastewater	≤ 48 samples in 160	A	Maxwell® RSC Enviro Total Nucleic Acid Kit ³	AS1831
	Various depending on pre-processing	90 no sample transfer, 120 with sample transfer	A	Maxwell® HT Enviro Total Nucleic Acid Kit ³	AX9190



For inquiries regarding downstream applications, please scan here to reach our Technical Services team.



Don't see your sample type listed?
Scan here to explore our Application Notes for an expanded variety of sample types and applications.

Products may be covered by pending or issued patents or may have certain limitations. Please visit our website for more information.

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¹HT times are approximate and may vary depending on the configuration of the instrument (assuming 8 channels plus a 96 well pipetting head and plate gripper).

²CE-IVD. Intended for In Vitro Diagnostic Use. Currently available only in certain countries.

³For Research Use Only. Not for Use in Diagnostic Procedures.

⁴Estimated buffy coat volume isolated from 10ml whole blood.

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