

# **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 clean up and concentration of DNA or RNA from dilute solutions, gel slices or PCR.



DNA, RNA and TNA Purification

# **DNA** Purification

Sample Type	Sample Volume (or amount)	Time to Process (minutes) <sup>1</sup>	Format (Manual/ Automated)	Product	Cat.#
BACTERIA	1-5ml culture	60	М	Wizard® Genomic DNA Purification Kit³	A1120, A1125, A1620
	1ml culture	90	М	Wizard® HMW DNA Extraction Kit³	A2920
	Up to 5 × 10 <sup>6</sup> cells	20	М	Wizard® SV Genomic DNA Purification System³	A2360, A2361
Contract of the second	Up to 5 × 10 <sup>6</sup> cells	30	M/A	Wizard® SV 96 Genomic DNA Purification System³	A2370, A2371
	5 × 10 <sup>6</sup> (mammalian tissue) 2 × 10 <sup>9</sup> (bacterial cells)	≤48 samples in 45	Α	Maxwell® RSC Cultured Cells DNA Kit <sup>3</sup>	AS1620
	Up to 800µl of food matrix	≤48 samples in 40	Α	Maxwell® RSC PureFood Pathogen Kit³	AS1660
BLOOD	≤200µl	≤30	М	ReliaPrep™ Blood gDNA Miniprep System³	A5081, A5082
	50μl-10ml	60	М	Wizard® Genomic DNA Purification Kit³	A1120, A1125, A1620
	300µl	90	М	Wizard® HMW DNA Extraction Kit³	A2920
U	50-300µl	≤48 samples in <70	Α	Maxwell® CSC Blood DNA Kit <sup>2</sup>	AS1321
	50-300µl	≤48 samples in <70	Α	Maxwell® CSC Genomic DNA Kit²	AS1850
	500µl	≤48 samples in <60	Α	Maxwell® CSC Whole Blood DNA Kit <sup>2</sup>	AS1820
	50-300µl	≤48 samples in <70	Α	Maxwell® RSC Blood DNA Kit <sup>3</sup>	AS1400, ASB1400
	50-300µl	≤48 samples in <70	Α	Maxwell® RSC Genomic DNA Kit³	AS1880
	50-500µl	≤48 samples in 60	Α	Maxwell® RSC Whole Blood DNA Kit <sup>3</sup>	AS1520, ASB1520
	<350µI	96 samples in <150	Α	Maxwell® HT 96 gDNA Blood Isolation System <sup>3</sup>	A2670, A2671
	≤350µl	90 no sample transfer, 120 with sample transfer	Α	Maxwell® HT Genomic DNA Kit³	A6050
	1-10ml	32 samples in <240	Α	ReliaPrep™ Large Volume HT gDNA Isolation System³	A2751
BONE MARROW	50-300µl	≤48 samples in <70	Α	Maxwell® CSC Genomic DNA Kit²	AS1850
	50-300µl	≤48 samples in <70	Α	Maxwell® RSC Genomic DNA Kit³	AS1880
BUFFY COAT	300µl−1ml⁴	60	М	Wizard® Genomic DNA Purification Kit³	A1120, A1125, A1620
	50-300µl	≤48 samples in <70	Α	Maxwell® CSC Genomic DNA Kit <sup>2</sup>	AS1850
	50-250µl	≤48 samples in 50	Α	Maxwell® RSC Buffy Coat DNA Kit <sup>3</sup>	AS1540
	50-300µl	≤48 samples in <70	Α	Maxwell® RSC Genomic DNA Kit <sup>3</sup>	AS1880
	50-300µl	120	Α	Maxwell® HT 96 gDNA Blood Isolation System³	A2670, A2671
	50-300µl	90 no sample transfer, 120 with sample transfer	Α	Maxwell® HT Genomic DNA Kit³	A6050
	Up to 1ml⁴	60	Α	ReliaPrep™ Large Volume HT gDNA Isolation System³	A2751

Sample Type	Sample Volume (or amount)	Time to Process (minutes) <sup>1</sup>	Format (Manual/ Automated)	Product	Cat.#
CELLS	≤8 × 10 <sup>6</sup> tissue culture cells	60	М	Wizard® Genomic DNA Purification Kit³	A1120, A1125, A1620
	3 × 10 <sup>6</sup> cells	90	М	Wizard® HMW DNA Extraction Kit³	A2920
	1 × 10 <sup>4</sup> to 5 × 10 <sup>6</sup> tissue culture cells	20-30	М	Wizard® SV Genomic DNA Purification System³	A2360, A2361
	$1 \times 10^4$ to $5 \times 10^6$ tissue culture cells	60	M/A	Wizard® SV 96 Genomic DNA Purification System³	A2370, A2371
	Up to 5 x 10 <sup>6</sup> mammalian cells and cell pellets from biological fluids	≤48 samples in <70	Α	Maxwell® CSC Genomic DNA Kit²	AS1850
	<10,000 cells	≤48 samples in 45	Α	Maxwell® RSC Cell DNA Purification Kit <sup>3</sup>	AS1370
	$5 \times 10^6$ (mammalian cells) $2 \times 10^9$ (bacterial cells)	≤48 samples in 45	Α	Maxwell® RSC Cultured Cells DNA Kit³	AS1620
	Up to 5 x 10 <sup>6</sup> mammalian cells and cell pellets from biological fluids	≤48 samples in <70	Α	Maxwell® RSC Genomic DNA Kit³	AS1880
	350μl or 700μl (Oragene Sample)	96 samples in <150	Α	Maxwell® HT 96 gDNA Blood Isolation System <sup>3</sup>	A2670, A2671
	$5 \times 10^6$ (mammalian cells) $2 \times 10^9$ (bacterial cells)	90 no sample transfer, 120 with sample transfer	Α	Maxwell® HT Genomic DNA Kit³	A6050
FECAL	50-250mg	40	М	ReliaPrep™ Blood gDNA Miniprep System³	A5081, A5082
	100-300mg	≤48 samples in 60	Α	Maxwell® RSC Fecal Microbiome DNA Kit³	AS1700
	≤100mg	90 no sample transfer, 120 with sample transfer	Α	Maxwell® HT Fecal Microbiome Kit <sup>3</sup>	A6040
FFPE	≤100µm tissue sections	150 including deparaffinization	М	ReliaPrep™ FFPE gDNA Miniprep System³	A2351, A2352
No.	Up to 2.0mm³ tissue sections	≤48 samples in ~300 - Overnight	Α	Maxwell® CSC DNA FFPE Kit <sup>2</sup>	AS1350
(In the	Up to 2.0mm³ tissue sections	≤48 samples in ~300 - Overnight	Α	Maxwell® RSC DNA FFPE Kit³	AS1450, ASB1450
	Up to 2.0mm³ tissue sections	~300	Α	Maxwell® HT DNA FFPE Isolation System³	A6372
FOOD	200mg-1g	60	М	Wizard® Magnetic DNA Purification System for Food³	FF3750, FF3751
V	200mg food or seed, or up to 2mg food sample with additional processing	≤48 samples in 40	Α	Maxwell® RSC PureFood GMO Authentication Kit³	AS1600

Sample Type	Sample Volume (or amount)	Time to Process (minutes) <sup>1</sup>	Format (Manual/ Automated)	Product	Cat.#
FRAGMENTS	Up to 200µl PCR sample	20	М	Wizard® SV 96 PCR Clean-Up System³	A9340, A9341 A9342, A9345
	Up to 350mg agarose gel slice or up to 1ml enzymatic reaction	15	М	Wizard® SV Gel and PCR Clean-Up System³	A9281, A9282, A9285, A9283, A9284
	25-300µl	10	М	ReliaPrep™ DNA Clean-Up and Concentration System³	A2891, A2892, A2893
	20µl sequencing reaction	35-90	Α	Wizard® MagneSil® Sequencing Reaction Clean-Up System³	A1831, A1832, A1835
INSECTS	5 x 10 <sup>6</sup> cells	60	М	Wizard® Genomic DNA Purification Kit³	A1120, A1125, A1620
PLANT	40mg	60	М	Wizard® Genomic DNA Purification Kit³	A1120, A1125, A1620
	40mg	90	М	Wizard® HMW DNA Extraction Kit³	A2920
	≤30mg	120	М	Wizard® Magnetic 96 DNA Plant System³	FF3760, FF3761
	20mg	≤48 samples in 60	М	Wizard® SV Genomic DNA Purification System³	A2360, A2361
	5 × 10 <sup>6</sup> cells, 20mg	20	M/A	Wizard® SV 96 Genomic DNA Purification System³	A2370, A2371
	≤20mg	≤48 samples in 60	Α	Maxwell® RSC Plant DNA Kit <sup>3</sup>	AS1490
	≤200mg plant material (feed/seed)	60 on KingFisher; 90 no sample transfer, 120 with sample transfer	Α	Maxwell® HT Genomic DNA Kit³	A6050
PLASMA/ SERUM	300µl or 10ml plasma or serum	60	М	Wizard® Genomic DNA Purification Kit³	A1120, A1125, A1620
	0.2-1.0ml of plasma	≤48 samples in 70	Α	Maxwell® RSC ccfDNA Plasma Kit³	AS1480
plasma	2–8ml of plasma (higher input volumes also achievable)	≤48 samples in 120	Α	Maxwell® RSC LV ccfDNA Plasma Kit³	AS1840
	Scalable up to 20ml plasma or serum	Various depending on input volume and automation	Α	Maxwell® HT ccfDNA Kit³	A6030
PLASMIDS	600µl-3ml culture	10	М	PureYield™ Plasmid Miniprep System³	A1223, A1222
	50-250ml culture	30	М	PureYield™ Plasmid Midiprep System³	A2492, A2495, A2496
	100-250ml culture	60	М	PureYield™ Plasmid Maxiprep System³	A2392, A2393
	1-10ml culture	45	М	Wizard® Plus SV Minipreps DNA Purification System³	A1330, A1460, A1465 A1340, A1470
	4 0D <sub>600</sub> culture	≤60 per plate	M/A	Wizard® SV 96 and SV 9600 Plasmid DNA Purification Systems³	A2250, A2255, A2258
	6 OD <sub>600</sub> culture	<90 per plate	Α	Wizard® MagneSil® Plasmid Purification System³	A1630, A1631, A1635
	6 OD <sub>600</sub> culture	45 or less per plate	Α	Wizard® MagneSil Tfx™ System³	A2380

Sample Type	Sample Volume (or amount)	Time to Process (minutes) <sup>1</sup>	Format (Manual/ Automated)	Product	Cat.#
SALIVA / BUCCAL	1 swab	30	М	ReliaPrep™ gDNA Tissue Miniprep System³	A2051, A2052
	Up to 2 swabs	≤48 samples in <80	Α	Maxwell® CSC Genomic DNA Kit²	AS1850
	1 swab	≤48 samples in 90	Α	Maxwell® RSC Buccal Swab DNA Kit³	AS1640
	Up to 2 swabs	≤48 samples in <80	Α	Maxwell® RSC Genomic DNA Kit³	AS1880
	Up to 1ml stabilized saliva	≤48 samples in 60	Α	Maxwell® RSC Stabilized Saliva DNA Kit <sup>3</sup>	AS1630
	700µl stabilized saliva	120	Α	Maxwell® HT 96 gDNA Blood Isolation System <sup>3</sup>	A2670, A2671
	1-10ml	60	Α	ReliaPrep™ Large Volume HT gDNA Isolation System³	A2751
TISSUE	1.2cm (mouse tail) or up to 20mg or one buccal swab	20-30	М	ReliaPrep™ gDNA Tissue Miniprep System³	A2051, A2052
	11mg (mouse liver) 0.5-1cm (mouse tail) 40mg (tomato leaf)	60	М	Wizard® Genomic DNA Purification Kit³	A1120, A1125, A1620
	20-60mg	90	М	Wizard® HMW DNA Extraction Kit³	A2920
	Up to 20mg	60	М	Wizard® SV 96 Genomic DNA Purification System³	A2370, A2371
	1.2cm (mouse tail) or up to 20mg	20-30	М	Wizard® SV Genomic DNA Purification System³	A2360, A2361
	5-50mg	≤48 samples in <180 - Overnight	Α	Maxwell® CSC Genomic DNA Kit²	AS1850
	5-50mg	≤48 samples in <180 - Overnight	Α	Maxwell® RSC Genomic DNA Kit³	AS1880
	Up to 50mg (mammalian)	≤48 samples in 45	Α	Maxwell® RSC Tissue DNA Kit³	AS1610
	Varies	90 no sample transfer, 120 with sample transfer	Α	Maxwell® HT Genomic DNA Kit³	A6050
URINE	≤200µl	40	М	ReliaPrep™ Blood gDNA Minipreps³ System	A5081, A5082
	≤50ml	Various depending on input volume and automation	Α	Maxwell® HT ccfDNA Kit³	A6030
YEAST - FUNGI	1.9 x 10° cells/ml	60	М	Wizard® Genomic DNA Purification Kit³	A1120, A1125, A1620

### **RNA** Purification

Sample Type	Sample Volume (or amount)	Time to Process (minutes) <sup>1</sup>	Format (Manual/ Automated)	Product	Cat.#
BACTERIA	1ml of bacteria culture	60	М	SV Total RNA Isolation System <sup>3</sup>	Z3101, Z3100, Z3105
BLOOD	≤20µl fresh whole blood (96-well) ≤5µl fresh whole blood (384-well)	≤50	М	MagneSil® Total RNA Mini-Isolation System³	Z3351
U	100µl whole blood	60	М	SV Total RNA Isolation System <sup>3</sup>	Z3101, Z3100, Z3105
	100µl whole blood	60	M/A	SV 96 Total RNA Isolation System <sup>3</sup>	Z3500, Z3505
	2.5ml fresh human whole blood	≤48 samples in <120	Α	Maxwell® CSC RNA Blood Kit²	AS1410
	2.5ml fresh whole blood	≤48 samples in <120	Α	Maxwell® RSC simplyRNA Blood Kit³	AS1380, ASB1380
	2.5ml fresh whole blood	90 no sample transfer, 120 with sample transfer	Α	Maxwell® HT simplyRNA Kit, Custom³	AX7890
CELLS	1 × 10 <sup>6</sup> to 1 × 10 <sup>8</sup> cells	45	М	PolyATract® System 1000³	Z5420, Z5400
	1 × 10 <sup>2</sup> to 1 × 10 <sup>6</sup> tissue culture cells	40	М	ReliaPrep™ miRNA Cell and Tissue Miniprep System³	Z6210, Z6211, Z6212
	100 to 5 × 106 tissue culture cells	30	М	ReliaPrep™ RNA Cell Miniprep System³	Z6010, Z6011, Z6012
	≤5 × 106 tissue culture cells	<60	М	SV Total RNA Isolation System <sup>3</sup>	Z3101, Z3100, Z3105
	≤5 × 10 <sup>6</sup> tissue culture cells	<60	M/A	SV 96 Total RNA Isolation System <sup>3</sup>	Z3500, Z3505
	Up to 5 × 10 <sup>6</sup> cells	≤48 samples in 60	Α	Maxwell® RSC simplyRNA Cells Kit <sup>3</sup>	AS1390
	≤1 × 10 <sup>5</sup> tissue culture cells	30	Α	MagneSil® Total RNA Mini-Isolation System³	Z3351
	<1 x 10 <sup>7</sup> (1M) tissue culture cells	90 no sample transfer, 120 with sample transfer	Α	Maxwell® HT simplyRNA Kit, Custom³	AX7890
FFPE	5-50µm tissue sections	90 including deparaffinization	М	ReliaPrep™ FFPE Total RNA Miniprep System³	Z1001, Z1002
	Up to 2mm³ tissue sections	≤48 samples in <180	Α	Maxwell® CSC RNA FFPE Kit <sup>2</sup>	AS1360
RANGE TO SERVICE TO SE	Up to 2mm³ tissue sections	≤48 samples in <180	Α	Maxwell® RSC RNA FFPE Kit³	AS1440
mRNA	1–5mg of total RNA (3 isolations) 10–1,000μg of total RNA (15 isolations)	45	М	PolyATtract® mRNA Isolation Systems³	Z5200, Z5210, Z5300, Z5310

Sample Type	Sample Volume (or amount)	Time to Process (minutes) <sup>1</sup>	Format (Manual/ Automated)	Product	Cat.#
PLANT	30mg	60	М	SV Total RNA Isolation System <sup>3</sup>	Z3500, Z350
	20-100mg plant tissue	≤48 samples in 50	Α	Maxwell® RSC Plant RNA Kit³	AS150
	4mm Leaf punch, 2-50mg leaf tissue or single seed	90 KingFisher	Α	Maxwell® HT simplyRNA Kit, Custom³	AX789
PLASMA/ SERUM	100µl plasma or serum	60	М	SV Total RNA Isolation System <sup>3</sup>	Z3500, Z350
plasma	100-500µl plasma or serum; 50-200µl exosomes	≤48 samples in 90	Α	Maxwell® RSC miRNA Plasma and Serum Kit³	AS168
	100-500µl plasma or serum; 50-200µl exosomes	90 no sample transfer, 120 with sample transfer	Α	Maxwell® HT miRNA Kit³	BX250
TISSUE	5mg-2g	45	М	PolyATtract® System 1000³	Z5420, Z540
	0.25-20mg	40	М	ReliaPrep™ miRNA Cell and Tissue Miniprep System³	Z6210, Z6211, Z621
	≤20mg	30	M	ReliaPrep™ RNA Tissue Miniprep System³	Z6110, Z6111, Z6112
	15-60mg	60	М	SV Total RNA Isolation System <sup>3</sup>	Z3101, Z3100, Z310
	>3mg	<60	M/A	SV 96 Total RNA Isolation System <sup>3</sup>	Z3500, Z3509
	≤20mg	≤48 samples in 70	Α	Maxwell® RSC miRNA Tissue Kit³	AS1460
	≤20mg	≤48 samples in 60	Α	Maxwell® RSC simplyRNA Tissue Kit³	AS1340
	≤2mg tissue lysate in 100µl	30	Α	MagneSil® Total RNA Mini-Isolation System³	Z3351
	~25mg	90 no sample transfer, 120 with sample transfer	A	Maxwell® HT simplyRNA Kit³	AX7890
EAST - FUNGI	0.6-1.0 OD <sub>600</sub> culture	90	М	SV Total RNA Isolation System <sup>3</sup>	Z3101, Z3100, Z3105

# TNA Purification

Sample Type	Sample Volume (or amount)	Time to Process (minutes) <sup>1</sup>	Format (Manual/ Automated)	Product	Cat.#
BLOOD	200μΙ	<90 no sample transfer, 120 with sample transfer	A	Maxwell® HT Viral TNA Kit, Custom <sup>3</sup>	AX2340
FECAL	100-500mg	≤48 samples in 80	A	Maxwell® CSC Pathogen Total Nucleic Acid Kit²	AS1860
	100-500mg	≤48 samples in 80	Α	Maxwell® RSC Pathogen Total Nucleic Acid Kit³	AS1890
Pap MEDIA	300hl	≤48 samples in 60	Α	Maxwell® CSC Pathogen Total Nucleic Acid Kit²	AS1860
	300µl	≤48 samples in 60	Α	Maxwell® RSC Pathogen Total Nucleic Acid Kit³	AS1890
PLASMA/ SERUM	200μl of plasma	30	М	ReliaPrep™ Viral Total Nucleic Acid Miniprep, Custom³	AX4820
ptona	300µl of plasma	≤48 samples in 60	Α	Maxwell® CSC Pathogen Total Nucleic Acid Kit²	AS1860
	100-300µl plasma or serum	≤48 samples in 60	Α	Maxwell® CSC Viral Total Nucleic Acid Purification Kit²	AS1780
	300µl of plasma	≤48 samples in 60	Α	Maxwell® RSC Pathogen Total Nucleic Acid Kit³	AS1890
	100-300µl plasma or serum	≤48 samples in 60	Α	Maxwell® RSC Viral Total Nucleic Acid Purification Kit³	AS1330
SPUTUM/ BRONCHOALVELAR	100-300µl	≤48 samples in 70	Α	Maxwell® CSC Pathogen Total Nucleic Acid Kit²	AS1860
LAVAGE	100-300µl	≤48 samples in 70	Α	Maxwell® RSC Pathogen Total Nucleic Acid Kit³	AS1890
	200μΙ	90 no sample transfer, 120 with sample transfer	A	Maxwell® HT Viral Total Nucleic Acid Kit³	AX2340
STABILIZED SALIVA	200µl	≤48 samples in 60	A	Maxwell® CSC Viral Total Nucleic Acid Purification Kit²	AS1780
P	200μΙ	≤48 samples in 60	Α	Maxwell® RSC Viral Total Nucleic Acid Purification Kit³	AS1330

# TNA Purification

Sample Type	Sample Volume (or amount)	Time to Process (minutes) <sup>1</sup>	Format (Manual/ Automated)	Product	Cat.#
URINE	300µl-30ml	≤48 samples in 70	Α	Maxwell® CSC Pathogen Total Nucleic Acid Kit²	AS1860
	300µl-30ml	≤48 samples in 70	Α	Maxwell® RSC Pathogen Total Nucleic Acid Kit³	AS1890
UTM/VTM	300µІ	≤48 samples in 60	A	Maxwell® CSC Pathogen Total Nucleic Acid Kit²	AS1860
	200μΙ	≤48 samples in 60	Α	Maxwell® CSC Viral Total Nucleic Acid Purification Kit²	AS1780
	300µІ	≤48 samples in 60	Α	Maxwell® RSC Pathogen Total Nucleic Acid Kit³	AS1890
	200μΙ	≤48 samples in 60	Α	Maxwell® RSC Viral Total Nucleic Acid Purification Kit³	AS1330
	200μΙ	90 no sample transfer, 120 with sample transfer	A	Maxwell® HT Viral Total Nucleic Acid Kit³	AX2340
WASTEWATER	40ml of wastewater	≤48 samples in 60	М	Wizard® Enviro Total Nucleic Acid Kit³	A2991
	40ml of wastewater	≤48 samples in 60	Α	Maxwell® RSC Enviro Total Nucleic Acid Kit³	AS1831
and the same of	Various depending on pre-processing	90 no sample transfer, 120 with sample transfer	Α	Maxwell® HT Enviro Total Nucleic Acid Kit³	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.

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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).

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

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

<sup>4</sup>Estimated buffy coat volume isolated from 10ml whole blood.

