TRANSGEN BIOTECH

NUCLEIC ACID EXTRACTION

Nucleic Acid Extraction Products

Providing Innovative Reagents for Life Sciences since 2006

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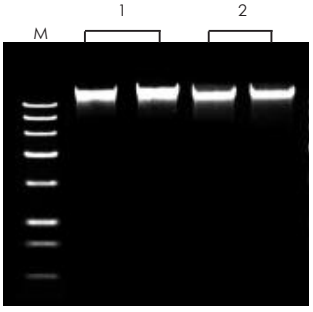
01. Cell/Tissue

EasyPure® Genomic DNA Kit (EE101)

- Suitable for the extraction of various types of materials (animal cells, animal tissues, mouse tails, E. coli, yeast).
- Fast operation, high yield (up to 15 μg).
- High integrity of cDNA ensured by mild lysis conditions without physical disruption, thus reducing damage to gDNA during cell lysis process.
- High purity enabled by spin column which can efficiently and specifically bind to DNA and remove protein, salts, lipids or other contaminants.

Data



M: *Trans*15K DNA Marker
1: HeLa cell
2: Mouse tissue

Tissue samples that have been successfully tested

Mouse	Testicle, epididymis, uterus, ovary, kidney, liver, lung, heart, brain, spleen, mesenteric lymph nodes, inguinal lymph nodes, skin, sciatic nerve, bone marrow, spinal cord, blood
Cynomolgus monkey	Testicle, epididymis, uterus, ovary, kidney, liver, lung, heart, brain, spleen, mesenteric lymph nodes, inguinal lymph nodes, skin, sciatic nerve, bone marrow, salivary gland, lacrimal gland

MagicPure® Mouse Tissue Genomic DNA Kit (EC111)

- Suitable for the extraction of mouse tissue samples, such as mouse tails and ears.
- High purity, enabled by buffer solution optimized for mouse tail tissue samples and magnetic beads with high efficiency which can effectively remove inhibitive substances in downstream experiments by specific DNA adsorption.
- Fast extraction, high purity, high yield.
- It is suitable for high-throughput magnetic rod-type nucleic acid extractors.

02. Plant

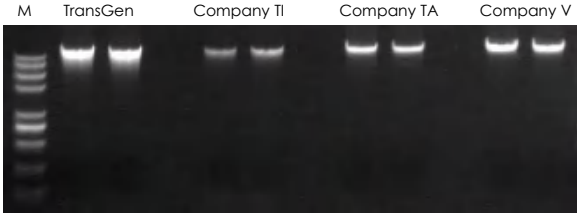
EasyPure® Universal Plant Genomic DNA Kit (EE112)

- Wide range of applications: applicable to various plant tissues, especially those rich in polysaccharides, polyphenols or starch.
- Fast operation: high-quality genomic DNA can be extracted in as little as 52 minutes.
- Safe and low toxicity: no toxic organic reagents such as phenol and chloroform.
- High purity: the unique technology can efficiently remove impurities such as pigments, polyphenols and polysaccharides in the sample, low inhibition of PCR amplification.

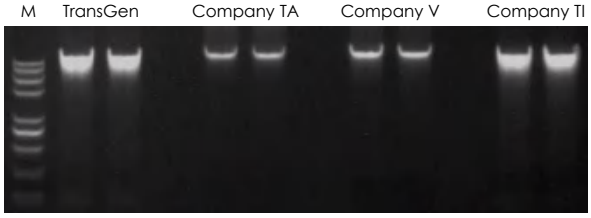
Data

Common plants

Tobacco leaves

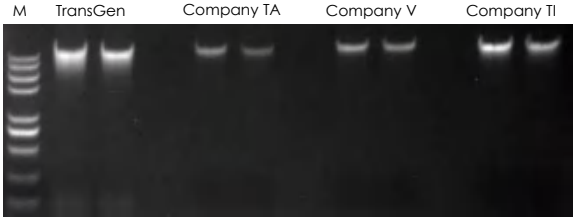


Corn leaves

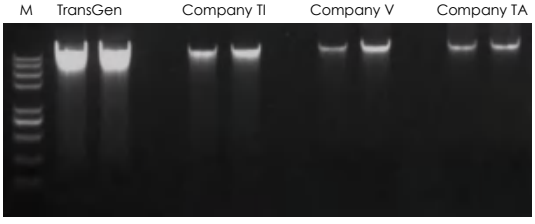


Polysaccaride-rich plants

Lychee leaves

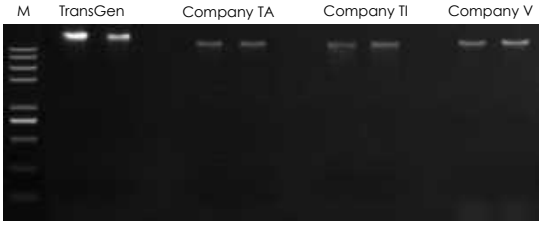


Sugarcane leaves

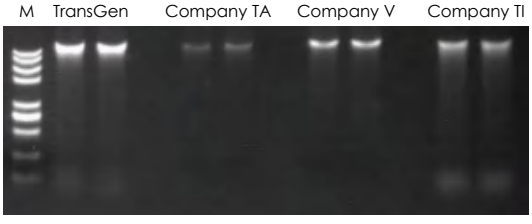


Polyphenol-rich plants

Pine needles



Corn roots



M: *Trans*2K® Plus II DNA Marker

MagicPure® Plant Genomic DNA Kit (EC102)

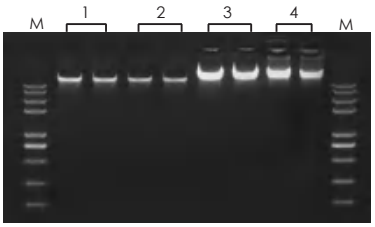
- Suitable for the extraction of various plant tissues.
- Simple and fast operation.
- High yield and purity.
- It is suitable for high-throughput magnetic rod-type nucleic acid extractors.

03. Blood

EasyPure® Blood Genomic DNA Kit (EE121)

- Suitable for the extraction of fresh, frozen or anticoagulated blood in a volume of 5 μl to 250 μl.
- Simple and fast, red cell lysis buffer is no longer needed, and the purified gDNA could be obtained within 30 minutes.
- DNA yield up to 40 μg.
- High purity enabled by spin column which can efficiently and specifically bind to DNA, remove protein, salts, lipids or other contaminants and effectively maintain the integrity of gDNA.

Data

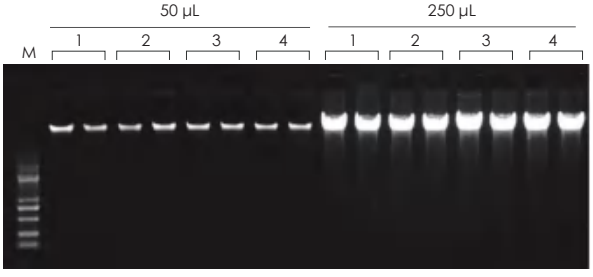


M: *Trans*2K® Plus II DNA Marker
1: Human whole blood
2: Mouse whole blood
3: Bullfrog full blood
4: Chicken whole blood

MagicPure® Blood Genomic DNA Kit (EC101)

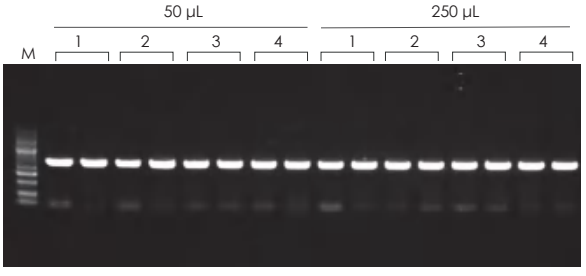
- Suitable for the extraction of fresh, frozen or anticoagulated blood in a volume of 5 μl to 250 μl.
- Simple and fast operation, no centrifugation required.
- High yield and purity.
- It is suitable for high-throughput magnetic rod-type nucleic acid extractors.

Data



M: *Trans*2K® Plus II DNA Marker

gDNA was extracted from 4 plasma samples with different inputs using reagent of TransGen. The extracted gDNAs were analyzed by agarose gel electrophoresis. The results showed that the extracted gDNAs had good integrity.



M: *Trans*2K® Plus II DNA Marker

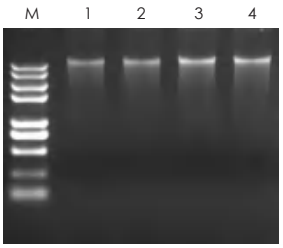
gDNA was extracted from 4 plasma samples with different inputs using reagent of TransGen. 100 ng of extracted gDNAs were used as templates to amplify the H12 gene. The results showed that TransGen reagent can efficiently extract samples of high (250 μL) and low (50 μL) volumes, and had no inhibition for downstream PCR.

04. Buccal Swab

EasyPure® Buccal Swab Genomic DNA Kit (EE201)

- Suitable for the extraction of buccal swabs (cotton swab or nylon flocked swab).
- Fast operation and high yield.

Data



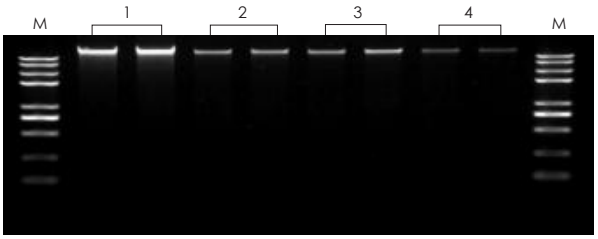
M: *Trans*2K® Plus II DNA Marker
1, 2: Company TG
3, 4: TransGen

gDNA was extracted from buccal swabs using reagents from TransGen and Company TG respectively. The extracted gDNAs were analyzed by 1.0% agarose gel electrophoresis.

MagicPure® Buccal Swab Genomic DNA Kit (EC901)

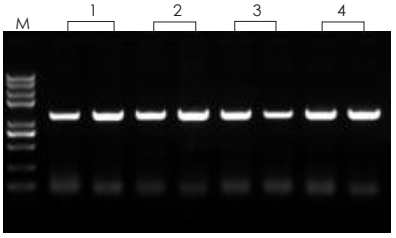
- Suitable for the extraction of buccal swabs (cotton swab or nylon flocked swab).
- Fast operation and high yield.
- It is suitable for high-throughput magnetic rod-type nucleic acid extractors.

Data



M: *Trans*2K® Plus II DNA Marker

gDNA was extracted from 4 buccal swabs using reagent of TransGen. The extracted gDNAs were analyzed by agarose gel electrophoresis. The results showed that the extracted gDNAs had good integrity.



M: *Trans*2K® Plus II DNA Marker

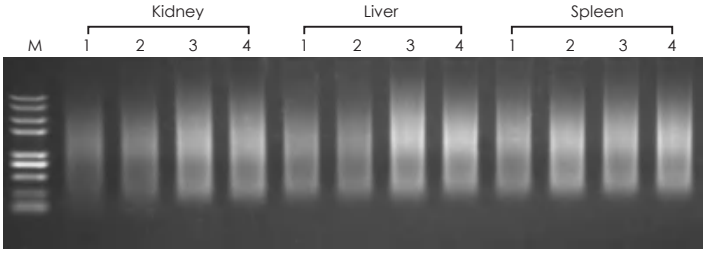
gDNA was extracted from 4 buccal swabs using reagent of TransGen. 100 ng of extracted gDNAs were used as templates to amplify the *H12* gene. The results showed that extracted gDNAs had high quality and can apply to downstream PCR.

05. FFPE

EasyPure® FFPE Tissue Genomic DNA Kit (EE191)

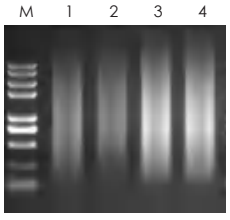
- Suitable for the extraction from formalin-fixed and paraffin-embedded tissues and sections.
- Anti-formaldehyde inhibition, strong lysis capability, fast extraction and high yield.
- High purity enabled by spin column which can efficiently and specifically bind to DNA, remove protein, salts, lipids or other contaminants.

Data



M: *Trans*2K® Plus II DNA Marker 1, 2: Company TG 3, 4: TransGen

gDNA was extracted from 3 paraffin-embedded tissues (10 mg) using reagents from TransGen and Company TG respectively. The extracted gDNAs were analyzed by 1.0% agarose gel electrophoresis.



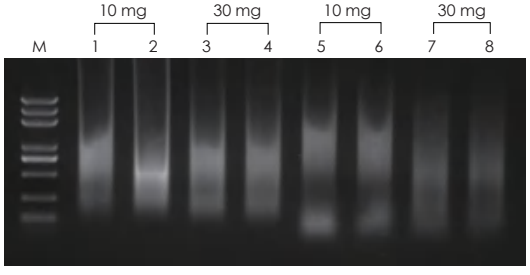
M: *Trans*2K® Plus II DNA Marker 1, 2: Company TG 3, 4: TransGen

gDNA was extracted from mouse abdominal muscle tissue (10 mg) fixed with 4.0% neutral formaldehyde fixative solution from TransGen and Company TG respectively. The extracted gDNAs were analyzed by 1.0% agarose gel electrophoresis.

MagicPure® FFPE Tissue Genomic DNA Kit (EC701)

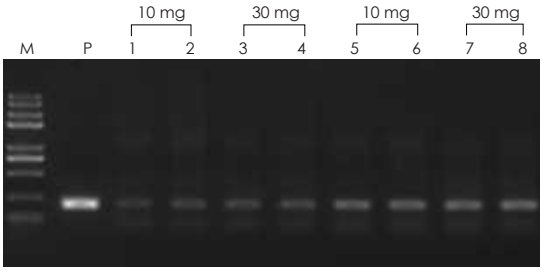
- Suitable for the extraction from paraffin-embedded tissues and sections.
- Fast extraction, high yield.
- High purity enabled by optimized buffer and magnetic beads which can efficiently and specifically bind to DNA, remove protein, salts, lipids or other contaminants.

Data



M: *Trans*2K® Plus DNA Marker
1, 2, 3, 4: TransGen 5, 6, 7, 8: Company T

gDNA was extracted from human source sections with different inputs using reagents from TransGen and Company T respectively. The extracted gDNAs were analyzed by agarose gel electrophoresis.



M: *Trans*2K® Plus II DNA Marker P: Positive control
1, 2, 3, 4: TransGen 5, 6, 7, 8: Company T

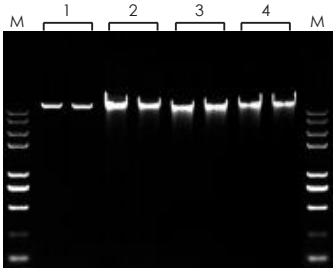
gDNA was extracted from human source sections with different inputs using reagents from TransGen and Company T respectively. 20 ng of extracted gDNAs were used as templates to amplify the ATCB gene. The results showed that extracted gDNAs using TransGen reagent had good quality and can apply to downstream PCR.

06. Bacteria

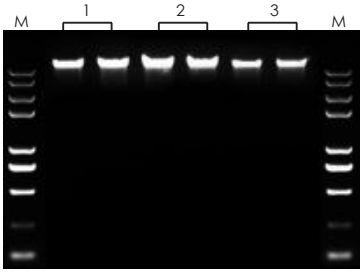
EasyPure® Bacteria Genomic DNA Kit (EE161)

- Suitable for the extraction from Gram-positive and Gram-negative bacteria.
- Strong lysis capability, fast extraction and high yield (up to 20 μg).
- High purity enabled by spin column which can efficiently and specifically bind to DNA, remove protein, salts or other contaminants.

Data



Extraction from Gram-positive bacteria
M: *Trans*2K® Plus II DNA Marker
1: *Streptomyces coelicolor* 2: *Staphylococcus aureus*
3: *Lactobacillus acidophilus* 4: *Bacillus subtilis*



Extraction from Gram-positive bacteria
M: *Trans*2K® Plus II DNA Marker
1: *Escherichia coli* 2: *Citrobacter freundii*
3: *Pseudomonas fluorescens*

07. Stool and Soil

MagicPure® Stool and Soil Genomic DNA Kit (EC801)

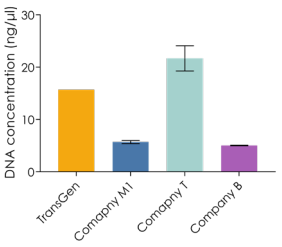
- Simple operation: cumbersome steps such as heating or ice bathing are not required.
- High purity: Humic Acid Removal can efficiently remove inhibitors to produce high-quality DNA.
- Wide range of applications: suitable for various soil and stool samples.

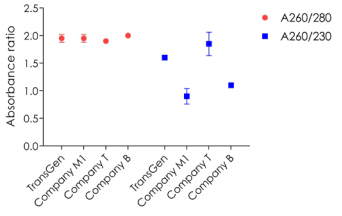
Data

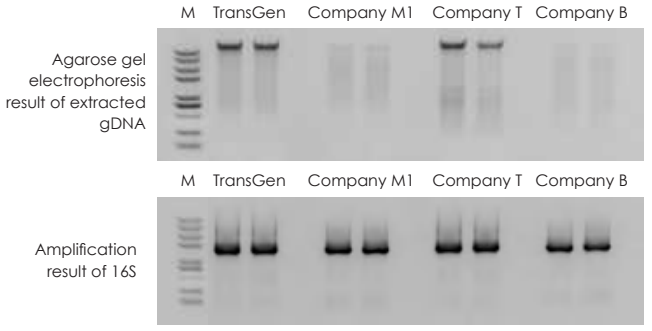
Comparison with competing products

Soil samples

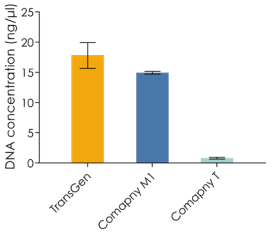
Silt

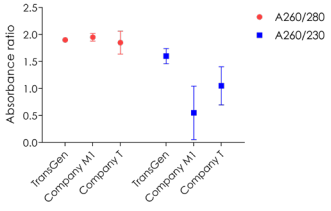


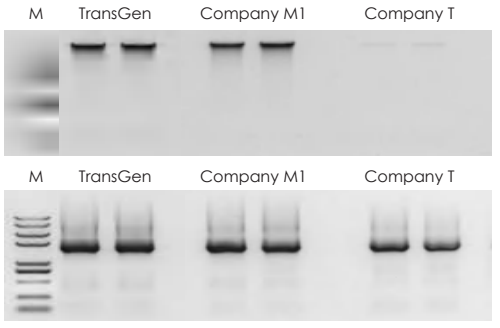




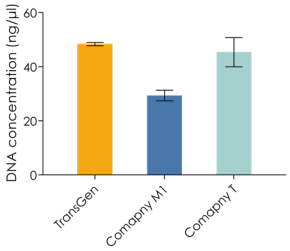
Farmland soil

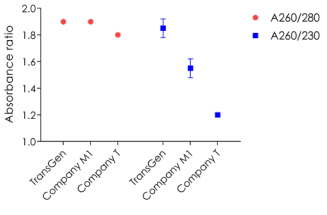


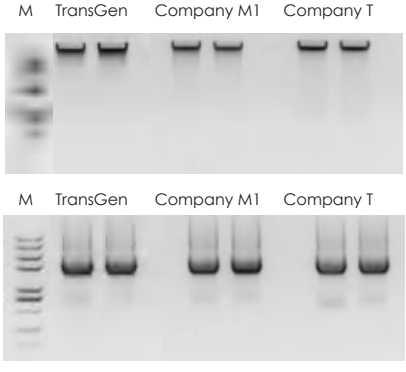




Grassland soil



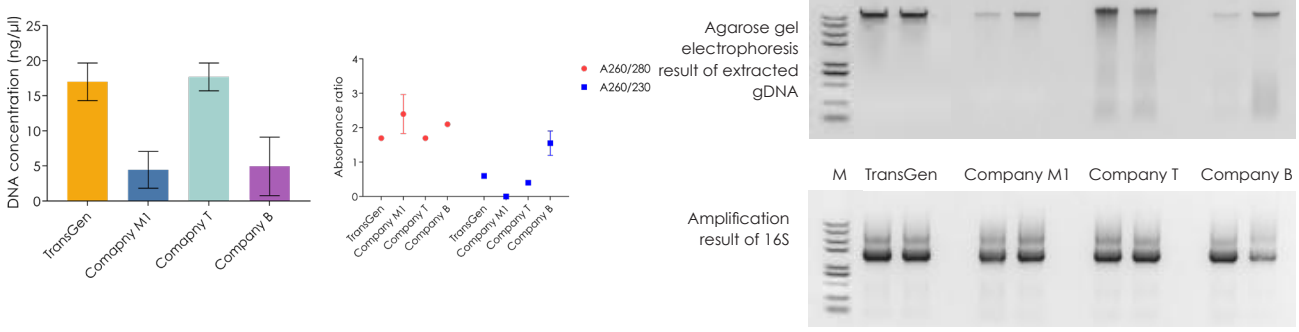




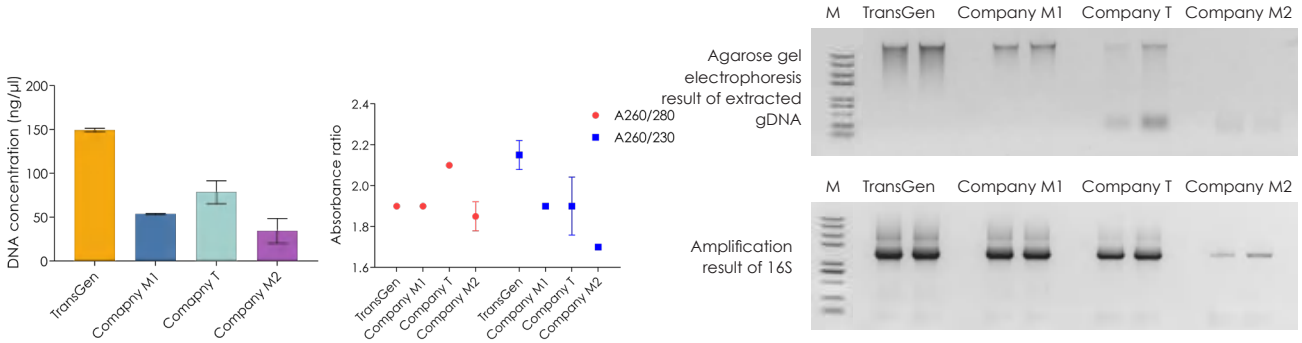
Genomic DNA was extracted from different soil samples using reagents from TransGen and competitors respectively. The extracted gDNAs were detected for DNA concentration, A260/280 ratio, A260/230 ratio, agarose gel electrophoresis, and downstream gene amplification. The results showed that extracted gDNAs using TransGen reagent had high concentration, good quality and no inhibition on downstream gene amplification.

Stool samples

Pig stool



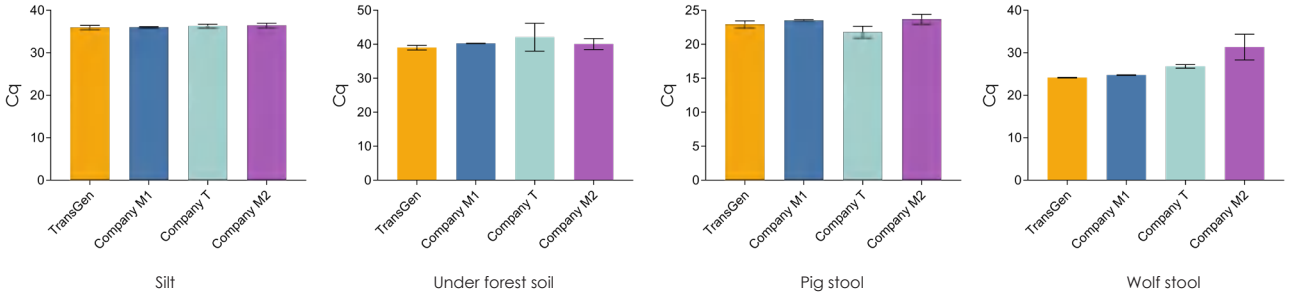
Mouse stool



Genomic DNA was extracted from different stool samples using reagents from TransGen and competitors respectively. The extracted gDNAs were detected for DNA concentration, A260/280 ratio, A260/230 ratio, agarose gel electrophoresis, and downstream gene amplification. The results showed that extracted gDNAs using TransGen reagent had high concentration, good quality and no inhibition on downstream gene amplification.

Downstream application

qPCR detection



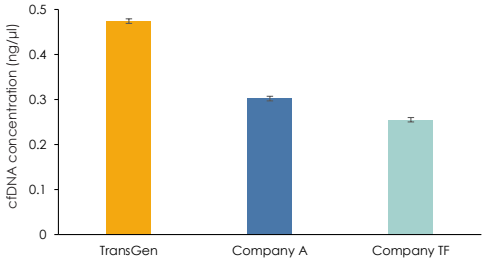
Genomic DNA was extracted from different samples using reagents from TransGen and competitors respectively. The extracted gDNAs were used as templates for qPCR. The results showed that extracted gDNAs using TransGen reagent had better amplification performance and exhibits no inhibition in qPCR amplification.

08. Cell-Free DNA

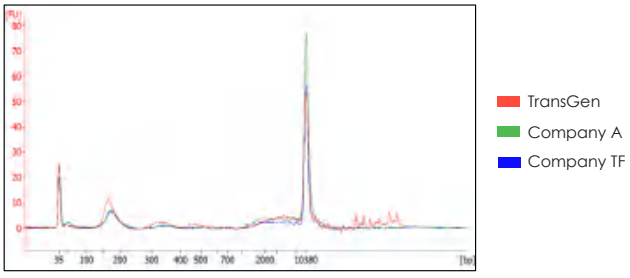
MagicPure® Cell-Free DNA Kit (EC201)

- Suitable for 0.5 mL-10 mL serum or plasma.
- Simple and fast, no centrifugation required.
- High yield and purity.

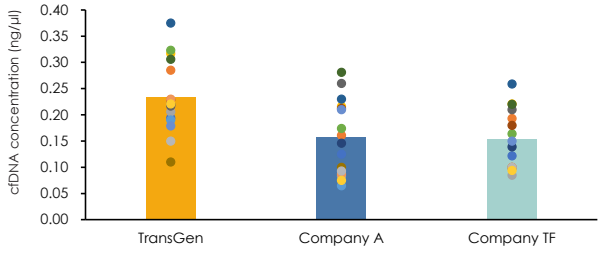
Data



Measurement of cfDNA yield from 4 mL human plasma by Qubit



Human plasma cfDNA was extracted using reagents from TransGen, Company A, and Company TF. The results showed that the cfDNA extracted using TransGen's product had a higher concentration, with the main fragment concentration being greater than that of competitors. Additionally, it demonstrated superior coverage for fragments in the 150-200 bp range compared to competing products.



Measurement of cfDNA yield from 2 mL plasma by Qubit

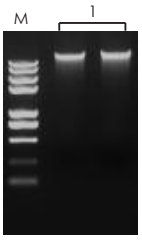
cfDNA was extracted from 16 human plasma samples using reagents from TransGen, Company A, and Company TF, respectively. The results showed that the TransGen product yielded higher cfDNA concentrations than competing products.

09. Highly Processed Food and Fodder

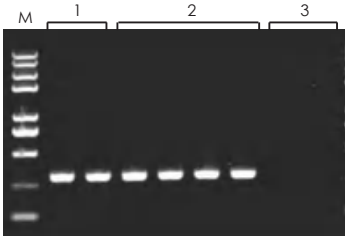
EasyPure® Food and Fodder Security Genomic DNA Kit (EE171)

- Suitable for the extraction from crops, highly processed foods, meat products, fodder and other routine test materials.
- Strong lysis capability and fast extraction.
- High purity enabled by spin column which can efficiently and specifically bind to DNA, remove protein, salts or other contaminants.

Data

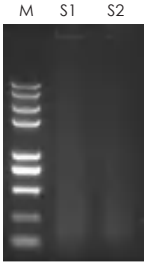


M: *Trans*2K® Plus II DNA Marker
1: Genomic DNA from soybean sauce

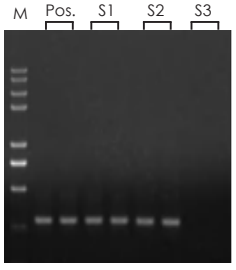


M: *Trans*2K® Plus II DNA Marker
1: Positive control (soybean genomic DNA)
2: Genomic DNA from soybean sauce
3: Negative control

Amplify plant 18S rDNA from isolated soybean sauce genomic DNA.



M: *Trans*2K® Plus II DNA Marker (5 μL)
S1-S2: Genomic DNA from cattle fodder genome (5 μL)



M: *Trans*2K® Plus II DNA Marker (5 μL)
Positive control (Pos.): bovine genomic DNA
S1-S2: bovine fodder genomic DNA
S3 (NTC): No template control

Amplify bovine 18S rDNA from isolated bovine fodder genomic DNA.

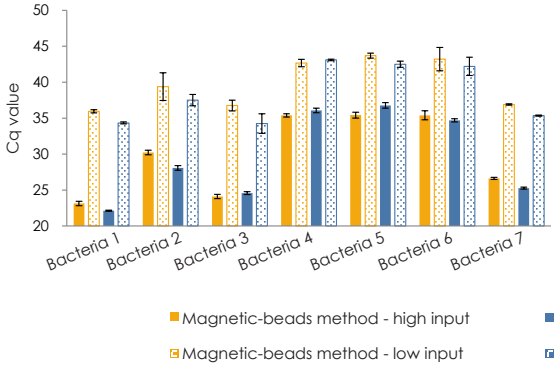
10. Microbiome

EasyPure® Microbiome DNA Isolation Kit (EE401)

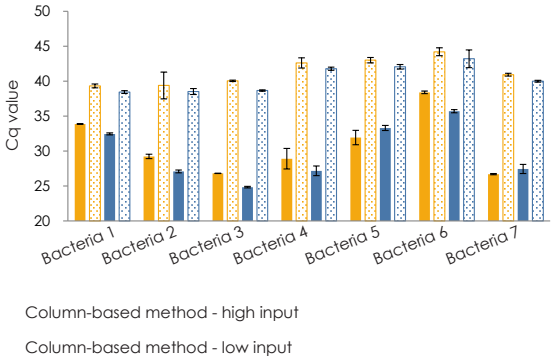
- Suitable for isolation and purification of host and microbial genomic DNA from biological samples such as blood, alveolar lavage fluid, liquefied sputum, nasopharyngeal or oropharyngeal swabs, pleural ascites, cerebrospinal fluid, amniotic fluid, etc.
- High quality, high yield, meet a variety of downstream tests.
- Low background, reduce false positives.

Data

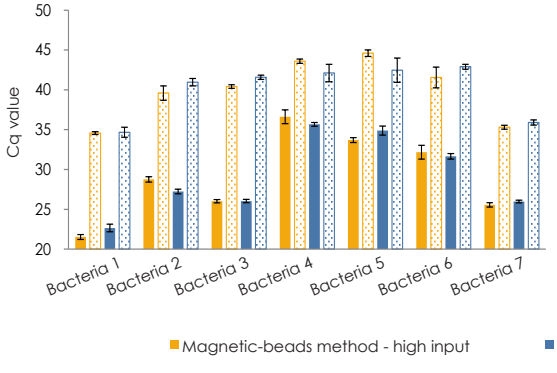
Throat swab



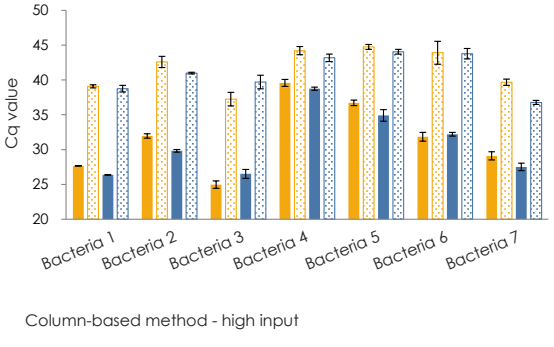
Pleural effusion



Sputum



Ascites



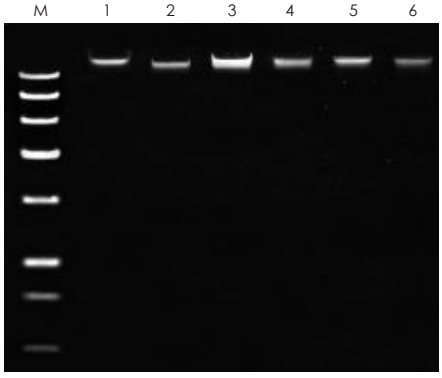
gDNA was extracted from throat swab, pleural effusion, sputum and ascites added different bacterial dilutions with high input and low input using column-based method and magnetic-beads method reagents from TransGen. The extracted gDNAs were used as templates for qPCR.

11. Marine Animal

EasyPure® Marine Animal Genomic DNA Kit (EE151)

- Suitable for the extraction from up to 30 mg marine animals.
- Strong lysis capability, lysis buffer specifically for marine organisms can efficiently release DNA from marine animal tissues with high salt content.
- High yield (up to 40 μg), and high purity.

Data



M: *Trans*15K DNA Marker
Lane 1: white clam
Lane 2: razor clam
Lane 3: oyster
Lane 4: crab
Lane 5: lobster
Lane 6: scallop

12. Low Abundance DNA

EasyPure® Micro Genomic DNA Kit (EE181)

- Suitable for the extraction from a variety of materials including blood, dried blood spots, serum/plasma, mouthwash, hair follicles, microtissues, microdissected samples and formaldehyde fixed samples.
- Fast and high yield.
- High purity enabled by spin column which can efficiently and specifically bind to DNA, remove protein, salts or other contaminants.

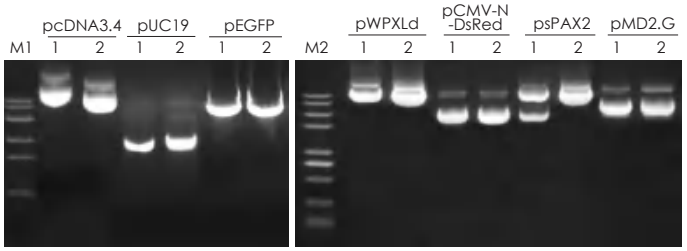
13. Plasmid DNA

EasyPure® EndoFree Pro Plasmid MaxiPrep Kit (EM123)

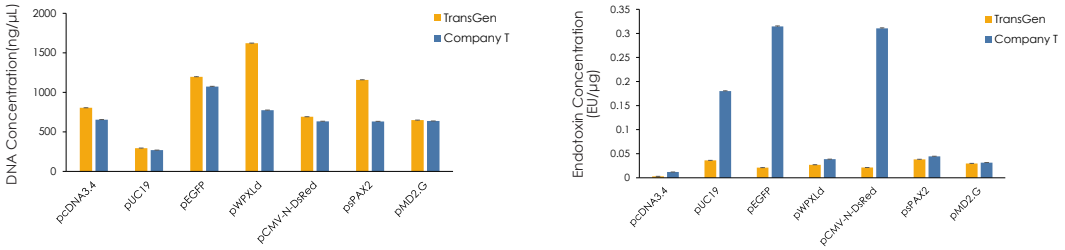
- Operational visualization: solution LB (blue) indicates whether the lysis and neutralization are complete through the change of color, to ensure the quality of plasmid extraction.
- Low content of endotoxin (endotoxin-free grade, advanced transfection): using liquid chromatography and Push-Filter to deplete endotoxin, prepare plasmid DNA with high purity (endotoxin <0.1 EU/μg).
- Fast: increased volume of spin column, decreased numbers of centrifuge, the operation time has been shortened significantly.
- High yield: up to 4 mg nucleic acid load in the purification column.
- Wide range of applications: plasmid with high-copy or low-copy can be extracted efficiently.
- Transfection grade: more suitable for transfection of mammal cells.

Data

High Plasmid Extraction Efficiency

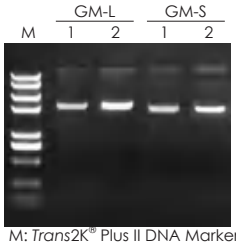


M1: *Trans*8K DNA Marker M2: *Trans*2K® Plus II DNA Marker 1:Company T 2:TransGen

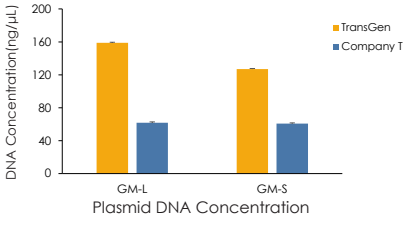


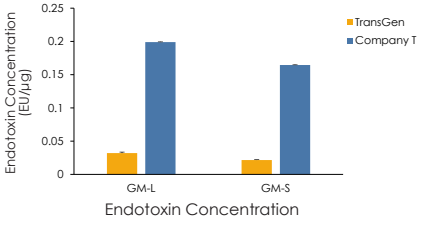
Extract plasmids and detect plasmid DNA quality, concentration and endotoxin concentration. The results show that plasmid DNA extracted with TransGen product has higher quality, higher concentration and less endotoxin.

High Extraction Efficiency for Low-copy Plasmid



M: *Trans*2K® Plus II DNA Marker
1:Company T 2:TransGen





Extract plasmid GM-L and plasmid GM-S using products of TransGen and Company T respectively, and detect plasmid DNA quality, concentration and endotoxin concentration. The results show that TransGen's kit has better extraction effect for low-copy plasmid.

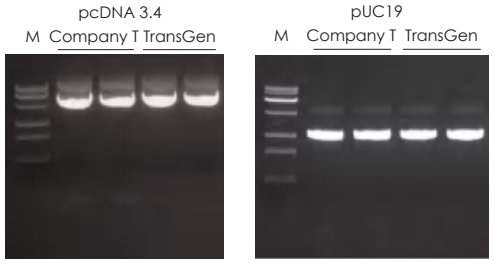
EasyPure® EndoFree Plasmid MaxiPrep Kit

(EM122)

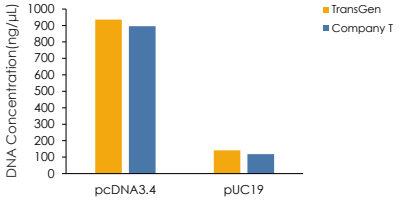
- Operational visualization: solution LB (blue) indicates whether the lysis and neutralization are complete through the change of color, to ensure the quality of plasmid extraction.
- Low content of endotoxin: plasmid DNA with high purity and transfection grade can be prepared (endotoxin < 20 EU/μg).
- High yield: up to 4 mg nucleic acid load in the purification column.
- Simple operation: more simple and quicker compared to *EasyPure*® EndoFree Pro Plasmid MaxiPrep Kit (EM123).

Data

Conventional Plasmid Extraction



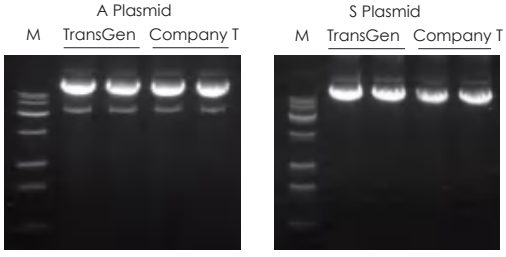
M: *Trans*15K DNA Marker



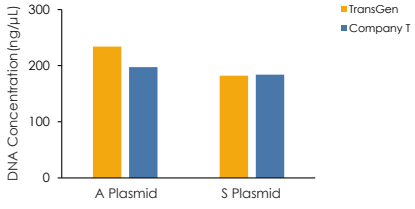
Plasmid DNA Concentration

Extract plasmid pUC19 and plasmid pcDNA 3.4 using products of TransGen and Company T respectively, and detect plasmid DNA quality, concentration and endotoxin concentration. The results show that plasmid DNA extracted with TransGen product has higher quality, higher concentration and less endotoxin.

Large Plasmid Extraction



M: *Trans*15K DNA Marker



Plasmid DNA Concentration

Extract plasmid A and plasmid S using products of TransGen and Company T respectively, and detect plasmid DNA quality, concentration and endotoxin concentration. The results show that plasmid DNA extracted with TransGen product has higher quality, higher concentration and less endotoxin.

EasyPure® 1-Tube Universal EndoFree Plasmid MaxiPrep Kit (for 100-500 ml)

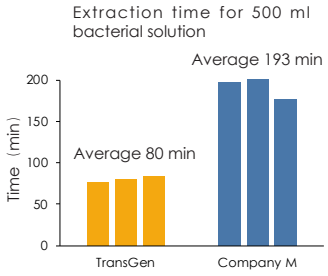
(EM152)

- 1-tube type: Lysis and neutralization of 100-500 ml bacterial solution can be completed in a single 50 ml centrifuge tube, without the need to prepare large-volume consumables.
- Visualization: Solution LB II (blue) indicates whether lysis and neutralization are complete through the change of color, ensuring the quality of plasmid extraction.
- Fast: The universal system is compatible with extraction of 100-500 ml bacterial solution. Small volume system combined with large volume spin column.
- High yield: Up to 6 mg nucleic acid load in the purification column.

Data

Easy to operate and fast: Only 3 centrifugations are required and the extraction can be completed in 80 minutes.

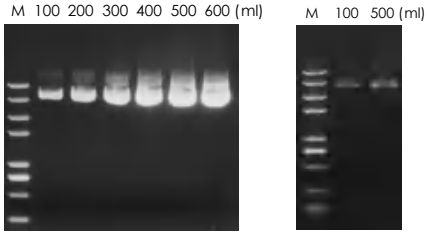
Bacterial cells volume (ml)	TransGen			Company M		
	The system for Lysis and neutralization (ml)	After adding 0.3 times the volume of isopropanol (ml)	Centrifugation times	The system for Lysis and neutralization (ml)	After adding 0.3 times the volume of binding buffer (ml)	Centrifugation times
500	12-12-12	46	3	20-20-20	78	5



Efficient extraction of high and low copy plasmids from different culture volumes

Different types of plasmids from different volumes of bacterial culture were extracted using reagent from TransGen. The extracted plasmids were analyzed by concentration, A260/280, A260/230, and agarose gel electrophoresis. The results showed that TransGen product can efficiently extract bacterial cultures of different volumes, with high quality.

Plasmid type	Bacterial cells volume (ml)	Elution volume (ml)	Nano (ng/μl)	A260/280	A260/230
High copy pLVX (8 kb)	100	3	237.871	1.88	2.25
	200	3	438.833	1.88	2.26
	300	3	663.471	1.86	2.26
	400	3	919.271	1.86	2.26
	500	3	1108.2	1.85	2.24
	600	3	1339.92	1.84	2.27
Low copy pBI121 (15 kb)	100	2	75.729	1.87	1.86
	500	2	246.394	1.87	1.64

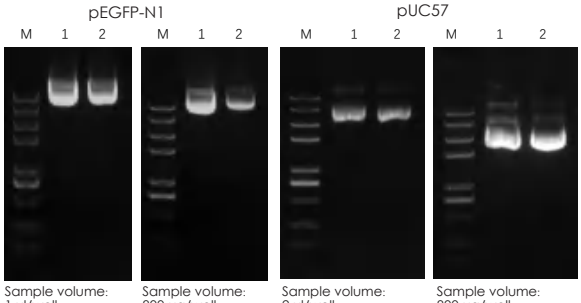


M: *Trans*2K® Plus II DNA Marker

Comparison with competitive products

Plasmids from different volumes of bacterial culture were extracted using reagents from TransGen, Company T and Company M. The extracted plasmids were analyzed by concentration, A260/280, A260/230, and agarose gel electrophoresis. The results show that plasmid extracted with TransGen product has higher quality.

Bacterial cells volume (ml)	Plasmid name	Elution volume (ml)	Brand	Qubit (ng/μl)	Nano (ng/μl)	A260/280	A260/230
100	pEGFP-N1	1.5	TransGen	989.96	1065.23	1.84	2.22
			Company T	898.45	2060.06	1.86	2.31
500	pUC57	3	TransGen	168.12	176.393	1.86	2.21
			Company M	114.31	136.07	1.91	2.43

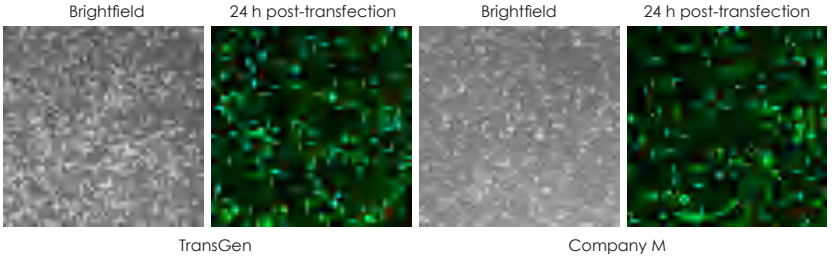


M: *Trans*2K® Plus II DNA Marker
1. TransGen 2. Comangy T

M: *Trans*2K® Plus II DNA Marker
1. TransGen 2. Comangy M

Downstream application - cell transfection

GFP plasmids were extracted using regaents from TransGen and Company M. 293T cells were transfected with plasmids of equal quality, respectively. Transfection results were detected with fluorescence microscopy. The results showed that plasmid extracted with TransGen product can be successfully used for cell transfection experiment, with high transfection efficiency.



EasyPure® 1-Tube Universal EndoFree Pro Plasmid MaxiPrep Kit (for 100-500 ml)

(EM153)

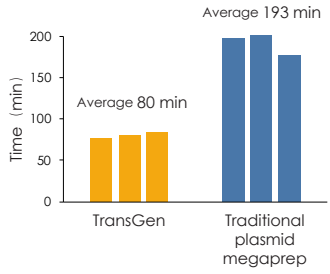
- 1-tube type: Lysis and neutralization of 100-500 ml bacterial solution can be completed in a single 50 ml centrifuge tube, without the need to prepare large-volume consumables.
- Visualization: Solution LB III (blue) indicates whether lysis and neutralization are complete through the change of color, ensuring the quality of plasmid extraction.
- Fast: The universal system is compatible with extraction of 100-500 ml bacterial solution. Small volume system combined with large volume spin column.
- Endotoxin-free: Purified plasmid with endotoxin levels <0.1 EU/μg (as low as 0.001 EU/μg).
- High yield: Up to 5 mg nucleic acid load in the purification column.

Data

Easy to operate and fast: Only 3 centrifugations are required and the extraction can be completed in 80 minutes.

Bacterial cells volume	TransGen			Traditional plasmid megaprep		
	The system for Lysis and neutralization (ml)	After adding 0.3 times the volume of isopropanol (ml)	Centrifugation times	The system for Lysis and neutralization (ml)	After adding 0.3 times the volume of binding buffer (ml)	Centrifugation times
500	12-12-8	45.5	3	20-20-20	78	5

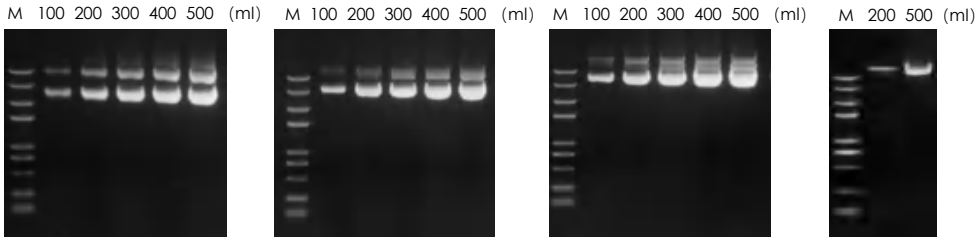
Extraction time for 500 ml bacterial solution



Efficient extraction of high and low copy plasmids from different culture volumes

Different types of plasmids from different volumes of bacterial culture were extracted using reagent from TransGen. The extracted plasmids were analyzed by concentration, A260/280, A260/230, yield, endotoxin level, and agarose gel electrophoresis. The results showed that TransGen product can efficiently extract bacterial cultures of different volumes, with high quality, high concentration and low endotoxin levels.

Plasmid name	Bacterial cells volume(ml)	Elution volume(ml)	Qubit (ng/μl)	Nano (ng/μl)	A260/280	A260/230	Yield (μg)	Endotoxin level (EU/μg)
pMD2.G (High copy, 5 kb)	100	3	198.64	233.25	1.87	2.29	699.75	0.0057
	200	3	482.19	528.01	1.86	2.32	1584.03	0.0014
	300	3	681.33	753.52	1.83	2.33	2260.56	0.0080
	400	3	896.43	957.58	1.85	2.34	2872.74	0.0063
	500	3	1034.72	1239.12	1.83	2.31	3717.36	0.0048
pLVX (High copy, 8 kb)	100	4	190.13	221.31	1.89	2.26	885.24	0.0068
	200	4	390.81	414.94	1.86	2.19	1659.76	0.0036
	300	4	534.37	597.43	1.86	2.22	2389.72	0.0025
	400	4	634.64	731.36	1.85	2.27	2925.44	0.0021
	500	4	756.21	863.32	1.85	2.26	3453.28	0.0017
pEGFP-N1 (High copy, 8 kb)	100	4	260.32	300.07	1.88	2.25	1200.28	0.0010
	200	4	490.30	585.53	1.85	2.28	2342.12	0.0051
	300	4	760.56	870.255	1.84	2.27	3481.02	0.0034
	400	4	980.72	1171.23	1.86	2.23	4684.90	0.0026
	500	4	1342.94	1425.95	1.87	2.23	5703.80	0.0021
pBI121 (Low copy, 15 kb)	200	2	106.23	125.90	1.86	2.09	251.80	0.0220
	500	2	215.29	367.03	1.86	2.16	534.06	0.0240

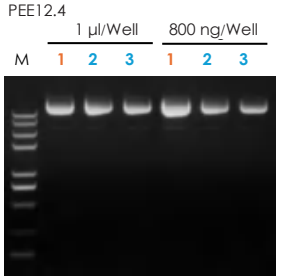


M: *Trans*2k® Plus II DNA Marker

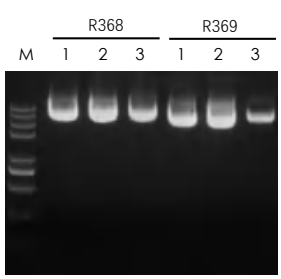
Comparison with traditional plasmid maxiprep kits

Different types of plasmids (bacterial cultures prepared in TB medium) were extracted using TransGen, traditional plasmid maxiprep and traditional plasmid megaprep products. The extracted plasmids were analyzed by concentration, A260/280, A260/230, yield, endotoxin level, and agarose gel electrophoresis. The results showed that the plasmid DNA extracted by TransGen exhibited better quality, lower endotoxin levels, and more accurate concentration.

Plasmid name	Product	Bacterial cells volume (ml)	Elution volume (ml)	Qubit (ng/μl)	Nano (ng/μl)	A260/280	A260/230	Yield (μg)	Endotoxin level (EU/μg)
pEE12.4 (Medium copy, 10 kb)	TransGen (100-500 ml)	130	1.2	**221.37**	**255.71**	1.88	2.29	306.85	0.0049
	Traditional plasmid maxiprep T1 (100-200 ml)	130	1.2	**208.76**	**530.62**	1.92	2.52	636.74	94.642
	Traditional plasmid maxiprep V (100-200 ml)	130	1.2	**211.26**	**581.50**	1.91	2.58	697.81	26.810
R368 (High copy, 6.5 kb)	Traditional plasmid maxiprep T2 (100-200 ml)	500	1.3	987.69	1123.12	1.83	2.26	1460.06	0.2406
	TransGen (100-500 ml)	500	1.3	1087.76	1276.43	1.84	2.24	1659.36	0.0071
	Traditional plasmid megaprep M (500 ml)	500	1.3	1062.34	1093.06	1.84	2.21	1602.98	22.3819
R369 (High copy, 5.8 kb)	Traditional plasmid maxiprep T2 (100-200 ml)	500	1.3	1463.25	1659.26	1.83	2.3	2157.04	0.2062
	TransGen (100-500 ml)	500	1.3	1457.21	1606.72	1.84	2.31	2088.74	0.0015
	Traditional plasmid megaprep M (500 ml)	500	1.3	802.40	963.06	1.83	2.23	1251.98	21.2076



M: *Trans*2k® Plus II DNA Marker
1: TransGen (100-500 ml)
2: Traditional plasmid maxiprep T1 (100-200 ml)
3: Traditional plasmid maxiprep V (100-200 ml)

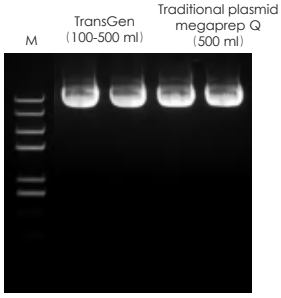


M: *Trans*2k® Plus II DNA Marker
1: Traditional plasmid maxiprep T2 (100-200 ml)
2: TransGen (100-500 ml)
3: Traditional plasmid megaprep M (500 ml)

Stronger endotoxin removal capability and shorter processing time

The TransGen product, when combined with the concentration process (ethanol precipitation method), further reduces endotoxin levels and saves approximately 36.8% in processing time compared to traditional plasmid megaprep kit (Company Q).

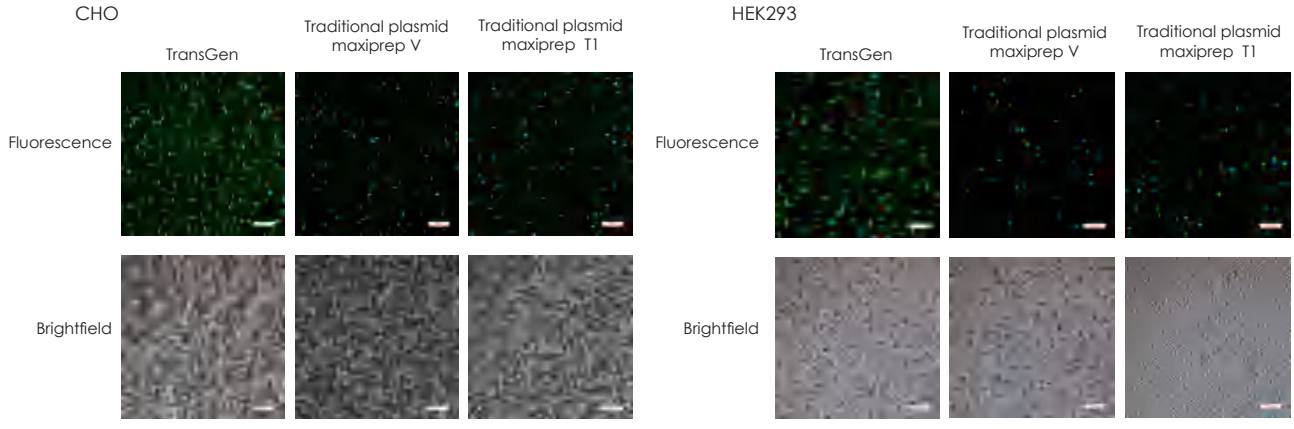
Plasmid name	Product	Bacterial cells volume (ml)	Elution volume (ml)	Qubit (ng/μl)	Nano (ng/μl)	A260/280	A260/230	Yield (μg)	Endotoxin level (EU/μg)	Time (min)
pEE12.4 (TB medium)	TransGen (100-500 ml)	325	0.8	1039.12	1121.97	1.82	2.23	897.576	0.0000300	120
	Traditional plasmid megaprep kit (Company Q) (500 ml)	325	0.8	1082.5	1126.57	1.83	2.27	901.256	0.0086563	190



M: *Trans*2k® Plus II DNA Marker

Cell transfection

The pEE12.4 plasmid was extracted using TransGen, traditional plasmid maxiprep V, and traditional plasmid maxiprep T1 kits, respectively. Equal amounts of plasmid DNA, calculated based on Nanodrop readings (data derived from comparison with traditional plasmid maxiprep kits), were transfected into CHO cells (via electroporation) and HEK293 cells (via PEI transfection). Transfection efficiency was detected at 24 hours after the post transfection. The results showed that the TransGen product achieved higher transfection efficiency, confirming that the plasmid concentration extracted by the TransGen product is more accurate.



14. DNA Clean Up

EasyPure® PCR Purification Kit (EP101)

- Apply to purification of PCR products and enzyme digestion products.
- Effectively remove primers, dNTPs, enzymes, and inorganic salts.
- Purification of fragments ranging from 100 bp to 10 kb.
- Fast purification in only 5 minutes.
- High purification efficiency.

EasyPure® Quick Gel Extraction Kit (EG101)

- Apply to purify DNA fragments from TAE or TBE agarose gels.
- Purification of fragments ranging from 100 bp to 10 kb.
- Fast purification in less than 20 minutes.
- Gel Solubilization Buffer (GSB,Yellow), color change indicates pH level is appropriate for DNA binding to column.

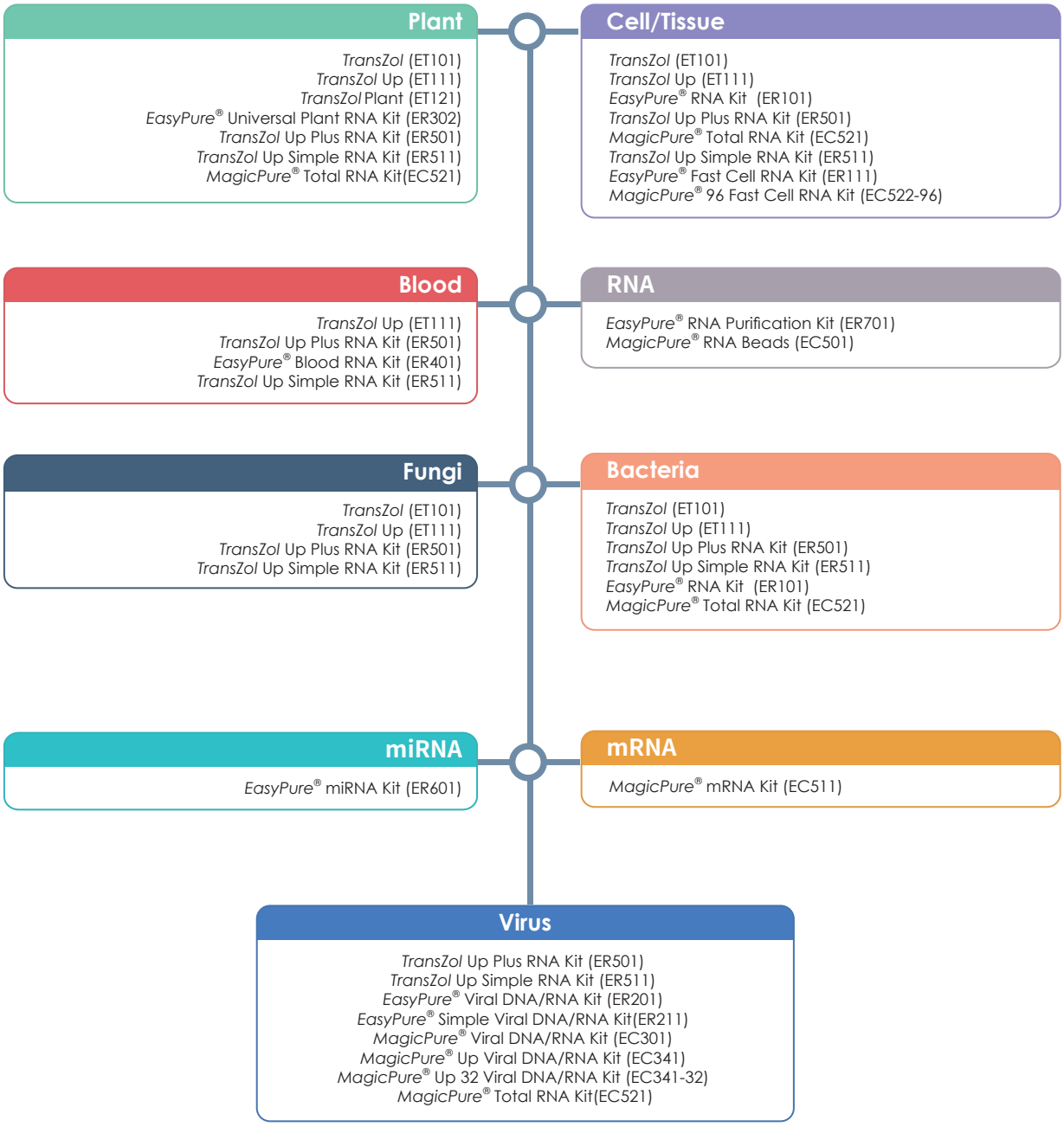
DNA Purification Products

Category	Product Name	Cat. No.
Cell/Tissue	*EasyPure*® Genomic DNA Kit	EE101
	MagicPure® Mouse Tissue Genomic DNA Kit	EC111
Plant	*PlantZol*	EE141
	EasyPure® Plant Genomic DNA Kit	EE111
	EasyPure® Universal Plant Genomic DNA Kit	EE112
	MagicPure® Plant Genomic DNA Kit	EC102
Blood	*EasyPure*® Blood Genomic DNA Kit	EE121
	MagicPure® Blood Genomic DNA Kit	EC101
	MagicPure® 32 Blood Genomic DNA Kit	EC101-32
	MagicPure® 96 Blood Genomic DNA Kit	EC101-96
Buccal Swab	*EasyPure*® Buccal Swab Genomic DNA Kit	EE201
	MagicPure® Buccal Swab Genomic DNA Kit	EC901
FFPE	*EasyPure*® FFPE Tissue Genomic DNA Kit	EE191
	MagicPure® FFPE Tissue Genomic DNA Kit	EC701
Bacteria	*EasyPure*® Genomic DNA Kit	EE101
	EasyPure® Bacteria Genomic DNA Kit	EE161
Soil and Stool	*EasyPure*® Stool Genomic DNA Kit	EE301
	MagicPure® Stool and Soil Genomic DNA Kit	EC801
Cell-Free DNA	*MagicPure*® Cell-Free DNA Kit	EC201
	MagicPure® Cell-Free DNA Kit II	EC211
Highly Processed Food and Fodder	*EasyPure*® Food and Fodder Security Genomic DNA Kit	EE171
Microbiome	*EasyPure*® Microbiome DNA Isolation Kit	EE401
	EasyPure® 32 Microbiome DNA Isolation Kit	EC107-32
Marine Animal	*EasyPure*® Marine Animal Genomic DNA Kit	EE151
Low Abundance DNA	*EasyPure*® Micro Genomic DNA Kit	EE181
Plasmid DNA	*EasyPure*® Plasmid MiniPrep Kit	EM101
	EasyPure® HiPure Plasmid MiniPrep Kit	EM111
	EasyPure® EndoFree Plasmid MaxiPrep Kit	EM122
	EasyPure® EndoFree Pro Plasmid MaxiPrep Kit	EM123
	EasyPure® 1-Tube Universal EndoFree Plasmid MaxiPrep Kit (for 100-500 ml)	EM152
	EasyPure® 1-Tube Universal EndoFree Pro Plasmid MaxiPrep Kit (for 100-500 ml)	EM153
DNA Clean Up	*EasyPure*® PCR Purification Kit	EP101
	EasyPure® Quick Gel Extraction Kit	EG101
	MagicPure® Size Selection DNA Beads	EC401

RNA Purification

B

RNA Purification Products Guide



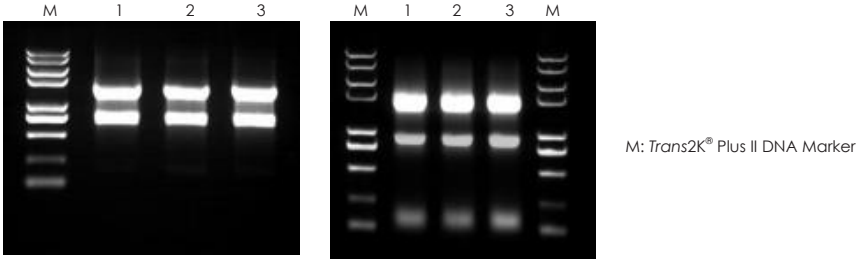
01. Cell/Tissue

TransZol Up
(ET111)

Compared with other total RNA extraction reagents, *TransZol* Up has strong lysis capability, fast speed, and higher yield and purity.

- Suitable for rapid extraction of total RNA from various tissues and cells.
- Wide range of applications: animal and plant tissues, blood and bacteria, etc. Small samples (50-100 mg tissue, 5 x 10^6 cells, 200 µl blood). Large samples (≥1 g tissue or ≥10^7 cells).
- Fast extraction: the reaction can be completed within an hour.
- Visualization of operation: the solution is pink for easy separation of aqueous and organic phases.
- High purity: minimal DNA and protein contamination.
- RNA Dissolving Solution: facilitates RNA preservation and reduces inhibition of reverse transcription.

Data



Rat liver HeLa cells

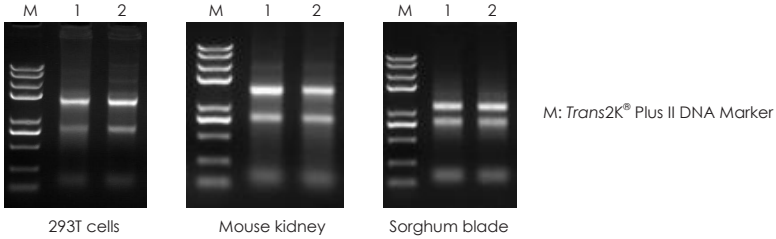
M: *Trans*2K® Plus II DNA Marker

TransZol Up Plus RNA Kit
(ER501)

Compared with other total RNA extraction methods, TransZol Up Plus RNA Kit possesses not only advantages of strong lysis capability, high yield and a wide range of applications of TransZol Up, but also the advantage of high purity of spin column extraction.

- Wide range of applications: animal and plant tissues, virus and bacteria, etc. Small samples (50-100 mg tissue, 5 x 10^6 cells, 200 µl blood). Large samples (≥1 g tissue or ≥10^7 cells). The binding capacity of the spin-columns is up to 100 µg RNA.
- Strong lysis capability: complete and fast lysis, high yield.
- Fast extraction: the reaction can be completed within an hour.
- Visible workflow: pink organic phase to facilitate separation from colorless aqueous phase.
- High purity: minimum DNA and protein contamination.

Data



293T cells Mouse kidney Sorghum blade

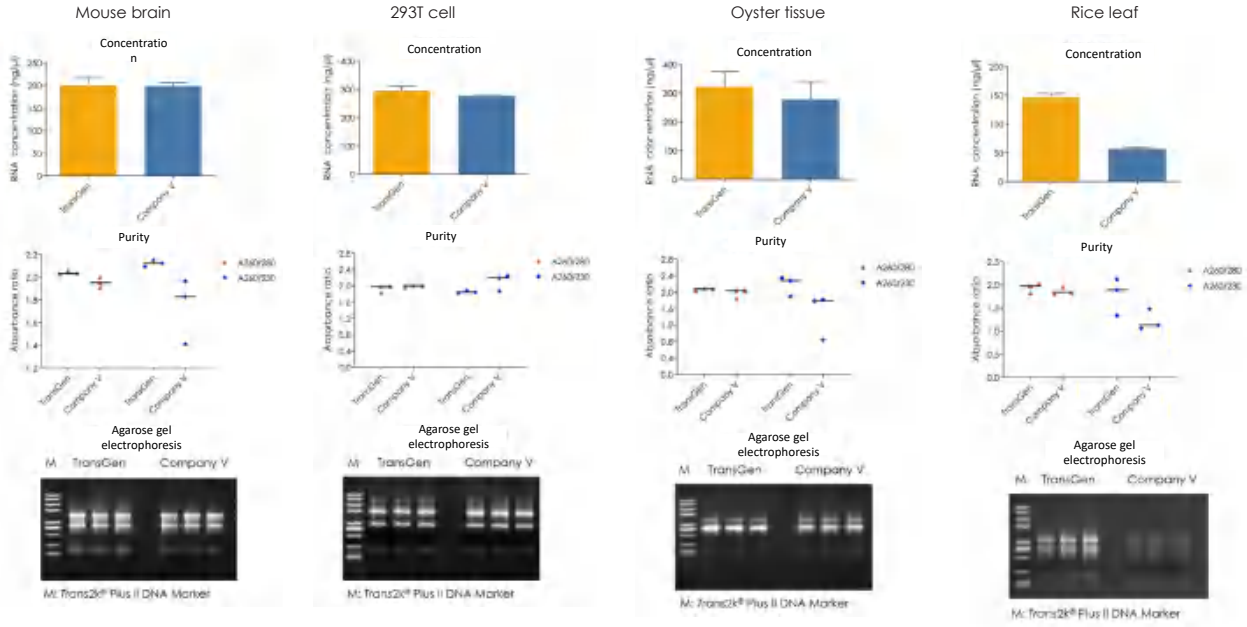
M: *Trans*2K® Plus II DNA Marker

TransZol Simple RNA Kit
(ER511)

- Simple operation: Centrifugation at room temperature, no centrifugation-based phase separation with easier supernatant collection.
- High safety: Free from toxic reagents such as chloroform.
- Fast extraction speed: Completed in 8.5 minutes.
- High extraction purity: Effectively removes impurities such as gDNA and proteins.
- Wide application: Suitable for a wide range of samples, including animal cells/tissues, plant tissues, virus and bacteria samples.

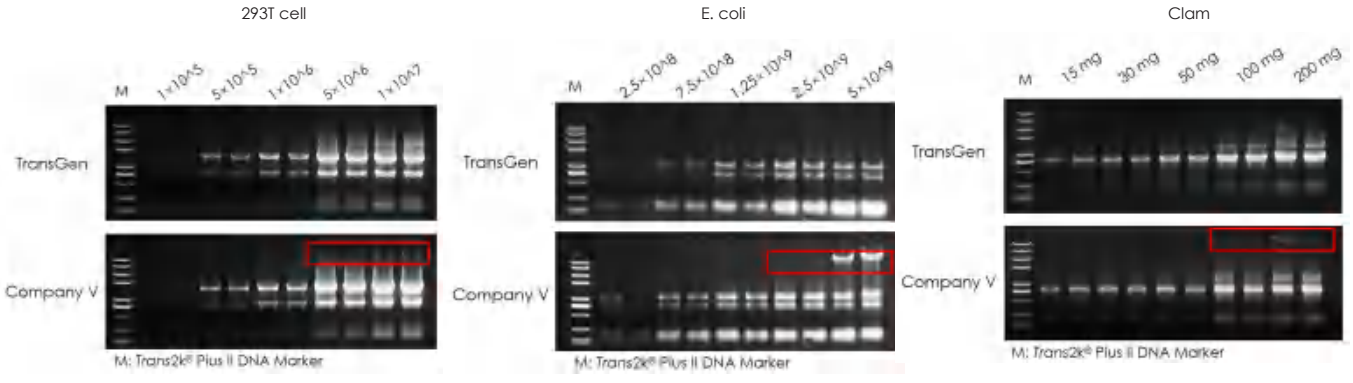
Data

Better extraction result



Extract RNA from various samples, including animal cells/tissues, plant tissues and microorganisms using TransGen (ER511) and Company V products and then test the RNA concentration, purity, run agarose gel electrophoresis. The results show that the RNA extracted with ER511 has higher quality and ER511 is compatible with a variety of sample types.

Wider range of sample size



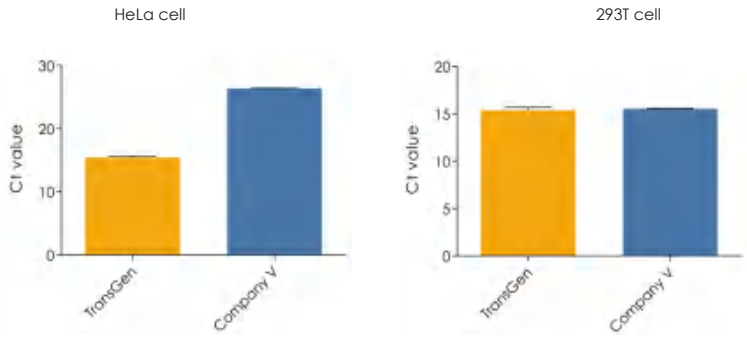
Extract RNA from 293T cells, Escherichia coli (E. coli), and clam (Solenidae) using TransGen (ER511) and Company V products and then the RNA quality is assessed by agarose gel electrophoresis. The results show that the RNA extracted with ER511 has higher quality and ER511 demonstrates good compatibility with different sample input amounts. Compared to Company V, ER511 shows no residual genomic DNA, ensuring the accuracy of downstream experimental results.

No inhibition in downstream experiments

1. PCR and qPCR experiments

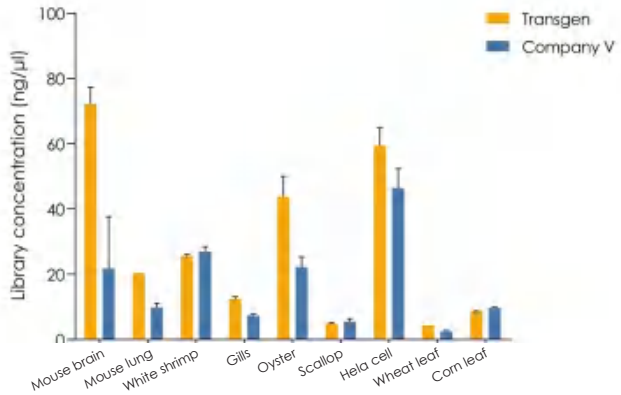
PCR experiment

qPCR experiment



Extract RNA from HeLa and 293T cells using TransGen (ER511) and Company V products and the extracted RNA is used as template for PCR and qRT-PCR experiments. The results show that the RNA extracted with TransGen product (ER511) has higher quality and show no inhibition in both PCR and qRT-PCR reactions, while the RNA extracted with Company V exhibits stronger inhibition in downstream experiments.

2. Library preparation

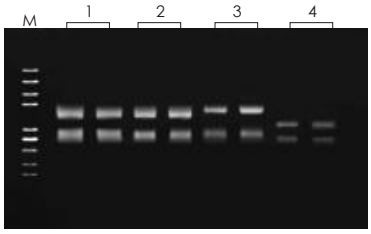


Extract RNA from multiple species using TransGen (ER511) and Company V products and the extracted RNA is used as template for library preparation using an automated library preparation system with KP701. The results show that RNA extracted with TransGen product (ER511) successfully undergo RNA library preparation, yielding higher library output.

EasyPure® RNA Kit
(ER101)

- Suitable for extraction from cultured animal cells, tissues, and *E. coli*.
- High purity, no DNA and protein contamination.

Data



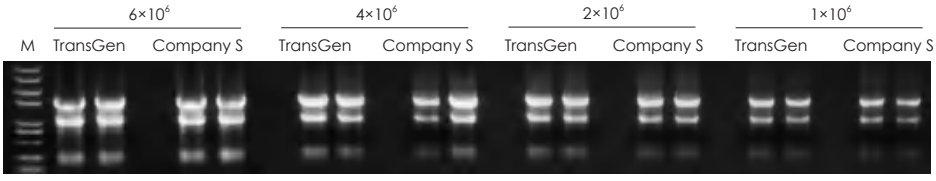
M: *Trans*2K® Plus II DNA Marker
1: Mouse brain tissue
2: Mouse kidney tissue
3: HeLa cell
4: *E.coli* cell

EasyPure® Fast Cell RNA Kit
(ER111)

- Simple operation: operate at room temperature during the whole process, no low-temperature centrifugation required.
- Fast: extraction completes in 7 minutes.
- Safety: no need for organic reagents such as phenol and chloroform.
- High purity: efficient removal of impurity contamination.

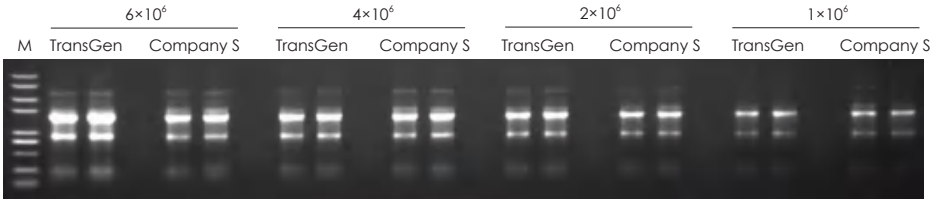
Data

Jurkat cells



M: *Trans*2K® Plus II DNA Marker

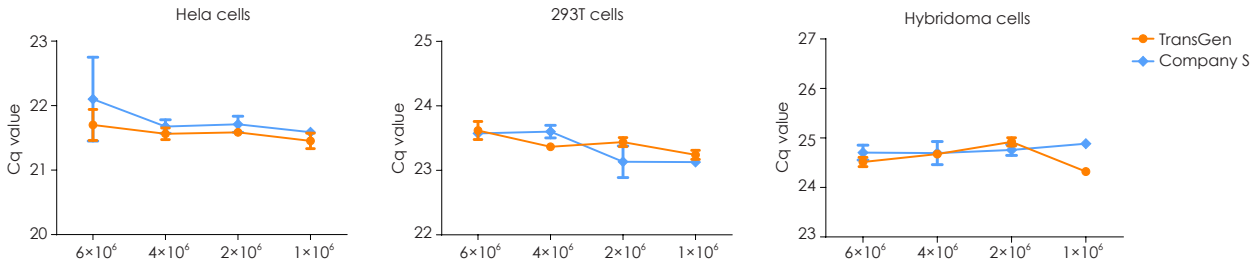
HeLa cells



M: *Trans*2K® Plus II DNA Marker

RNA was extracted from Jurkat cells and HeLa cells using reagents from TransGen and Company S respectively. The extracted RNA was analyzed by agarose gel electrophoresis.

Sample type	RNA yield (μg)			
	1×10^6 cells	2×10^6 cells	4×10^6 cells	6×10^6 cells
Hela cells	4	7	10	13
293T cells	3	6	10	12
HEK293 cells	3	5	8	10
A549 cells	8	14	25	30
Jurkat cells	10	15	23	26
CHO cells	4	7	15	20
Hybridoma cells	7	15	20	30



RNA was extracted from Hela cells, 293T cells and Hybridoma cells using reagents from TransGen and Company S respectively. 200 ng of extracted RNA was used as a template for RT and qPCR. The results showed that extracted RNA by TransGen reagent had no inhibition for downstream qPCR.

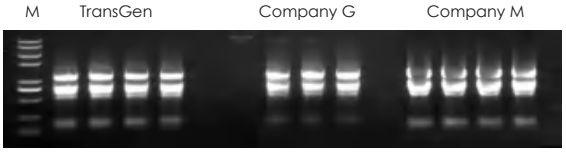
MagicPure® Total RNA Kit (EC521)

- A wide range of applications: suitable for samples such as cultured cells, animal and plant tissues, viruses and bacteria.
- Easy operation: few steps outside the instrument.
- High purity: minimum DNA and protein contamination.
- Suitable for 32/96-channel magnetic rod-type nucleic acid extractors.

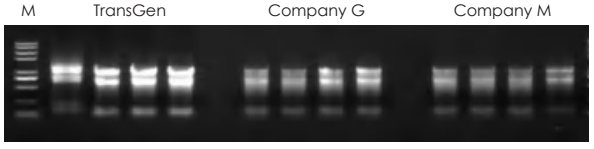
Data

HeLa cells

Wheat leaves



Yeast



E. coli

M: *Trans*2K® Plus II DNA Marker

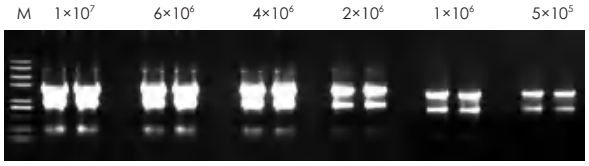
RNA was extracted from different species using reagents from TransGen, Company G and Company M respectively. The extracted RNA was analyzed by agarose gel electrophoresis.

MagicPure® 32/96 Fast Cell RNA Kit
(EC522-32/96)

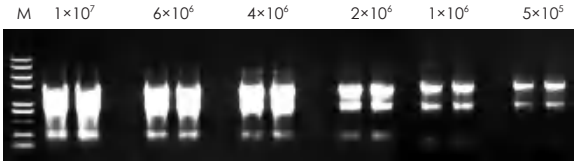
- High operational safety: no need for organic reagents such as phenol and chloroform.
- High purity enabled by genome removal module.
- High throughput: few steps outside the instrument.
- Simple operation: operate at room temperature during the whole process, no low-temperature operation required.

Data

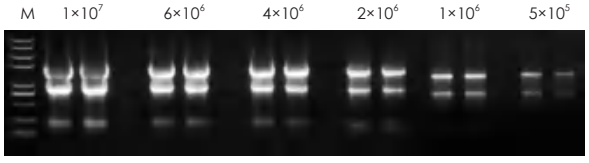
HEK-293 cells



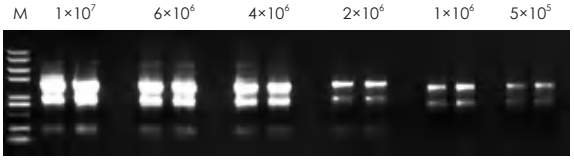
Jurkat cells



Hybridoma cells



CHO cells



M: *Trans*2K® Plus II DNA Marker

RNA was extracted from 4 cells using reagent from TransGen. The extracted RNA was analyzed by agarose gel electrophoresis.

02. Plant

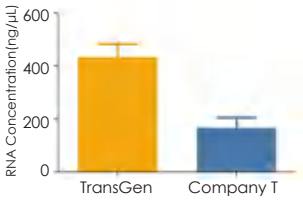
EasyPure® Universal Plant Total RNA Kit
(ER302)

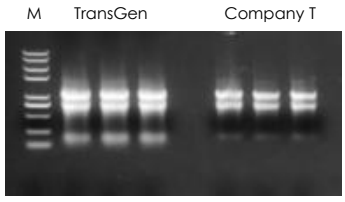
- Wide range of applications: applicable to various plant tissues, especially those rich in polysaccharides, polyphenols or starch.
- Fast operation: high-quality genomic RNA can be extracted in less than 30 minutes.
- Safe and low toxicity: no toxic organic reagents such as phenol and chloroform.
- High purity: the unique technology can efficiently remove impurities such as pigments, polyphenols and polysaccharides in the sample.

Data

Wide range of applications

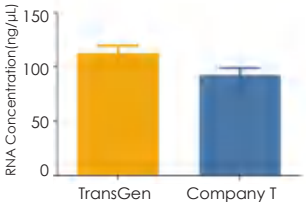
Tea tree leaves

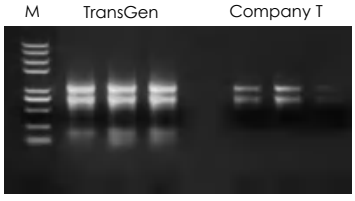




M: *Trans*2K® Plus II DNA Marker

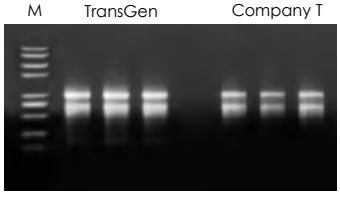
Corn root





M: *Trans*2K® Plus II DNA Marker

Soybean seeds

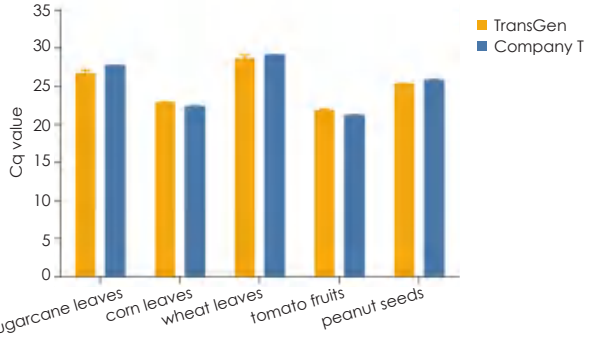


M: *Trans*2K® Plus II DNA Marker

RNA was extracted from 100 mg of different plant samples using reagents from TransGen and Company T respectively. The concentration of extracted RNA was detected. And the extracted RNA was analyzed by agarose gel electrophoresis.

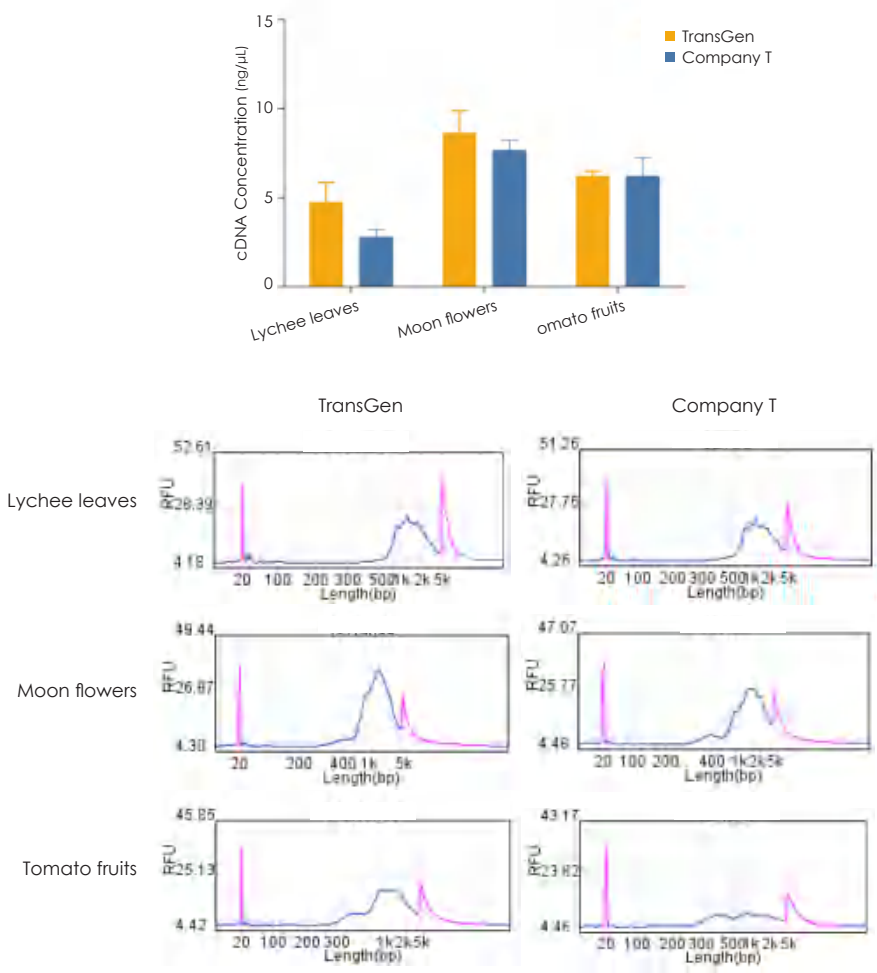
Suitable for a wide range of downstream experiments

qRT-PCR



RNA was extracted from different plant samples using reagents from TransGen and Company T respectively. The extracted RNA was used as a template for qRT-PCR (reagent: AQ311). The results showed that extracted RNA by TransGen reagent had no inhibition for downstream qPCR.

Full-length cDNA synthesis and amplification



RNA was extracted from different plant samples using reagents from TransGen and Company T respectively. The extracted RNA was used as a template for full-length cDNA synthesis (reagent: KC901).

TransZol Plant
(ET121)

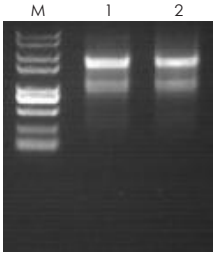
- Suitable for the extraction of total RNA from 80-100 mg of polysaccharide/polyphenolics rich plants, as well as for the extraction of total RNA from certain animal tissues such as fat, connective tissue.
- Strong lysis capability: complete and fast lysis, high yield.
- Fast extraction: the reaction can be completed within an hour.
- Visible workflow: pink organic phase to facilitate separation from colorless aqueous phase.
- High purity: minimum DNA and protein contamination.
- RNA Dissolving Solution: facilitates RNA preservation and reduces inhibition of reverse transcription.

03. Blood

EasyPure® Blood RNA Kit (ER401)

- Suitable for the extraction from 50 µl-1.5 ml of fresh anticoagulated blood.
- High purity enabled by spin column which can specifically bind to RNA, remove protein, no DNA and protein contamination.

Data



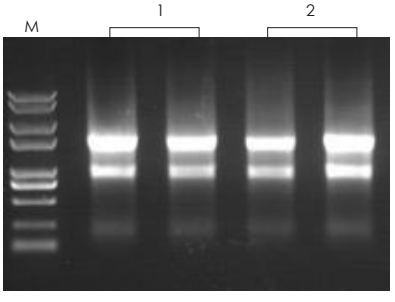
M: *Trans*2K® Plus II DNA Marker
1: 100 µL of human blood RNA
2: 50 µL of human blood RNA

TransZol Up Plus RNA Kit (ER501)

Compared with other total RNA extraction methods, *TransZol* Up Plus RNA Kit possesses not only advantages of strong lysis capability, high yield and a wide range of applications of *TransZol* Up, but also the advantage of high purity of spin column extraction.

- Wide range of applications: animal and plant tissues, virus and bacteria, etc. Small samples (50-100 mg tissue, 5 x 10^6 cells, 200 µl blood). Large samples (≥1 g tissue or ≥10^7 cells). The binding capacity of the spin-columns is up to 100 µg RNA.
- Strong lysis capability: complete and fast lysis, high yield.
- Fast extraction: the reaction can be completed within an hour.
- Visible workflow: pink organic phase to facilitate separation from colorless aqueous phase.
- High purity: minimum DNA and protein contamination.

Data



M: *Trans*2K® Plus II DNA Marker
1: Human blood RNA
2: HeLa Cell RNA

04. RNA

EasyPure® RNA Purification Kit
(ER701)

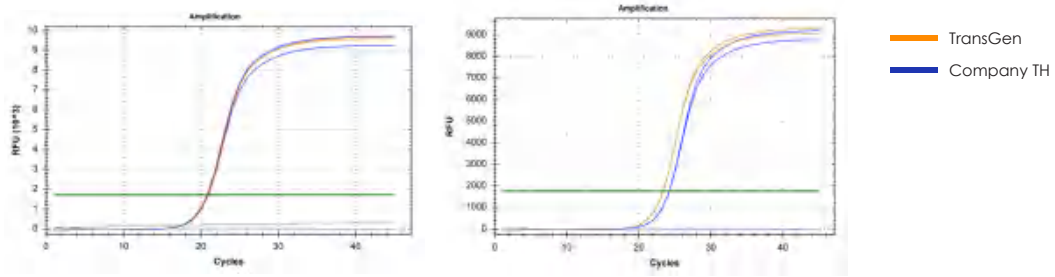
- Easy and fast operation.
- High purity enabled by spin column which can specifically bind to RNA, effectively remove impurities such as proteins, organic compounds, and inorganic salt ions.
- Suitable for RNA purification from DNase I-treated total RNA, in vitro transcription product, RNA-labelled product, synthetic RNA.

05. miRNA

EasyPure® miRNA Kit
(ER601)

- Suitable for isolating miRNA and total RNA from cells, tissues, fresh blood and exosomes.
- By adjusting the volume of ethanol added to the aqueous phase, miRNA or total RNA can be obtained.
  1. Large RNAs (28S rRNA, 18S rRNA, mRNA) adsorbed by the RNA spin column, small RNA in flow-through (containing RNAs less than 200 nt, such as miRNA, siRNA, shRNA, snRNA, etc.) is adsorbed by the miRNA spin column.
  2. Total RNA (containing RNA less than 200 nt) is adsorbed by the RNA spin column.
- Strong pyrolysis capability, high yield and wide range of applications.

Data



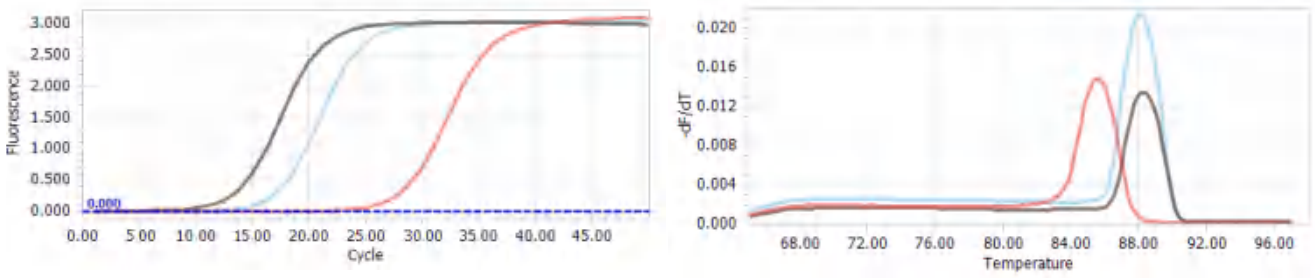
miRNA was extracted using reagents from TransGen and Company TH respectively. The extracted miRNA was used as a template for RT and qPCR.

06. Virus

EasyPure® Viral DNA/RNA Kit (ER201)

- Suitable for isolating viral DNA/RNA from up to 200 μl of plasma, serum, whole blood, tissue homogenate, cell-free body fluid, nasopharyngeal or oropharyngeal aspirate/wash, bronchoalveolar lavage fluid (BALF), tracheal aspirate, sputum, nasopharyngeal or oropharyngeal swab and animal cell culture supernatant.
- High purity enabled by unique lysis buffer and spin column which can specifically bind to DNA/RNA.

Data



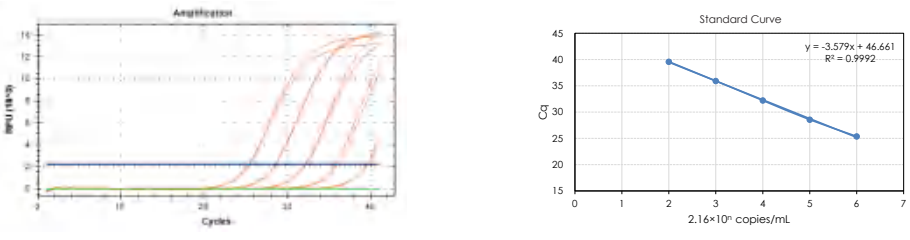
The DNA/RNA of BVDV (red), NDV (blue) and PRV (grey) virus solutions were used as templates for qPCR.

MagicPure® Up Viral DNA/RNA Kit (EC341)

- Easy and fast operation: purify viral DNA/RNA using silica-based magnetic beads, suitable for high-throughput magnetic rod-type nucleic acid extractors.
- High purity and yield: optimized for complex samples from aquatic and livestock, and the resulting product is highly pure and suitable for experiments such as PCR, RT-PCR and qPCR.
- Applicable to a wide range of samples: suitable for whole blood, plasma, serum, tissue, stool, urine, fodder and other sample types.

Data

Wide linear range



Nucleic acid was extracted from quality control of 10-fold gradient dilution (2.16×10^{6}-2.16×10^{2} copies/mL). The extracted nucleic acid was used for template for qPCR.

Extraction and amplification of complex templates

Simulated detection of mixed samples of compound fodder and african swine fever virus (ASFV) pseudovirus

Simulated detection of porcine stool and porcine blue ear virus (PRRSV) pseudovirus

RNA Purification Products

Category	Product Name	Cat. No.
Cell/Tissue	*TransZol*	ET101
	TransZol Up	ET111
	EasyPure® RNA Kit	ER101
	TransZol Up Plus RNA Kit	ER501
	TransZol Up Simple RNA Kit	ER511
	EasyPure® Fast Cell RNA Kit	ER111
	MagicPure® Total RNA Kit	EC521
	MagicPure® 96 Fast Cell RNA Kit	EC522-96
Plant	*TransZol*	ET101
	TransZol Up	ET111
	TransZol Plant	ET121
	EasyPure® Universal Plant RNA Kit	ER302
Blood	*TransZol*	ET101
	TransZol Up Plus RNA Kit	ER501
	EasyPure® Blood RNA Kit	ER401
Virus	*TransZol* Up Simple RNA Kit	ER511
	EasyPure® Viral DNA/ RNA Kit	ER201
	EasyPure® Simple Viral DNA/RNA Kit	ER211
	TransZol Up Plus RNA Kit	ER501
	MagicPure® Viral DNA/RNA Kit	EC301
	MagicPure® Up Viral DNA/RNA Kit	EC341
	MagicPure® Up 32 Viral DNA/RNA Kit	EC341-32
miRNA	*EasyPure*® miRNA Kit	ER601
RNA	*EasyPure*® RNA Purification Kit	ER701
	MagicPure® RNA Beads	EC501
mRNA	*MagicPure*® mRNA Kit	EC511

TRANSGEN BIOTECH CO., LTD.

Website www.transgenbiotech.com
Phone +86-10-57815030
Customer Service +86-400-898-0321
E-mail custserv@transgenbiotech.com