Tissue DNA/RNA extraction kit (Beads)

(BW-MGD6711)

BEIWO

Tissue DNA/RNA extraction kit is particularly suitable for the extraction of high-quality DNA/RNA from fresh or frozen tissues. The unique buffer solution system optimized for various samples such as fish, avian, mammalian and other tissues. The purified nucleic acids can be directly used for PCR amplification, qPCR assay, second generation sequencing (NGS) library preparation and other downstream operations. The extraction system is not only suitable for manual processing of samples, but also can be applied to a variety of high-throughput automated platforms to extract and purify DNA, such as BEIWO BW Express 16, Allsheng Auto- Pure 32A and other similar nucleic acid purification systems.

KIT CONTENTS

Catalog#	BW-MGD6711-A00	BW-MGD6711-A32-32		BW-MGD6711-A32		BW-MGD6711-A96	
	Manual operation	Well position		Well position		Plate position	
Preps	50 T	1Tx32		1x32T		1x96T	
Lysis Buffer	33 mL	Well 1	600 µL	Column 1/7	600 µL	Plate 2	600 µL
MgPure Beads	1.1 mL	Well 2	400 µL	Column 2/8	400 µL	Plate 3	400 µL
Wash Buffer 1	33 mL	Well 3	600 µL	Column 3/9	600 µL	Plate 4	600 µL
Wash Buffer 2	65 mL	Well 4	800 µL	Column 4/10	800 µL	Plate 5	800 µL
Wash Buffer 3	-	Well 5	800ul	Column 5/11	800ul	Plate 6	800µL
Elution buffer	6 mL	Well 6	80 µL	Column 6/12	80 µL	Plate 8	80 µL
Proteinase K	1.4 mL	900 uL		900 uL		2x1.25mL	
Buffer TL	14 mL	9 mL		9 mL		26 mL	
Tip Comb	-		8		4		1

*BW-MGD6711-A32 and BW-MGD6711-A32-32 are 8 strip tip comb, BW-MGD6711-A96 is a 96-well Tip Comb.

STORAGE

Proteinase K should be stored at 2-8℃, and others store at room temperature (15~25°C). They can be stored for at least 12 months without showing any significant reduction in performance, capacity, or quality of separation.

BEFORE STARTING

- Operate in an environment with the appropriate biosafety laboratory level (e.g BSL-2 or higher level) and wear appropriate personal protective equipment (e.g. gowns, gloves, goggles) when working with clinical specimens.
- Lysis Buffer contains chaotropic salts, which may form reactive compounds when combines with bleach. Do not add bleach or acidic solutions directly to the preparation waste.
- Lysis Buffer may form precipitates upon storage, dissolve precipitates at 55℃ before use.
- Ultraviolet disinfection of the Purification Instrument prior to use is recommended.
- Materials not supplied: 1.5 mL RNase-free centrifuge tube.
- Materials not supplied: Blue plastic rack（Cat No. BW-CB136）,it can be reused.
- RNase A is not included in the kit and needs to be purchased separately (Cat No.BW-B0052).

SAFETY INFORMATION

- ✓ When working with chemicals, always wear a suitable lab coat, disposable gloves, and protective goggles. For more information, please consult the appropriate material safety data sheets.
- ✓ The product should be used in strict accordance with the instructions. If it is not used in accordance with the regulations, it may cause pollution to the environment.
- ✓ Products are disposable, do not reuse, and the used product should be placed in the designated position in time.
- ✓ Exceeding the expiration date of this product, the performance of the product may be reduced, so it should be used within the expiration date.
- ✓ This kit can only be used for in vitro experiments, and not for clinical, therapeutic and in vivo experiments in animals. If it is not used in accordance with the regulations, the company will not be responsible for the consequences arising therefrom.

Sample Processing

Tissue sample: 20-30 mg of tissue was minced (as small as possible to accelerate the lysis process, liquid nitrogen grinding can be used to reduce the incubation time), placed in a 1.5 mL centrifuge tube (self-prepared), 250 μL of TL buffer, add 25 μL of Proteinase K, vortexing and mixing, and then incubated for 10 minutes at 60 ℃, and

vortexing and mixing every 2 min. After incubation, centrifuge at 12000 rpm for 5 min and take the supernatant for extraction.

EXTRACTION PURIFICATION PROCEDURE

Manual operation (BW-MGD6711-A00)

1. The Lysis Tubes were added with 250μL sample, 600μL **Lysis Buffer** at 60℃, and max vortex for 5 min. Optional: If RNA free gDNA is desired, add 5 μL RNase A to the Lysis Buffer.

2. Add 20 μL **MgPure Beads** into the lysis tube at room temperature and votex for 10 min.

Note: The MgPure Beads should be vortex to ensure full suspension before use.

3. After the lysis tube is immediately separated and no liquid remains on the tube wall is ensured, the lysis tube is placed on the magnetic stand for 2 min or until the MgPure Beads are completely absorbed, and all supernatants are carefully absorbed and discarded with a pipette.

4. Add 600 μL **Wash Buffer 1** into the lysis tube, blow with pipette 5-10 times, place the lysis tube on the magnetic rack for 2 min or until the MgPure Beads are completely absorbed, and carefully absorb and discard all supernatant with pipette.

5. Add 800 μL **Wash Buffer 2** into the lysis tube, blow with pipette 5-10 times, place the lysis tube on the magnetic rack for 2 min or until the MgPure Beads are completely absorbed, and carefully absorb and discard all supernatant with pipette.

6. Repeat step 5.

7. The lysis tube was placed on the magnetic rack and left open to dry for 5 min.

8. Add 80 μL **Elution buffer** into the lysis tube, blow and mix with pipette, and incubate at 56℃ for 10 min. After the lysis tube is transient, the lysis tube is placed on the magnetic rack for 2 min or until the magnetic bead is completely absorbed, and all supernatant is transferred to the new centrifuge tube with a pipette. The obtained nucleic acid solution was stored at -20℃ for a long time

Nucleic acid extractor （BEIWO BW Express 16 or an Allsheng Auto-Pure 32A）（BW-MGD6711-A32-32）

1. Take out a pre-loaded 6-well strip and gently shake it (if necessary), let the reagent or magnetic beads assemble at the bottom of the well.

NOTE: If there is any precipitation in **Well 1**, incubate the plate at 55°C to dissolve the precipitation before use.

2. Place the 6-well strip into Blue plastic rack for the automated extractor in the correct orientation according to its shape; remove the sealing film carefully and avoid violent shaking to prevent spilling of liquid.

3. In a biosafety cabinet, carefully remove the sealing foil of the 6-well strip. Transfer **250µL** of pretreatment supernatant into the deep wells in Well 1. Optional: If RNA free gDNA is desired, add **5µL** RNase A to the Lysis Buffer A.

4. Put the Strip in an Allsheng Auto-Pure 32A Nucleic Acid Purification System.

5. Install two 8-strip Tip Combs for each Rack.

6. Run the program described in Table 1.

7. After the program is completed, take out the 6-well strip and transfer the eluate to a new sterile tube of choice for final storage.

Table 1. Recommended program for Auto-Pure 32A Nucleic Acid Purification System

Step	Well	Name	Mix time (min)	Magnet (sec)	Wait time (min)	Vol. (µL)	Mix speed (1- 10)	Temp. (℃)	Mix pos (0- 100%)	Mix amp (1- 100%)	Magnet pos (0- 100%)	Magnet speed (1- 10)
1	1	Lysis	5	0	0	1000	10	85	0	80	0	1
2	2	Beads	0.3	10	0	800	8	OFF	0	80	0	1
3	1	Bind	5	40	0	800	9	100	0	80	0	1
4	3	Wash1	1	10	0	600	9	OFF	0	80	0	1
5	4	Wash2	1	10	0	800	9	OFF	0	80	0	1
6	5	Wash3	1	10	1	800	9	OFF	0	80	0	1
7	6	Elute	5	60	0	80	10	70	0	80	0	1
8	4	Drop	0.5	0	0	800	8	OFF	0	80	0	1

Note: Set 'Heating synchronization', 'Cool Fan Disabled', 'Cooling synchronization', and 'Drying Fan Disabled'

Nucleic acid extractor（BEIWO BW Express 16 or an Allsheng Auto-Pure 32A）(BW-MGD6711-A32)

1. If necessary, gently shake the pre-loaded 96-well plate to let the reagent or magnetic beads assemble at the bottom of the plate.

NOTE: If there is any precipitation in **Column 1/7**, incubate the plate at 55°C to dissolve the precipitation before use.

2. Carefully remove the sealing foil of the 96-well plate, transfer **250µL** of pretreatment supernatant into the deep well in **Column 1/7**. **Optional:** If RNA free gDNA is desired, add **5 µL RNase A** into each well in **Column 1/7**.

3. Put the plate in a BEIWO BW Express 16 or an Allsheng Auto-Pure 32A Nucleic Acid Purification System.

4. Install two 8-strip Tip Combs for each plate.

5. Run the program described in Table 2.
6. After the program is completed, take out the 96-well plate and transfer the eluate into new sterile tube of choice for final storage.

Table 2. Recommended program for Auto-Pure 32A Nucleic Acid Purification System

Step	Well	Name	Mix time (min)	Magnet (sec)	Wait time (min)	Vol. (μL)	Mix speed (1-10)	Temp. (℃)	Mix pos (0-100%)	Mix amp (1-100%)	Magnet pos (0-100%)	Magnet speed (1-10)
1	1	Lysis	5	0	0	100	10	85	0	80	0	1
2	2	Beads	0.3	10	0	800	8	OFF	0	80	0	1
3	1	Bind	5	40	0	800	9	100	0	80	0	1
4	3	Wash1	1	10	0	600	9	OFF	0	80	0	1
5	4	Wash2	1	10	0	800	9	OFF	0	80	0	1
6	5	Wash3	1	10	1	800	9	OFF	0	80	0	1
7	6	Elute	5	60	0	80	10	70	0	80	0	1
8	2	Drop	0.5	0	0	800	8	OFF	0	80	0	1

Note: Set 'Heating synchronization', 'Cool Fan Disabled', 'Cooling synchronization', and 'Drying Fan Disabled'

Nucleic acid extractor（Allsheng Auto-Pure 96A） (BW-MGD6711-A96)

1. Take out the 96-well plates required for single batch gDNA extraction. Gently shake the plates if necessary to let the reagent or magnetic beads assemble at the bottom of the plates.

NOTE: If there is any precipitation in **Lysis Buffer**, incubate the plate at 55℃ to dissolve the precipitation before use.

2. Carefully remove the sealing foil of the 96-well plate named Lysis Buffer, transfer **250μL** of pretreatment supernatant into the deep well. Optional: If RNA free gDNA is desired, add 5 μL RNase A to the Lysis Buffer.
3. Put the Lysis Buffer plate on position 2 of the Allsheng Auto-Pure 96 instrument.
4. Carefully remove the sealing foil of the 96-well plate named Wash Buffer 3, put a 96-Well Tip Comb into the plate, and put them on position 6 of the Auto-Pure 96 instrument together.
5. Carefully remove the sealing foils of other 96-well plates and put them on the corresponding positions according to the position specified in the KIT CONTENTS table as well as marked on the plate labels.
6. Run the program described in Table 3.
7. After the program is completed, take out the 96-well plate and transfer the eluate into new sterile tube of choice for final storage.

Table3. Recommended program for Auto-Pure 96 Nucleic Acid Purification System

Step	Name	Plate	Mix Time (min)	Mix Amp (%)	Wait Time (min)	Vol. (μL)	Mix Speed (1-10)	Temp. (℃)	Seg-ments (0-5)	1st Seg. time (s)	2nd Seg. time (s)	3rd Seg. time (s)	4th Seg. time (s)	5th Seg. time (s)	Cycle times (1-10)	Mag. speed (1-10)	Lip-lvl (0-30s)	Anti-Splash (0-30s)
1	Load	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Lysis	2	5	80	0	1000	9	85	0	-	-	-	-	-	-	-	0	0
3	Beads	5	0.3	80	0	400	4	OFF	1	10	-	-	-	-	1	1	0	0
4	Bind	2	5	80	0	1000	10	OFF	2	10	10	-	-	-	1	1	0	0
5	Wash1	3	2	80	0	600	10	OFF	1	10	-	-	-	-	1	1	0	0
6	Wash2	4	1	80	0	800	10	OFF	1	10	-	-	-	-	1	1	0	0
7	Wash3	7	1	80	1	800	10	OFF	1	10	-	-	-	-	1	1	0	0
8	Elute	8	2	80	0	100	3	70	1	20	-	-	-	-	1	1	0	0
9	Unload	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: Set 'Heating synchronization', 'Cool Fan Disabled', 'Cooling synchronization', and 'Drying Fan Disabled'

LIMITED USE AND WARRANTY

This product is warranted to perform as described in its labeling and in BEIWO's literature when used in accordance with instructions. No other warranties of any kind, express or implied, including, without limitation, implied warranties of merchantability or fitness for a particular purpose, are provided by BEIWO. BEIWO's sole obligation and purchaser's exclusive remedy for breach of this warranty shall be, at the option of BEIWO, to replace the products, BEIWO shall have no liability for any direct, indirect, consequential, or incidental damage arising out of the use, the results of use, or the inability to use it product. For technical support or learn more product information, please contact us at 400-115-2855 or visit our website at www.beiwobiomedical.com