Exhibit 2. Micro Sample-2 Program

Well	Release magbeads	Name	Waiting time	Mixing time	Mixing speed	Cycles	Magnetic time	Volume	Temperature
1	No	Mixing	0	2 min	fast	2	0	620 μL	70°C
				3 min	medium				
1	pause								
1	Yes	Mixing	0	2 min	fast	1	5 s/time, 3 times	620 μL	RT
				3 min	medium				
2	Yes	Mixing	0	1 min	fast	1	5 s/time, 2 times	500 μL	RT
3	Yes	Mixing	0	1 min	fast	1	5 s/time, 2 times	500 μL	RT
4	Yes	Mixing	0	1 min	fast	1	5 s/time, 2 times	500 μL	RT
4	No	Drying	5 min	Reagent exterior					
6	Yes	Washing	0	2 min	fast	1	5 s/time, 2 times	70 μL	65°C
				3 min	medium				
2	Yes	Discard magbeads	0	5 s	fast	0	0	750 μL	RT

Version: 01/2024

Magbead Micro Sample DNA Kit

Cat. No. : CW3064S（96 preps）

Storage Conditions: Storage at room temperature (15-30°C)

Components

Component	CW3064S 96 preps
Buffer SL	60 mL
Buffer GL	25 mL
Buffer GW1（concentrate）	80 mL
Buffer GW2（concentrate）	50 mL
RNase-Free Water	10 mL
Proteinase K	2×25 mg
Proteinase K Storage Buffer	2×1.25 mL
Magbeads PN	2×1 mL

Introduction

The kit provides a simple, fast, and efficient method for extracting DNA from trace samples, and is suitable for a wide range of samples such as fresh or frozen animal tissues, hair, nails, trace blood, trace saliva, urine, bone, and teeth. After cell lysis, DNA is bound to the surface of silica-based coated magbeads. After rinsing, high purity DNA is eluted in RNase-Free water. The DNA obtained from purification has good purity and high integrity. It can be directly used for PCR, Real-time PCR, SNP genotyping, STR genotyping, Next Generation Sequencing and other downstream experiments.

Equipment and Reagents to be Supplied by user

1) Automatic nucleic acid extractor
2) 96 DW Plate
3) 8 channel Comb
4) 2/15 mL magnetic rack
5) Thermostatic mixer
6) Isopropanol, 100% ethanol

Precautions

1. 100% ethanol should be added to Buffer GW1 and Buffer GW2 according to the instructions on the label of the reagent bottle before first use.
2. Please check Buffer SL, Buffer GL for crystallization or precipitation before use, if there is any crystallization or precipitation, please re-dissolve Buffer SL, Buffer GL in 56°C water bath.
3. Freezing and high-speed centrifugation of Magbeads PN are strictly prohibited and may cause irreversible damage to Magbeads PN. Magbeads PN should be thoroughly shaken and mixed well each time it is used.

• Match with CWE2100 Extractor

2. Add the reagent to the 96 DW Plate according to the table below:

Position	Reagent and volume
1&7 Colume	Lysate: All Buffer GL: 200 μL
2&8 Colume	Buffer GW1: 500 μL
3&9 Colume	Buffer GW2: 500 μL
4&10 Colume	Buffer GW2: 500 μL
6&12 Colume	RNase-Free Water: 70 μL

3. Place the magnetic sleeve and 96 DW Plate into the CWE2100 and run the "Micro Sample-2 program".
4. After about 10 min, pause the program and add 200 μL of isopropanol and 20 μL of magbeads to the 1&7 Colume.
5. Place the deep-well plate back into the instrument and continue running the program. After about 35 min, remove the 96 DW Plate and magnetic sleeve from the instrument.
6. Transfer the elution products from the 6&12 Colume to a centrifuge tube and store at -20°C for later use.

Exhibit 1. Micro Sample-1 Program

Well	Release magbeads	Name	Waiting time	Mixing time	Mixing speed	Cycles	Magnetic time	Volume	Temperature
1	No	Mixing	0	2 min	fast	2	0	620 μL	80°C
				3 min	medium				
1	pause								
1	Yes	Mixing	0	2 min	fast	1	5 s/time, 3 times	620 μL	RT
				3 min	medium				
2	Yes	Mixing	0	1 min	fast	1	5 s/time, 2 times	500 μL	RT
3	Yes	Mixing	0	1 min	fast	1	5 s/time, 2 times	500 μL	RT
4	Yes	Mixing	0	1 min	fast	1	5 s/time, 2 times	500 μL	RT
4	No	Drying	5 min	Reagent exterior					
6	Yes	Washing	0	2 min	fast	1	5 s/time, 2 times	70 μL	65°C
				3 min	medium				
2	Yes	Discard magbeads	0	5 s	fast	0	0	750 μL	RT

● Manual Operation

2. Add 200 μL Buffer GL and vortex to mix the solution, place in a thermostatic mixer at 70°C, 1200 rpm for 10 min and remove.

   Note: Precipitation is normal after adding Buffer GL.

3. Add 200 μL of isopropanol and 20 μL of magbeads and vortex the solution for 5 s, then place the centrifuge tube in a thermostatic mixer at 25°C and 1600 rpm for 10 min.
4. Fix the centrifuge tube on the magnetic rack and let it stand for 1 min, then discard the solution (keep the centrifuge tube fixed on the magnetic rack).
5. Add 500 μL of Buffer GW1 to the centrifuge tube (please check whether 100% ethanol has been added before use), vortex for 5 s, and then place the tube on a thermostatic mixer at 25°C and 1600 rpm for 2 min. Fix the centrifuge tube on a magnetic rack and let it stand for 1 min, after which the solution is discarded (keep the centrifuge tube fixed on the magnetic rack).

   Note: Repeat step 5 if needed to improve purity.

6. Add 500 μL of Buffer GW2 to the centrifuge tube (please check whether 100% ethanol has been added before use), vortex for 5 s, and then place the tube on a thermostatic mixer at 25°C and 1600 rpm for 2 min. Fix the centrifuge tube on a magnetic rack and let it stand for 1 min, after which the solution is discarded (keep the centrifuge tube fixed on the magnetic rack).
7. Repeat step 6.
8. After a brief centrifugation of the centrifuge tube, re-attach the tube to the magnetic rack and remove the solution from the bottom of the tube with a pipette, then open the cover and place it at room temperature for 5-10 min.
9. Add 50-100 μL of RNase-Free Water to the centrifuge tube and vortex to fully suspend the magbeads in the eluent, and then fix the tube at 56°C and 1600 rpm for 10 min on a thermostatic mixer.
10. Fix the centrifuge tube on a magnetic rack and let it stand for 2 min, then transfer the eluate to a new centrifuge tube and store it at -20°C

4. Add 1.25 mL of Proteinase K Storage Buffer to Proteinase K to dissolve it and store it at -20°C. Do not leave the prepared Proteinase K at room temperature for a long period of time to avoid affecting its activity.

Table 1. Sample size and Buffer SL addition volume reference.

Sample type	Sample size	Buffer SL volume
Trace blood, saliva	about 1-100 μL	180 μL
Blood tablets, blood spots	3 mm-6 mm in diameter,1-2 pieces	180 μL
Dry swabs	1 branch	360 μL
Wet swabs	10-100 μL	180 μL
Hair (with hair follicles)	hair root 1-5 cm	180 μL
Nails	0.01-0.1g	180 μL
Bones, teeth	0.01g-0.1g	260 μL
Tissue	1-10 mg	180 μL
Cigarette butts	1-3 pieces	180 μL
Urine	1-20 mL	180 μL

Protocol

I Trace blood or saliva samples

1. Take about 1-10 μL of blood or saliva in a centrifuge tube (self-provided), add 180 μL of Buffer SL, 200 μL of Buffer GL, and 20 μL of Proteinase K, and vortex and shake for 10 s.

● Manual Operation

2. Place the tube in thermostatic mixer at 80°C and 1200 rpm for 10 min and then remove it.
3. Add 200 μL of isopropanol and 20 μL of magbeads and vortex for 5 s, after which the centrifuge tube is fixed in a thermostatic mixer at 25°C and 1600 rpm for 10 min.
4. Fix the centrifuge tube on the magnetic rack and let it stand for 1 min, then discard the solution (keep the centrifuge tube fixed on the magnetic rack).
5. Add 500 μL of Buffer GW1 to the centrifuge tube (please check whether 100% ethanol has been added before use), vortex for 5 s, and then place the tube on a thermostatic mixer at 25°C and 1600 rpm for 2 min. Fix the centrifuge tube on a magnetic rack and let it stand for 1 min, after which the solution is discarded (keep the centrifuge tube fixed on the magnetic rack).

   Note: For higher purity, repeat step 5.

6. Add 500 μL of Buffer GW2 to the centrifuge tube (please check whether 100% ethanol has been added before use), vortex for 5 s, and then place the tube on a thermostatic mixer at 25°C and 1600 rpm for 2 min. Fix the centrifuge tube on a magnetic rack and let it stand for 1 min, after which the solution is discarded (keep the centrifuge tube fixed on the magnetic rack).
7. Repeat step 6.
8. After brief centrifugation of the centrifuge tube, re-attach it to the magnetic rack and remove the solution from the bottom of the tube with a pipette, then leave it uncapped at room temperature for 5-10 min to allow the ethanol to evaporate.
9. Add 50-100 μL of RNase-Free Water to the centrifuge tube and vortex the tube to fully suspend the magbeads in the eluent, and then fix the tube at 56°C and 1600 rpm for 10 min on a thermostatic mixer.
10. Fix the centrifuge tube on a magnetic rack and let it stand for 2 min, then transfer the eluate to a new centrifuge tube and store it at -20°C.

● Match with CWE2100 Extractor

2. Add the reagent to the 96 DW Plate according to the table below:

Position	Reagent and volume
1&7 Colume	Sample: Blood
	Buffer SL: 180 μL
	Buffer GL: 200 μL
	Proteinase K: 20 μL
2&8 Colume	Buffer GW1: 500 μL
3&9 Colume	Buffer GW2: 500 μL
4&10 Colume	Buffer GW2: 500 μL
6&12 Colume	RNase-Free Water: 70 μL

3. Place the magnetic sleeve and 96 DW Plate into the CWE2100 and run the "Micro Sample-1 program".
4. After about 10 min, pause the program and add 200 μL of isopropanol and 20 μL of magbeads to the 1&7 Colume.
5. Place the deep-well plate back into the instrument and continue running the program. After about 35 min, remove the 96 DW Plate and magnetic sleeve from the instrument.
6. Transfer the elution products from the 6&12 Colume to a centrifuge tube and store at -20°C.

7. Repeat step 6.
8. After brief centrifugation of the centrifuge tube, re-attach it to the magnetic rack and remove the solution from the bottom of the tube with a pipette, then leave it uncapped at room temperature for 5-10 min to allow the ethanol to evaporate.
9. Add 50-100 μL of RNase-Free Water into the centrifuge tube and vortex the tube to fully suspend the magbeads in the eluent solution, and then fix the tube at 56°C and 1600 rpm for 10 min to elute the beads by vortexing on a thermostatic mixer.
10. Fix the centrifuge tube on a magnetic rack and let it stand for 2 min, then transfer the eluate to a new centrifuge tube and store it at -20°C.

● Match with CWE2100 Extractor

2. Add the reagent to the 96 DW Plate according to the table below:

Position	Reagent and volume
1&7 Colume	Lysate: All Buffer GL: 200 μL
2&8 Colume	Buffer GW1: 500 μL
3&9 Colume	Buffer GW2: 500 μL
4&10 Colume	Buffer GW2: 500 μL
6&12 Colume	RNase-Free Water: 70 μL

3. Place the magnetic sleeve and 96 DW Plate into the CWE2100 and run the "Micro Sample-2 program".
4. After about 10 min, pause the program and add 200 μL of isopropanol and 20 μL of magbeads to the 1&7 Colume.
5. Place the deep-well plate back into the instrument and continue running the program. After about 35 min, remove the 96 DW Plate and magnetic sleeve from the instrument.
6. Transfer the elution products from the 6&12 Colume to a centrifuge tube and store at -20°C for later use.

VIII Urine sample

1. Centrifuge 1-20 mL of urine at 4000 rpm for 10 min to discard the supernatant, retain 10-200 μL of precipitate in a 1.5 mL centrifuge tube, add 180 μL of Buffer SL, 20 μL of Proteinase K vortex and shake to mix. Incubate in a thermostatic mixer at 56°C and 1200 rpm for 45 min to form Lysate.

3. Place the magnetic sleeve and 96 DW Plate into the CWE2100 and run the "Micro Sample-2 program".
4. After about 10 min, pause the program and add 200 μL of isopropanol and 20 μL of magbeads to the 1&7 Colume.
5. Place the deep-well plate back into the instrument and continue running the program. After about 35 min, remove the 96 DW Plate and magnetic sleeve from the instrument.
6. Transfer the elution products from the 6&12 Colume to a centrifuge tube and store at -20°C for later use.

VII Cigarette butt or fruit shell samples

1a. Take 1-3 pieces of 1cm² cigarette outer layer paper and cut it up, place it in a centrifuge tube, add 180 μL Buffer SL, 20 μL Proteinase K vortex and shake to mix. Place in a thermostatic mixer at 56°C, 1200 rpm for 1 h or 56°C water bath overnight to form Lysate.

1b. Take 1-3 pieces of husk fragments, put them in a centrifuge tube, add 180 μL of Buffer SL, 20 μL of Proteinase K and mix well by vortexing and shaking. Place in a thermostatic mixer at 56°C, 1200rpm for 1 hour or 56°C water bath overnight to form Lysate.

● Manual Operation

2. Add 200 μL Buffer GL and vortex to mix the solution, place it in a thermostatic mixer at 70°C and 1200 rpm for 10 min, then remove it from the incubator.
   Note: Precipitation is normal after adding Buffer GL.
3. Add 200 μL of isopropanol and 20 μL of magbeads and vortex the solution for 5 s, then place the centrifuge tube in a thermostatic mixer at 25°C and 1600 rpm for 10 min.
4. Fix the centrifuge tube on the magnetic rack and let it stand for 1 min, then discard the solution (keep the centrifuge tube fixed on the magnetic rack).
5. Add 500 μL of Buffer GW1 to the centrifuge tube (please check whether 100% ethanol has been added before use), vortex for 5 s, and then place the tube on a thermostatic mixer at 25°C and 1600 rpm for 2 min. Fix the centrifuge tube on a magnetic rack and let it stand for 1 min, after which the solution is discarded (keep the centrifuge tube fixed on the magnetic rack).
   Note: Repeat step 5 if needed to improve purity.
6. Add 500 μL of Buffer GW2 to the centrifuge tube (please check whether 100% ethanol has been added before use), vortex for 5 s, and then place the tube on a thermostatic mixer at 25°C and 1600 rpm for 2 min. Fix the centrifuge tube on a magnetic rack and let it stand for 1 min, after which the solution is discarded (keep the centrifuge tube fixed on the magnetic rack).

II Hair or nail samples

1a. Take a sample of about 1-5 cm hair root (with hair follicle), cut it into small sections of 0.5-1 cm, place it in a centrifuge tube, add 180 μL Buffer SL, 20 μL Proteinase K vortex and shake to mix. Place in a thermostatic mixer at 56°C, 1200 rpm for at least 1 h to form Lysate.

1b. Take 10-100 mg of nail sample close to the skin, cut it up (or grind it with liquid nitrogen) and put it into a centrifuge tube, add 180 μL Buffer SL, 20 μL Proteinase K and vortex to mix well. Incubate in a thermostatic mixer at 56°C, 1200 rpm for at least 1 h to form Lysate.

● Manual Operation

2. Add 200 μL Buffer GL and vortex to mix the solution, place it in a thermostatic mixer at 70°C and 1200 rpm for 10 min, then remove it from the incubator.
   Note: Precipitation is normal after adding Buffer GL.
3. Add 200 μL of isopropanol and 20 μL of magbeads and vortex the solution for 5 s, then place the centrifuge tube in a thermostatic mixer at 25°C and 1600 rpm for 10 min.
4. Fix the centrifuge tube on the magnetic rack and let it stand for 1 min, then discard the solution (keep the centrifuge tube fixed on the magnetic rack).
5. Add 500 μL of Buffer GW1 to the centrifuge tube (please check whether 100% ethanol has been added before use), vortex for 5 s, and then place the tube on a thermostatic mixer at 25°C and 1600 rpm for 2 min. Fix the centrifuge tube on a magnetic rack and let it stand for 1 min, after which the solution is discarded (keep the centrifuge tube fixed on the magnetic rack).
   Note: Repeat step 5 if needed to improve purity.
6. Add 500 μL of Buffer GW2 to the centrifuge tube (please check whether 100% ethanol has been added before use), vortex for 5 s, and then place the tube on a thermostatic mixer at 25°C and 1600 rpm for 2 min. Fix the centrifuge tube on a magnetic rack and let it stand for 1 min, after which the solution is discarded (keep the centrifuge tube fixed on the magnetic rack).
7. Repeat step 6.
8. After brief centrifugation of the centrifuge tube, re-attach it to the magnetic rack and remove the solution from the bottom of the tube with a pipette, then leave it uncapped at room temperature for 5-10 min to allow the ethanol to evaporate.
9. Add 50-100 μL of RNase-Free Water into the centrifuge tube and vortex the tube to fully suspend the magbeads in the eluent solution, and then fix the tube at 56°C and 1600 rpm for 10 min to elute the beads by vortexing on a thermostatic mixer.
10. Fix the centrifuge tube on a magnetic rack and let it stand for 2 min, then transfer the eluate to a new centrifuge tube and store it at -20°C.

● Match with CWE2100 Extractor

2. Add the reagent to the 96 DW Plate according to the table below:

Position	Reagent and volume
1&7 Colume	Lysate: All Buffer GL: 200 μL
2&8 Colume	Buffer GW1: 500 μL
3&9 Colume	Buffer GW2: 500 μL
4&10 Colume	Buffer GW2: 500 μL
6&12 Colume	RNase-Free Water: 70 μL

3. Place the magnetic sleeve and 96 DW Plate into the CWE2100 and run the "Micro Sample-2 program".
4. After about 10 min, pause the program and add 200 μL of isopropanol and 20 μL of magbeads to the 1&7 Colume.
5. Place the deep-well plate back into the instrument and continue running the program. After about 35 min, remove the 96 DW Plate and magnetic sleeve from the instrument.
6. Transfer the elution products from the 6&12 Colume to a centrifuge tube and store at -20°C for later use.

III Swab sample

1a. Wet swab: Take 10-100 μL of preservation solution from the stored swab, place in a centrifuge tube, add 180 μL of Buffer SL, 20 μL of Proteinase K vortex and shake to mix. Place in a thermostatic mixer at 56°C, 1200 rpm for 1 h to form Lysate.

1b. Dry swab: Cut the swab from the rod with scissors, place it in a centrifuge tube, add 360 μL Buffer SL, 20μL Proteinase K and mix well with vortexing and shaking. Place in a thermostatic mixer at 56°C, 1200 rpm for 1 h to form Lysate.

● Manual Operation

2. Add 200 μL Buffer GL and vortex to mix the solution, place in a thermostatic mixer at 70°C, 1200 rpm for 10 min and remove.

Note: Precipitation is normal after adding Buffer GL.

3. Add 200 μL of isopropanol and 20 μL of magbeads and vortex the solution for 5 s, then place the centrifuge tube in a thermostatic mixer at 25°C and 1600 rpm for 10 min.
4. Fix the centrifuge tube on the magnetic rack and let it stand for 1 min, then discard the solution (keep the centrifuge tube fixed on the magnetic rack).

● Manual Operation

2. Add 200 μL Buffer GL and vortex to mix the solution, place in a thermostatic mixer at 70°C, 1200 rpm for 10 min and remove.

Note: Precipitation is normal after adding Buffer GL.

3. Add 200 μL of isopropanol and 20 μL of magbeads and vortex the solution for 5 s, then place the centrifuge tube in a thermostatic mixer at 25°C and 1600 rpm for 10 min.
4. Fix the centrifuge tube on the magnetic rack and let it stand for 1 min, then discard the solution (keep the centrifuge tube fixed on the magnetic rack).
5. Add 500 μL of Buffer GW1 to the centrifuge tube (please check whether 100% ethanol has been added before use), vortex for 5 s, and then place the tube on a thermostatic mixer at 25°C and 1600 rpm for 2 min. Fix the centrifuge tube on a magnetic rack and let it stand for 1 min, after which the solution is discarded (keep the centrifuge tube fixed on the magnetic rack).

Note: Repeat step 5 if needed to improve purity.

6. Add 500 μL of Buffer GW2 to the centrifuge tube (please check whether 100% ethanol has been added before use), vortex for 5 s, and then place the tube on a thermostatic mixer at 25°C and 1600 rpm for 2 min. Fix the centrifuge tube on a magnetic rack and let it stand for 1 min, after which the solution is discarded (keep the centrifuge tube fixed on the magnetic rack).
7. Repeat step 6.
8. After a brief centrifugation of the centrifuge tube, re-attach the tube to the magnetic rack and remove the solution from the bottom of the tube with a pipette, then open the cover and place it at room temperature for 5-10 min.
9. Add 50-100 μL of RNase-Free Water to the centrifuge tube and vortex to fully suspend the magbeads in the eluent, and then fix the tube at 56°C and 1600 rpm for 10 min on a thermostatic mixer.
10. Fix the centrifuge tube on a magnetic rack and let it stand for 2 min, then transfer the eluate to a new centrifuge tube and store it at -20°C.

● Match with CWE2100 Extractor

2. Add the reagent to the 96 DW Plate according to the table below:

Position	Reagent and volume
1&7 Colume	Lysate: All Buffer GL: 200 μL
2&8 Colume	Buffer GW1: 500 μL
3&9 Colume	Buffer GW2: 500 μL
4&10 Colume	Buffer GW2: 500 μL
6&12 Colume	RNase-Free Water: 70 μL

6. Add 500 μL of Buffer GW2 to the centrifuge tube (please check whether 100% ethanol has been added before use), vortex for 5 s, and then place the tube on a thermostatic mixer at 25°C and 1600 rpm for 2 min. Fix the centrifuge tube on a magnetic rack and let it stand for 1 min, after which the solution is discarded (keep the centrifuge tube fixed on the magnetic rack).
7. Repeat step 6.
8. After a brief centrifugation of the centrifuge tube, re-attach the tube to the magnetic rack and remove the solution from the bottom of the tube with a pipette, then open the cover and place it at room temperature.
9. Add 50-100 μL of RNase-Free Water to the centrifuge tube and vortex to fully suspend the magbeads in the eluent, and then fix the tube at 56°C and 1600 rpm for 10 min on a thermostatic mixer.
10. Fix the centrifuge tube on a magnetic rack and let it stand for 2 min, then transfer the eluate to a new centrifuge tube and store it at -20°C.

● Match with CWE2100 Extractor

2. Add the reagent to the 96 DW Plate according to the table below:

Position	Reagent and volume
1&7 Colume	Lysate: All Buffer GL: 200 μL
2&8 Colume	Buffer GW1: 500 μL
3&9 Colume	Buffer GW2: 500 μL
4&10 Colume	Buffer GW2: 500 μL
6&12 Colume	RNase-Free Water: 70 μL

3. Place the magnetic sleeve and 96 DW Plate into the CWE2100 and run the "Micro Sample-2 program".
4. After about 10 min, pause the program and add 200 μL of isopropanol and 20 μL of magbeads to the 1&7 Colume.
5. Place the deep-well plate back into the instrument and continue running the program. After about 35 min, remove the 96 DW Plate and magnetic sleeve from the instrument.
6. Transfer the elution products from the 6&12 Colume to a centrifuge tube and store at -20°C for later use.

VI Tissue sample

1. Take 1-10 mg of tissue and grind it with liquid nitrogen, place it in a centrifuge tube, add 180 μL of Buffer SL, 20 μL of Proteinase K vortex and shake to mix. Place in a thermostatic mixer at 56°C, 1200 rpm for 1 h or 56°C water bath overnight to form Lysate.

5. Add 500 μL of Buffer GW1 to the centrifuge tube (please check whether 100% ethanol has been added before use), vortex for 5 s, and then place the tube on a thermostatic mixer at 25°C and 1600 rpm for 2 min. Fix the centrifuge tube on a magnetic rack and let it stand for 1 min, after which the solution is discarded (keep the centrifuge tube fixed on the magnetic rack).

Note: Repeat step 5 if needed to improve purity.

6. Add 500 μL of Buffer GW2 to the centrifuge tube (please check whether 100% ethanol has been added before use), vortex for 5 s, and then place the tube on a thermostatic mixer at 25°C and 1600 rpm for 2 min. Fix the centrifuge tube on a magnetic rack and let it stand for 1 min, after which the solution is discarded (keep the centrifuge tube fixed on the magnetic rack).
7. Repeat step 6.
8. After brief centrifugation of the centrifuge tube, re-attach it to the magnetic rack and remove the solution from the bottom of the tube with a pipette, then leave it uncapped at room temperature for 5-10 min to allow the ethanol to evaporate.
9. Add 50-100 μL of RNase-Free Water to the centrifuge tube and vortex the tube to fully suspend the magbeads in the eluent, and then fix the tube at 56°C and 1600 rpm for 10 min on a thermostatic mixer.
10. Fix the centrifuge tube on a magnetic rack and let it stand for 2 min, then transfer the eluate to a new centrifuge tube and store it at -20°C.

● Match with CWE2100 Extractor

2. Add the reagent to the 96 DW Plate according to the table below:

Position	Reagent and volume
1&7 Colume	Lysate: All Buffer GL: 200 μL
2&8 Colume	Buffer GW1: 500 μL
3&9 Colume	Buffer GW2: 500 μL
4&10 Colume	Buffer GW2: 500 μL
6&12 Colume	RNase-Free Water: 70 μL

3. Place the magnetic sleeve and 96 DW Plate into the CWE2100 and run the "Micro Sample-2 program".
4. After about 10 min, pause the program and add 200 μL of isopropanol and 20 μL of magbeads to the 1&7 Colume.
5. Place the deep-well plate back into the instrument and continue running the program. After about 35 min, remove the 96 DW Plate and magnetic sleeve from the instrument.
6. Transfer the elution products from the 6&12 Colume to a centrifuge tube and store at -20°C for later use.

IV Blood film or blood spot samples

1a. Take 1-2 blood slices with a diameter of about 3 mm and place them in a centrifuge tube. Add 180 μL Buffer SL and 20 μL Proteinase K vortex to mix well. Incubate in thermostatic mixer at 56°C and 1200 rpm for 45 min to form Lysate.

1b. Cut samples of blood spots dripping on clothing or cotton cloth with a diameter of about 6 mm, place them in a centrifuge tube, add 180 μL Buffer SL and 20 μL Proteinase K vortex to mix well. Incubated at 56°C in thermostatic mixer and incubated with 1200 rpm for 1 h, Lysate is formed.

● Manual Operation

2. Add 200 μL Buffer GL and vortex to mix the solution, place in a thermostatic mixer at 70°C, 1200 rpm for 10 min and remove.

   Note: Precipitation is normal after adding Buffer GL.

3. Add 200 μL of isopropanol and 20 μL of magbeads and vortex the solution for 5 s, then place the centrifuge tube in a thermostatic mixer at 25°C and 1600 rpm for 10 min.
4. Fix the centrifuge tube on the magnetic rack and let it stand for 1 min, then discard the solution (keep the centrifuge tube fixed on the magnetic rack).
5. Add 500 μL of Buffer GW1 to the centrifuge tube (please check whether 100% ethanol has been added before use), vortex for 5 s, and then place the tube on a thermostatic mixer at 25°C and 1600 rpm for 2 min. Fix the centrifuge tube on a magnetic rack and let it stand for 1 min, after which the solution is discarded (keep the centrifuge tube fixed on the magnetic rack).

   Note: Repeat step 5 if needed to improve purity.

6. Add 500 μL of Buffer GW2 to the centrifuge tube (please check whether 100% ethanol has been added before use), vortex for 5 s, and then place the tube on a thermostatic mixer at 25°C and 1600 rpm for 2 min. Fix the centrifuge tube on a magnetic rack and let it stand for 1 min, after which the solution is discarded (keep the centrifuge tube fixed on the magnetic rack).
7. Repeat step 6.
8. After a brief centrifugation of the centrifuge tube, re-attach the tube to the magnetic rack and remove the solution from the bottom of the tube with a pipette, then open the cover and place it at room temperature for 5-10 min.
9. Add 50-100 μL of RNase-Free Water to the centrifuge tube and vortex to fully suspend the magbeads in the eluent, and then fix the tube at 56°C and 1600 rpm for 10 min on a thermostatic mixer.
10. Fix the centrifuge tube on a magnetic rack and let it stand for 2 min, then transfer the eluate to a new centrifuge tube and store it at -20°C.

● Match with CWE2100 Extractor

2. Add the reagent to the 96 DW Plate according to the table below:

Position	Reagent and volume
1&7 Colume	Lysate: All Buffer GL: 200 μL
2&8 Colume	Buffer GW1: 500 μL
3&9 Colume	Buffer GW2: 500 μL
4&10 Colume	Buffer GW2: 500 μL
6&12 Colume	RNase-Free Water: 70 μL

3. Place the magnetic sleeve and 96 DW Plate into the CWE2100 and run the "Micro Sample-2 program".
4. After about 10 min, pause the program and add 200 μL of isopropanol and 20 μL of magbeads to the 1&7 Colume.
5. Place the deep-well plate back into the instrument and continue running the program. After about 35 min, remove the 96 DW Plate and magnetic sleeve from the instrument.
6. Transfer the elution products from the 6&12 Colume to a centrifuge tube and store at -20°C for later use.

V Bone or tooth samples

1. Take about 0.01-0.1 g of bone or teeth after grinding with liquid nitrogen or metal grinder in a centrifuge tube, add 260 μL Buffer SL, 20 μL Proteinase K vortex and shake to mix. Incubate overnight at 56°C and 1200 rpm in a thermostatic mixer to form Lysate.

● Manual Operation

2. Add 200 μL Buffer GL and vortex to mix the solution, place in a thermostatic mixer at 70°C, 1200 rpm for 10 min and remove.

   Note: Precipitation is normal after adding Buffer GL.

3. Add 200 μL of isopropanol and 20 μL of magbeads and vortex the solution for 5 s, then place the centrifuge tube in a thermostatic mixer at 25°C and 1600 rpm for 10 min.
4. Fix the centrifuge tube on the magnetic rack and let it stand for 1 min, then discard the solution (keep the centrifuge tube fixed on the magnetic rack).
5. Add 500 μL of Buffer GW1 to the centrifuge tube (please check whether 100% ethanol has been added before use), vortex for 5 s, and then place the tube on a thermostatic mixer at 25°C and 1600 rpm for 2 min. Fix the centrifuge tube on a magnetic rack and let it stand for 1 min, after which the solution is discarded (keep the centrifuge tube fixed on the magnetic rack).

   Note: Repeat step 5 if needed to improve purity.