

Genomic DNA Extraction from various samples using GENTi™ Advanced Genomic DNA Extraction Kit on GENTi™ Advanced

Experimental Conditions

Materials Required

- ♦ GENTi™ Advanced Genomic DNA Extraction Kit (901-048A/901-096A)
- ♦ GENTi™ Advanced Automatic Extraction Equipment (GTI032A)
- ♦ 1X PBS (Phosphate-buffered saline), pH 7.4 (SM-P04-100)
- ♦ Pipette & sterile pipette tips
- ♦ Suitable protector (e.g., lab coat, disposable gloves, goggles, etc.)

Sample Information

- ♦ Extraction conditions

Sample	Amount	Elutoin volume
K562 cell	1x10 ⁶ cells	80 µl
Human whole blood	200 µl	
Buccal swab	1 stick	
Urine	200 µl	

Sample Preparation

• K562 cell

1. Transfer the harvested cells into a 1.5 ml microcentrifuge tube and centrifuge at 14,000 x g for 1 min.
2. Discard the supernatant and resuspend the cell pellet with 400 µl of 1X PBS.
3. Follow the **Protocol of GENTi™ Advanced Genomic DNA Extraction Kit**.

• Human whole blood

1. Transfer 200 µl of human whole blood in an EDTA tube or other anticoagulant mixture.
2. Apply the human whole blood contained in EDTA or other anticoagulant mixture to cartridge right now.
3. Follow the **Protocol of GENTi™ Advanced Genomic DNA Extraction Kit**.

• Buccal swab

1. Collect the oral epithelial cells using sterilized swab and cut off the head of swab using sterilized scissors.
2. Transfer the head of swab into a 2 ml microcentrifuge tube with 400–500 µl of 1X PBS and vortex vigorously.
3. Follow the **Protocol of GENTi™ Advanced Genomic DNA Extraction Kit**.

• Urine

1. Transfer 200 µl of urine into a 5 ml conical tube and centrifuge for 2 min at 6,000 x g above.
2. Discard the supernatant and resuspend with 3 ml of 1X PBS.
3. Follow the **Protocol of GENTi™ Advanced Genomic DNA Extraction Kit**.

Protocol

GENTi™ Advanced Genomic DNA Extraction Kit Protocol

* For more details, please refer to [the manual of GENTi™ Advanced Genomic DNA Extraction Kit](#).

1. Peel back the seal of pre-filled with reagents cartridge.
2. Dispense 20 µl of dissolved proteinase K solution into the 1st (7th) well.
3. Dispense 10 µl of RNase A solution into the 3rd (9th) well.
4. Dispense 200 µl of prepared samples into the 1st (7th) well.
5. Load the plate onto the tray of GENTi™ 32 Advanced System.
6. Insert Magnetic Rod Cover to the end to bracket.

Result

Sample	No.	Yield (µg)	A _{260/280}	A _{260/230}
K562 cell	1	19.2	2.11	2.08
	2	21.4	2.11	2.06
	3	19.4	2.18	2.21
Human whole blood	1	2.6	1.96	1.31
	2	2.2	1.85	1.24
	3	1.9	1.88	1.25
Buccal swab	1	0.5	2.54	0.42
	2	0.5	2.28	0.6
Urine	1	0.8	1.65	0.68
	2	0.5	1.12	0.7

Figure 1. Yield and purity analysis of DNA

DNA was extracted following the standard protocols for cell, blood, buccal swab, and urine using GENTi™ Advanced Genomic DNA Extraction kit. O.D. ratio and yield of extracted genomic DNA calculated using a NanoDrop™ 2000/2000C (supplier T).

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Result

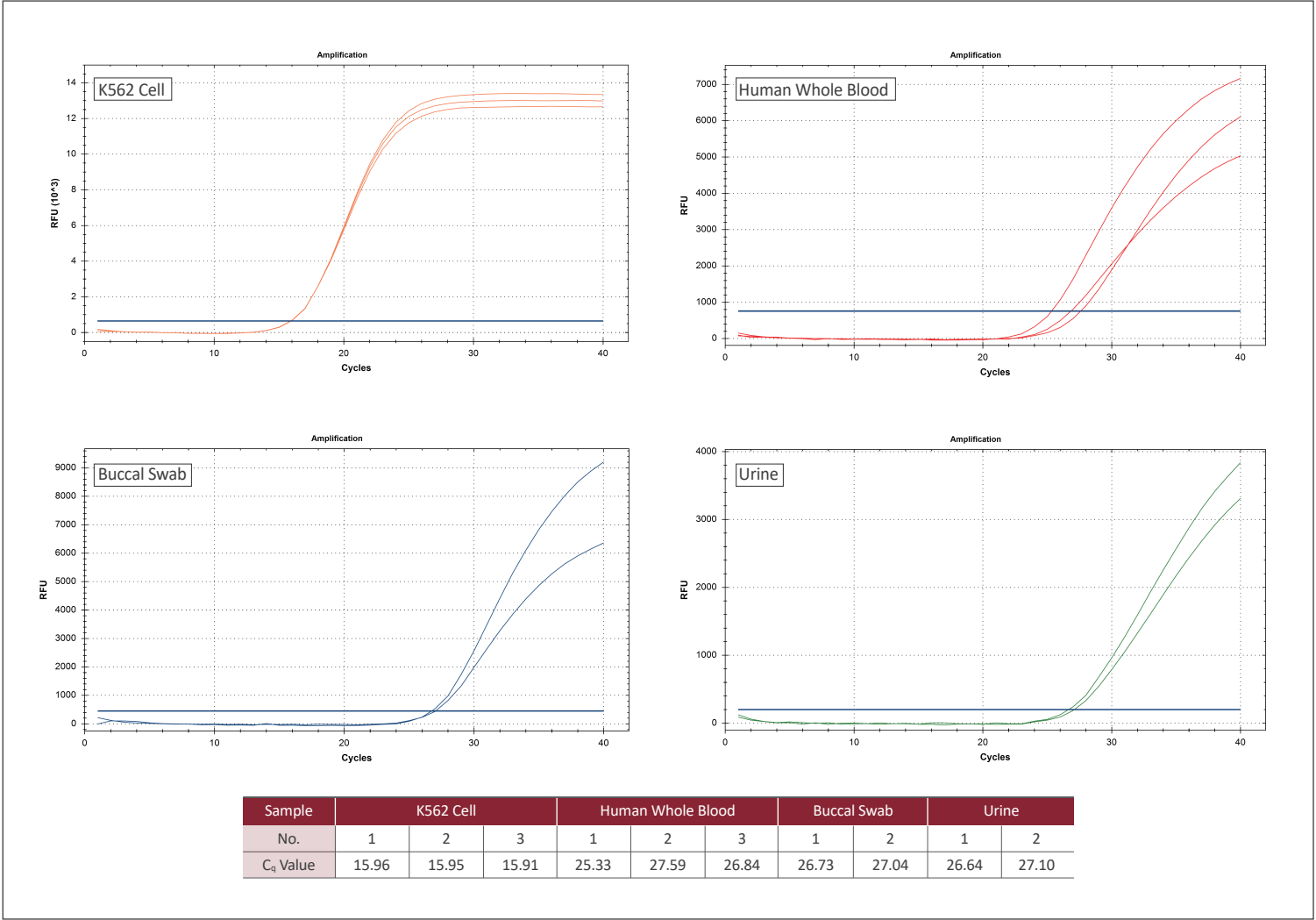


Figure 2. Real-time PCR of Genomic DNA Extraction using GENTi™ Advanced Genomic DNA Extraction Kit.
Genomic DNA extracted from cell, blood, buccal swab and urine using GENTi™ Advanced Genomic DNA Extraction Kit were used as templates for real-time PCR amplification of the GAPDH gene.

- **PCR primer**
Human GAPDH
- **Real-time PCR system and qPCR kit**
Real-time PCR system: CFX96™ System (1855201, supplier B)
qPCR kit: Probe qPCR Mix (RR391AT)