

## 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™<sup>32</sup> 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 <sup>6</sup> 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 manual.

##### • 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 manual.

##### • 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 manual.

##### • 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 manual.

### Protocol

#### GENTi™ Advanced Genomic DNA Extraction's Protocol

\* For more details, [please refer to handbook 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. Mount the plate on the tray of GENTi™<sup>32</sup> Advanced equipment.
6. Insert Magnetic Rod Cover to the end to bracket.

### Result

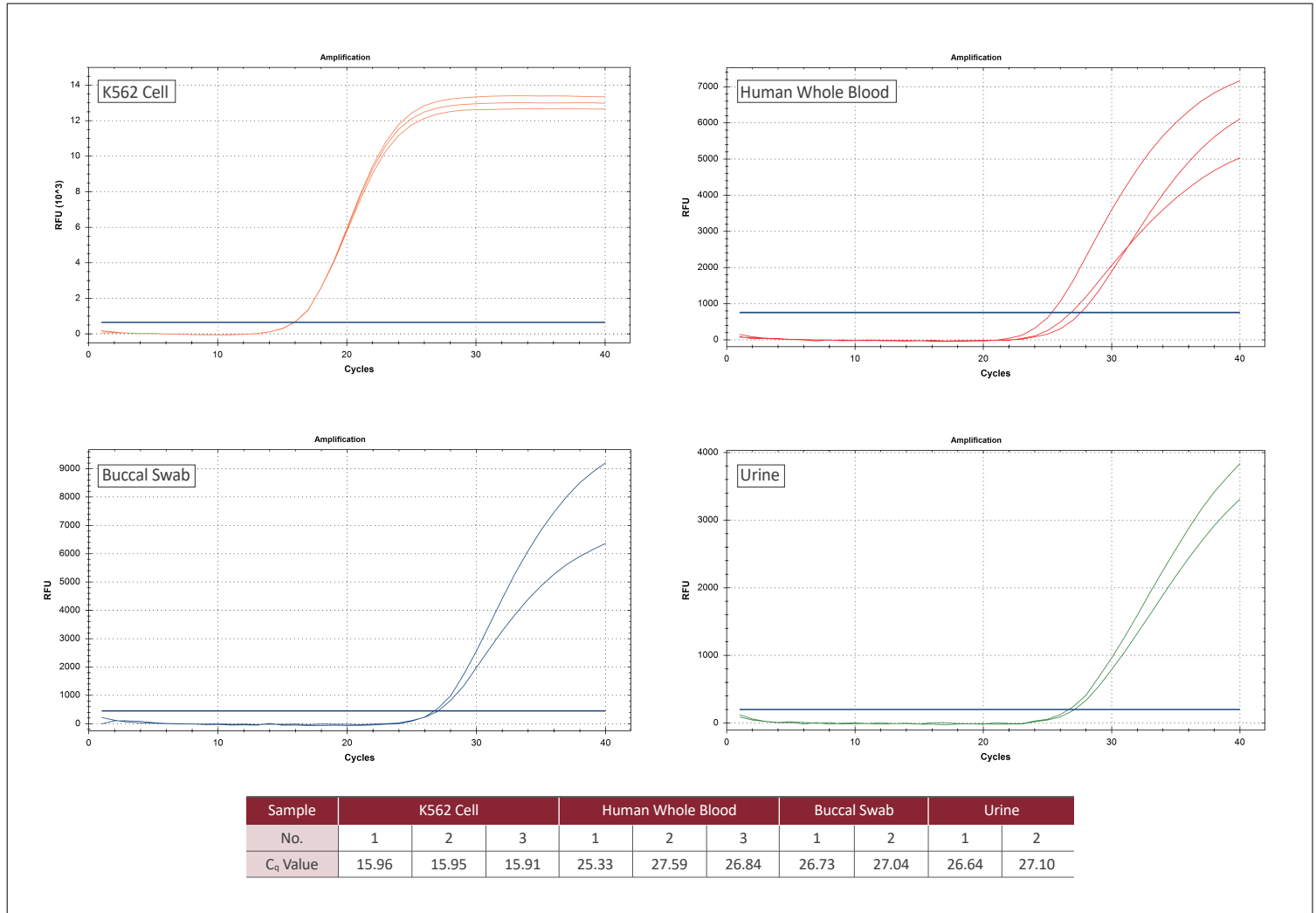
Sample	No.	Yield (µg)	A <sub>260/280</sub>	A <sub>260/230</sub>
K562 cell	1	19.2	2.11	2.08
	2	21.4	2.11	2.06
	3	19.4	2.18	2.21
Human whole blood	1	2.6	1.96	1.31
	2	2.2	1.85	1.24
	3	1.9	1.88	1.25
Buccal swab	1	0.5	2.54	0.42
	2	0.5	2.28	0.6
Urine	1	0.8	1.65	0.68
	2	0.5	1.12	0.7

**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).

## Genomic DNA Extraction from various samples using GENTI™ Advanced Genomic DNA Extraction Kit on GENTI™ Advanced

### 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 instrument and kit**  
Instrument : CFX-96 (1855201, Supplier : B)  
qPCR kit : Probe qPCR Mix (RR391AT)