

# Blood gDNA Extraction from Various Blood Specimen Types using GENTi™ Advanced Blood DNA Extraction Kit

## Experimental Conditions

### Materials Required

- ♦ GENTi™ Advanced Blood DNA Extraction Kit (903-048A/903-096A)
- ♦ GENTi™ 32 Advanced Automatic Extraction Equipment (GTI032A)
- ♦ Pipette & sterile pipette tips
- ♦ Suitable protector (e.g., lab coat, disposable gloves, goggles, and etc.)
- ♦ FTA card (for dried blood spot, DBS)

### Sample Information

- ♦ Extraction conditions
  - Sample type and amount

Sample	Amount
Human whole blood	200 µl
Plasma	
Buffy coat	
DBS	2 dots

- Elution volume: 80 µl

### Sample Preparation

#### • Human whole blood

1. Collect 200 µl of whole blood in EDTA tubes or other anticoagulant mixtures.
2. Follow the **Protocol of GENTi™ Advanced Blood DNA Extraction Kit**.

#### • Plasma

1. Centrifuge whole blood at 3,000 x g for 15 minutes at 4°C for blood to be separated into three components: plasma, buffy coat, and erythrocytes.
2. Pipette the plasma on the top layer and transfer it to new tube.
3. Follow the **Protocol of GENTi™ Advanced Blood DNA Extraction Kit**.

#### • Buffy coat

1. Centrifuge whole blood at 3,000 x g for 15 minutes at 4°C for blood to be separated into three components: plasma, buffy coat, and erythrocytes.
2. Pipette buffy coat layer, being careful not to disturb the other blood components.
3. Follow the **Protocol of GENTi™ Advanced Blood DNA Extraction Kit**.

#### • DBS

1. Drop whole blood onto FTA cards (DBS).
2. Collect two 5 mm diameter DBS samples using sterilized punching machine.
3. Follow the **Protocol of GENTi™ Advanced Blood DNA Extraction Kit**.

## Protocol

### GENTi™ Advanced Blood DNA Extraction Kit Protocol

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

1. Peel off the foil seal from the pre-filled plate/tube.
2. Dispense 15 µl of dissolved proteinase K solution into the 1st (7th) well.
3. Transfer 200 µl or 2 dots of samples to 1st (7th) well.
4. Load the plate onto the tray of GENTi™ 32 Advanced System.
5. Insert Magnetic Rod Cover to the end of strip bracket.

## Result

Sample	No.	Yield (µg)	A <sub>260/280</sub>	A <sub>260/230</sub>
Human whole blood	1	5.31	1.90	1.96
	2	4.54	1.81	1.88
	3	4.49	1.88	1.96
DBS	1	0.17	0.87	0.42
	2	0.17	1.05	0.46
	3	0.18	1.05	0.51
Buffy coat	1	8.33	1.86	2.16
	2	6.57	1.85	2.23
	3	5.75	1.86	2.13
Plasma	1	0.77	1.72	1.27
	2	0.63	1.81	1.53
	3	0.66	1.84	1.44

Figure 1. Result of spectrometer from four samples using GENTi™ Advanced Blood DNA Extraction Kit.

After DNA elutes were extracted from each samples with GENTi™ Advanced Blood DNA Extraction Kit, all DNA elutes were measured in triplicate with spectrometer such as yield, A<sub>260/280</sub>, and A<sub>260/230</sub>.

#### • Spectrophotometer

NanoDrops 2000/2000C spectrometers (supplier T)

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## Result

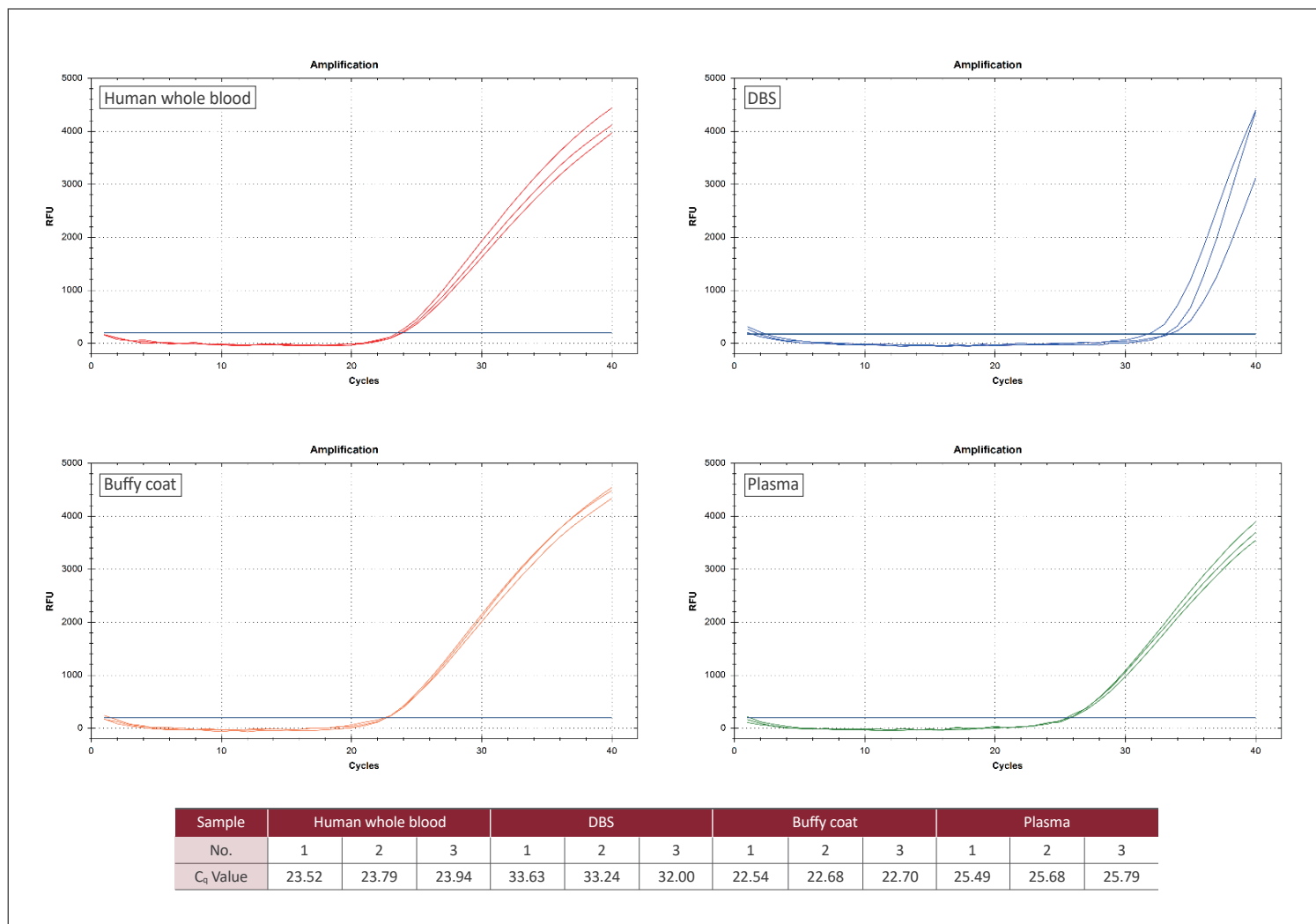


Figure 2. Result of real-time PCR from four samples using GENTi™ Advanced Blood DNA Extraction Kit.

After DNA templates were extracted from each samples with GENTi™ Advanced Blood DNA Extraction Kit, all DNA templates were performed in triplicate with real-time PCR methods.

- **PCR primer**  
Human GAPDH
- **Real-time PCR system and qPCR kit**  
Real-time PCR system: CFX-96™ System (1855201, supplier B)  
qPCR kit: Probe qPCR Mix (RR391AT)