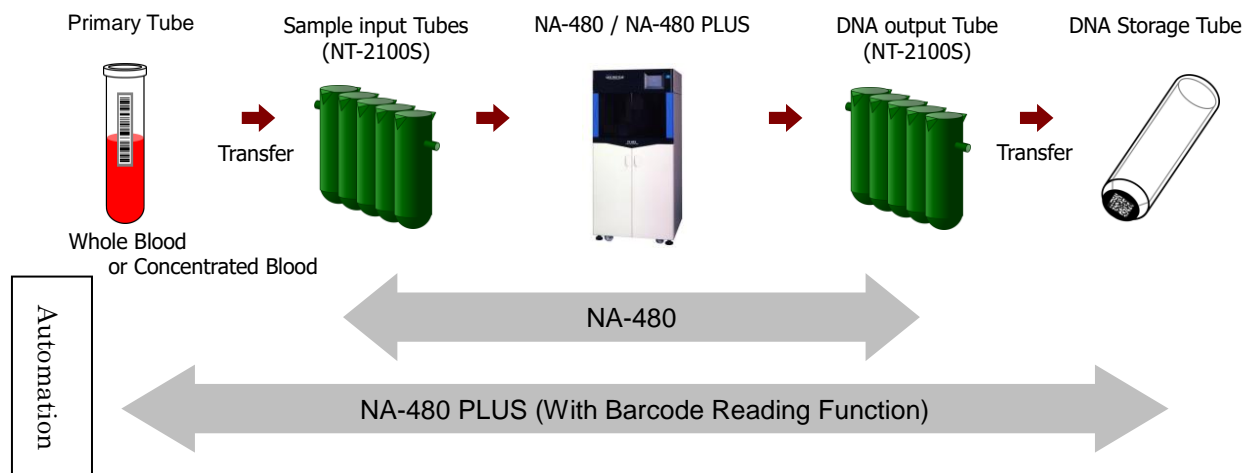


NA-480 BLOOD DNA Protocol DNA Extraction from Whole Blood and Concentrated Blood

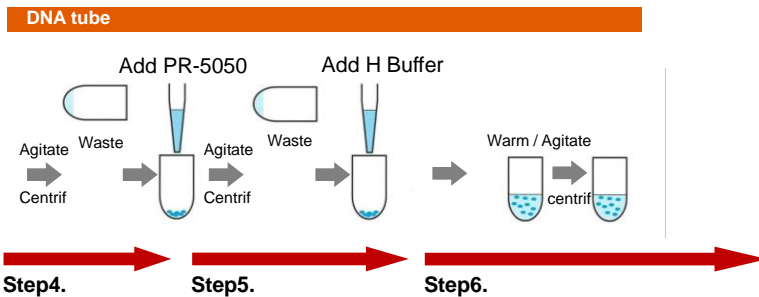
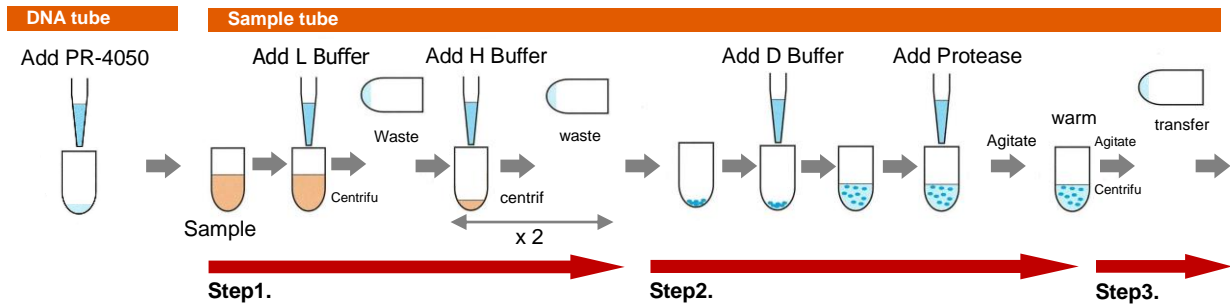
KURABO NA-480 / NA-480 PLUS can process DNA extraction from 30 samples all at once. This data shows the examples of DNA Extraction from Whole Blood and Concentrated Blood.



Experimental conditions

Sample / Volume	Whole Blood / 5 ml Concentrated Blood (removed Plasma) / 2 ml
Pretreatment for Concentrated Blood	(1) Centrifuge Fresh Blood (3,000 rpm, 15min, room temperature) (2) Remove the plasma (upper layer) (3) Mix remained Buffy-coat and red blood cells. →Concentrated Blood
Platform	NA-480 or NA-480 PLUS
Protocol	BLOOD FRESH (NA-480) or FRESH+ 1-5ml (NA-480 PLUS)
Reagents Kit	NR-120
Consumables	Sample input tube: NT-2100S、 DNA output tube: NT-2100S
Principle	Alcohol precipitation method
Process	Step1. Collection leukocyte Step2. Dissolution leukocyte and Denature protein Step3. Remove impurities Step4. DNA precipitation Step5. DNA Washing Step6. DNA Elution (Elution volume: 1100 µl)

Work Flow



Extraction Time

- 10 samples: 3.0 hours
- 20 samples: 3.4 hours
- 30 samples: 3.7 hours

Analysis

Yield and Purity Measured absorbance of 260nm with Nanodrop

- DNA yield is calculated as follows:
「A260 x 50 x dilution factor x elution volume」
- DNA purity is evaluated by the ratio of A260 / A280

Pulse Field Gel Measured the length of Eluted DNA 30μl with pulse field gel electrophoresis.

Electrophoresis System: Gene Navigator system (Amersham Biosciences)

Conditions: 0.5x TBE, 1.2% agarose, 200V, 150 mA (Total 21h)

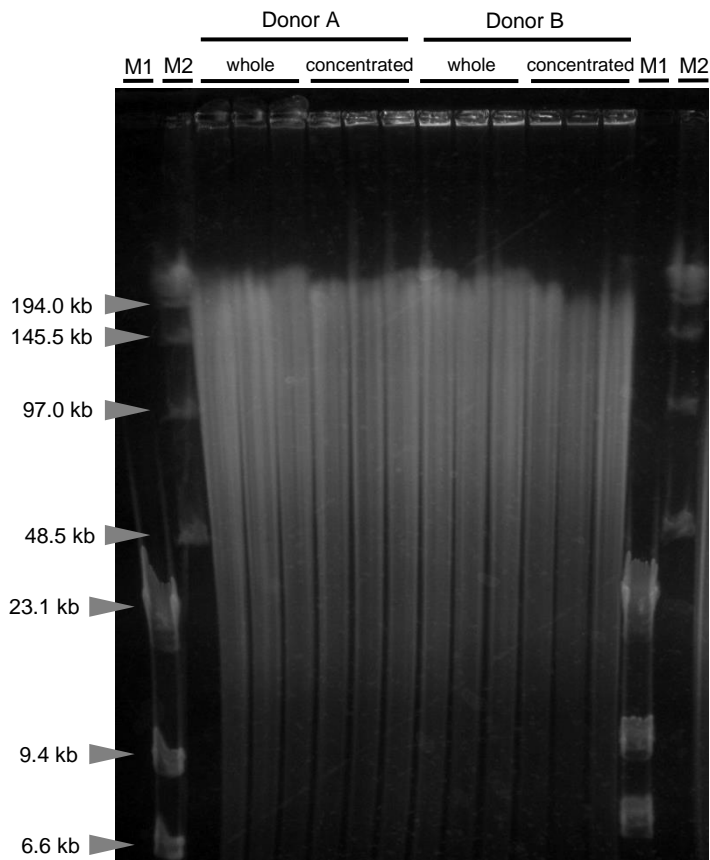
Phase	Pulse (sec)	Duration (h)
1	0.5	0.5
2	8.0	0.5
3	1.0	3.0
4	2.0	3.0
5	4.0	6.0
6	8.0	8.0

Results

Yield and Purity

Donor	sample	yield (μg)	purity	
			A260/280	A260/230
A (leukocyte 6,700/ μl)	Whole blood 5 ml	138.3	1.89	2.26
	Concentrated 2 ml	82.5	1.85	1.96
B (leukocyte 3,800/ μl)	Whole blood 5 ml	77.6	1.83	2.19
	Concentrated 2 ml	56.0	1.84	2.06

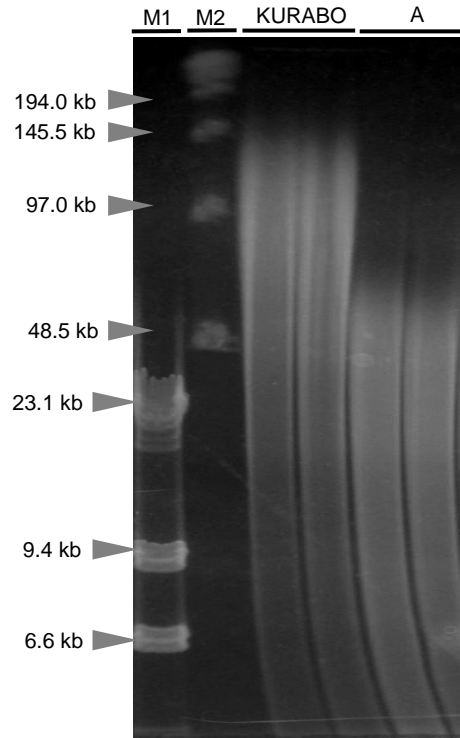
**Pulse Field Gel
Electrophoresis**



M1: λ Hind III marker
M2: Lambda PFG Ladder

Confirmed that about 200 kb DNA was extracted.

Pulse Field Gel Electrophoresis Anarized Whole blood(Same donor) DNA extracted with NA-480(KURABO) and manual kit (competitor A).
(Compared with competitor)



M1: λ /Hind III marker

M2: Lambda PFG Ladder

Confirmed that DNA extracted with NA-480(KURABO) is 50kb longer than competitor A's

Information

Platform NA-480 / NA-480 PLUS

Protocol BLOOD FRESH (NA-480) / FRESH+ 1-5ml (NA-480 PLUS)

Reagent Kit NR-120

Reagents	Number	contents
BR-1083 (L Buffer)	1	2
EDB-02	2	5 vials
BR-3080 (H Buffer)	3	4
BR-8075 (D Buffer)	8	1

PR-4050-5, PR-5050-5

Reagents	Number (Code)	Contents
Precipitation Buffer	4 (PR-4050)	5
Wash buffer	5 (PR-5050)	5

Tube Unit Sample input tube: NT-2100S
DNA output tube: NT-2100S

KURABO Industries, Ltd
Advanced technology division
Bio-medical department