KURABO

ADS Biotec
YOUR PATH TO DISCOVERY

HANDBOOK

QuickGene DNA whole blood kit L

DB-L (IVD)

For Isolation of Genomic DNA from whole blood

Ver.CEIVD1.1

Contents

All labels of Bottle, Reagent, Package and Manual including this HandBook use the symbols mentioned below.

Symbol	Description	Symbol	Description
IVD	In Vitro Diagnostic Medical Device		Consult instruction for use
	Use by date		Manufacturer
LOT	BATCH CODE		Caution
CE	CE MARKING	REF	Catalogue Number
	Temperature limitation	Σ <n>	Contains reagents sufficient for <n> number
	Date of Manufacture	EC REP	Authorized representative in the European Community
CONT	Contains	ADD	Adding
EtOH	Ethanol		Leads to

1. Introduction

QuickGene porous membrane to immobilize nucleic acid has large specific surface area and uniform & fine porousness. So QuickGene successfully isolates genomic DNA with high yield; moreover, with its patented thin membrane, it eliminates most contaminants. QuickGene also uses pressured filtration technology, which cannot be successfully utilized with typical glass membranes; by using pressured filtration technology; new, compact and automatic instruments for rapid nucleic acid purification can be produced successfully.
The specifications mentioned above will reduce reexamination and produce reliable observation.
Quick Gene DNA whole blood kit L / DB-L (IVD) is intended to use for in vitro diagnostic medical device to sample DNA purifying from human whole blood.

INTENDED USE

The combination of QuickGene-Auto240L system and QuickGene DNA whole blood kit L / DB-L (IVD) is intended to isolate high quality genomic DNA automatically from human whole blood sample. Generally, DNA isolated by the system is useful for PCR based analysis like HLA typing or karyotyping to know patients' genotype before transplantation, and for Next Generation Sequencing (NGS) for selection of the molecular targeted agents. Such high quality genomic DNA is also suitable for the long term storage project like bio banking with less DNA degeneration/degradation. DNA isolated from the system can't be used for diagnosis, prevention, or treatment of a disease purpose directly. The system and the kit are intended for use by professional users adequately skilled in molecular biological techniques and trained to operate the system.

QuickGene DNA whole whole blood kit L / DB-L (IVD) does NOT intend to use the subject detection written in either List A or List B in Annex, II IVD directive 98/79/EC, or Self testing.

Please be sure to read this handbook carefully before using the kit.
This Kit is only used with QuickGene-Auto240L as IVD marked product.

2. Kit components

The kit includes the reagents necessary for 48 sets of genomic DNA isolation.

□ Protease	(EDB)	5 tubes
□ Lysis Buffer	(LDB)	2 bottles
□ Wash Buffer	(WDB)	4 bottles
□ Elution Buffer	(CDB)	1 bottle
□ Cartridges	(CAL2)	48 pcs
□ Waste Tubes	(WTL)	48 pcs

3. Storage conditions

All reagents are stable at room temperature (15-28°C) until expiring date indicated at outer box.
The dissolved protease (EDB) will be able to store for two months at 4°C.
After dissolution, the EDB can be stored in a frozen state (-20°C) for at least 6 months. In such a case, do not repeat the freezing and thawing by dispensing 1.5 mL or 2 mL tubes.

4. Other required materials, not supplied in this kit

♦ **Reagents**
- >99% Ethanol
- Nuclease-free ultra pure water (for dissolving proteases)

♦ **Instruments and equipments**
- QuickGene-Auto240L
- QuickGene-Auto240L Consumables Kit
- Collection tube (the recommended product is shown in Table.1)
- Protective gloves
- Safety goggles

Table1 Recommended collection tubes

Type of centrifuge tube	Product name (Examples)
2D barcoded tube (1.4 ml)	Matrix™ 2D Barcoded Open-Top Storage Tubes (1.4 ml)

5. Safety warnings

All reagents and items should be considered chemically and biologically hazardous. Wearing a laboratory coat, gloves and safety goggles during the experiments are highly recommended. In case of contact between the reagents and the eyes, skin, or clothing, wash immediately with water. (See the Safety Data Sheet for specific recommendations, http://www.kurabo.co.jp/bio/English/)

Protease (EDB)

CONT Proteinase, Bacillus neutral
Danger! Wear protective gloves/protective clothing/eye protection/face protection. IF ON SKIN (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER/doctor/…/if you feel unwell.

Lysis Buffer (LDB)

CONT Guanadine hydrochloride**;** 2,4,7,9-tetramethyldec-5-yne-4,7-diol
Warning! Wear protective gloves/protective clothing/eye protection/face protection. IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician. IF ON SKIN (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Rinse mouth. If skin irritation occurs: Get medical advice/attention. Supplemental hazard information: 2,4,7,9-tetramethyldec-5-yne-4,7-diol May produce an allergic reaction.

Wash Buffer (WDB)

- Do not drink or ingest. Avoid contact with eyes.
- If contact with eyes, skin, or clothing occurs, rinse thoroughly with water. Consult a physician if necessary.

Elution Buffer (CDB)

- Do not drink or ingest. Avoid contact with eyes.
- If contact with eyes, skin, or clothing occurs, rinse thoroughly with water. Consult a physician if necessary.

- Use or storage of LDB at high temperature should be avoided.
- Any solution and waste fluid containing LDB should not be mixed with bleach.
- **In the case of using potentially infectious samples:**
  Wear a suitable laboratory coat, disposable gloves and safety goggles during the experiments.
- **Disposal of waste fluid and consumables when using potentially infectious samples:**
  After use, dispose of potentially infectious samples and consumables by incineration, high temperature decontamination, sterilization, or disinfection in accordance with applicable laws. When entrusting waste disposal to licensed hazardous waste disposal contractors, use specially controlled waste management forms (manifest), if applicable.

6. Precautions

◆ Handling of Starting Material
- Small amount of samples should be adjusted to 2 ml with PBS (sterilized) before loading.
- Use a whole blood sample treated with EDTA-2Na, EDTA-2K, or heparin.
- Use a whole blood sample within 3 days after collection. The yield of DNA might decrease, or degradation of DNA might be caused when a blood sample preserved for a long time is used.
- The yield of DNA might be caused when the number of leukocytes exceeds 5 x 10^7 cells/2 ml. In such cases, adjust the number of leucocytes by diluting the sample with PBS (sterilized) to below 2 x 10^7 cells/ 2 ml.
  The Cartridge (CA) might clog when the number of leukocytes exceeds 5 x 10^7 cells/2 ml. We recommend that you dilute the sample with PBS (sterilized) and then perform extraction.

◆ Use of Reagent
- After addition of nuclease-free water to EDB leave it for 30 min or more at room temperature with occasionally stirring. Use it after confirming the powder is completely dissolved. The yield of DNA might decrease or the Cartridge (CA) might clog when dissolution of EDB is insufficient.

◆ Procedure of Extraction
- Use QuickGene DNA whole blood kit L / DB-L (IVD) at room temperature (15-30°C). In case of using at lower or higher temperature, it may affect the extraction performance.
- The yield of DNA varies depending upon sample conditions. The standard yield is 30 to 80 µg from 2 ml whole blood samples.
- Refer to the Operation Manual for the QuickGene system before using.

7. Quality controls

- As part of the stringent of quality assurance program in KURABO INDUSTRIES LTD., the performance of QuickGene DNA whole blood kit L / DB-L (IVD) is evaluated routinely on a lot-to-lot uniformity.
- Yield and quality of isolated genomic DNAs are checked by measuring the absorbance at 260 nm and ratio of absorbance (260 nm/280 nm), respectively.

8. Automated purification by QuickGene-Auto240L

Please read Operation manual of QuickGene-Auto240L before use.

Set all accessories and consumables in the correct order.

Set Waste tubes (WTL) and Cartridges (CA) into correct position.

8-1. Reagent Preparation

Protease (EDB)

ADD **3.3 ml water**

Add 3.3 ml of nuclease-free ultra pure water to the vial containing the lyophilized protease, and dissolve it carefully. Store the dissolved protease (EDB) at 4°C. The dissolved protease (EDB) will be able to store for two months at 4°C.

Notice: Use the protease (EDB) after dissolving it completely with the following instructions.
Add 3.3ml of nuclease-free ultra pure water, and vortex with the cap closed.
Leave the protease (EDB) solution 30-40 minutes in room temperature and mix it a few times.
Make sure if all the powder in the solution is dissolved completely before use.
If it is not dissolved completely, the yield would be insufficient or the cartridges would be clogged.

Lysis Buffer (LDB)

Mix thoroughly before using.
If the precipitates are contained in Lysis Buffer (LDB), incubate the bottle in a water bath at 37°C and mix with inversion the bottle intermittently until the precipitates are dissolved. After dissolving the Lysis Buffer (LDB), cool down the bottle to room temperature before using.

Wash Buffer (WDB)

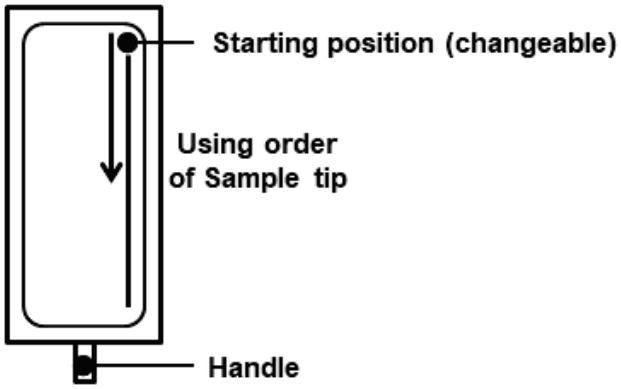
ADD **160 ml** EtOH ➡ **320 ml WDB**

Provided as the concentrated solution.
Add 160 ml of >99% ethanol into the bottle and mix with inversion the bottle gently at the beginning of use. A bottle of WDB is available for 12 samples extraction.

8-2. Consumable / Accessary Preparation

1) Set the 1.2 ml tip rack to the Sample tip holder.

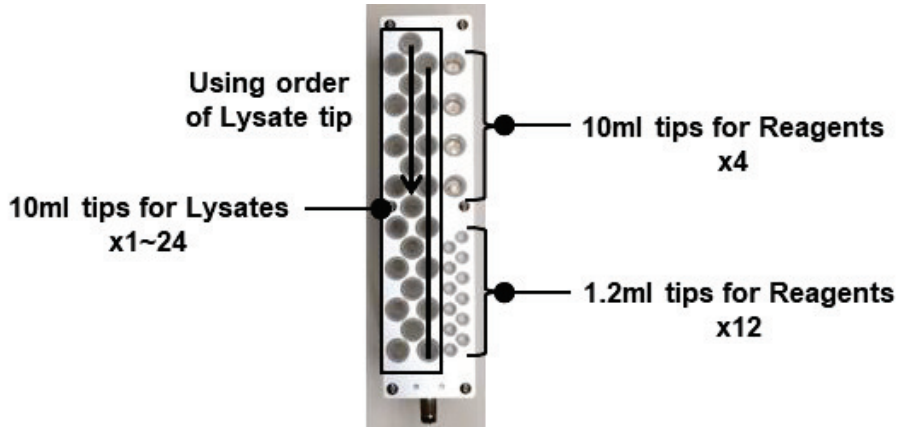
⚠ Confirm that the tip number is same or more than sample number.



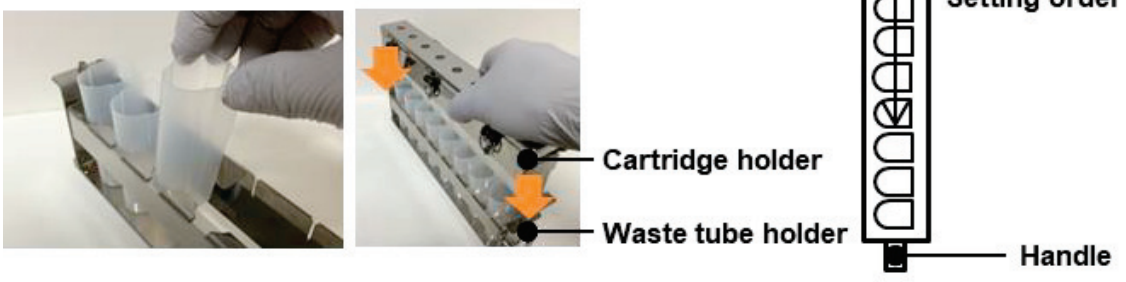
2) Set the 1.2 ml and 10 ml tips to the Reagent tip holder.

⚠ Set all the tips for Reagents (1.2 ml x 12, 10 ml x 4).

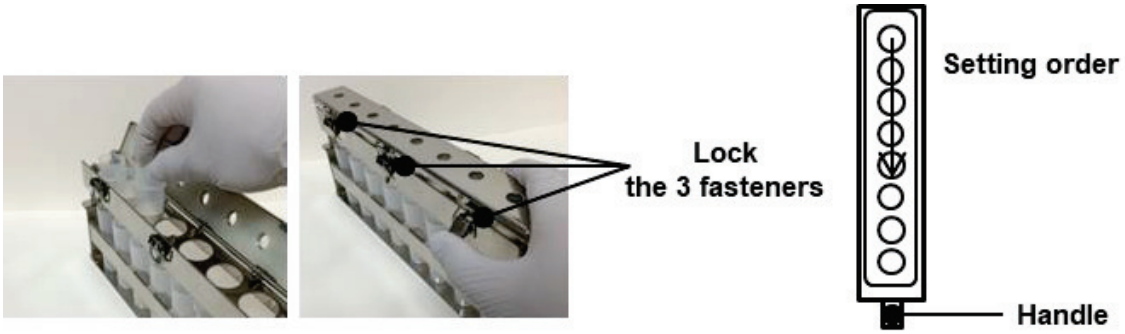
Confirm that the tip number for Lysate (10 ml) is same or more than sample number.



3) Set the Waste tubes (WTL) to the Waste tube holder (same number as sample number) and set the Cartridge holder on the Waste tube holder.

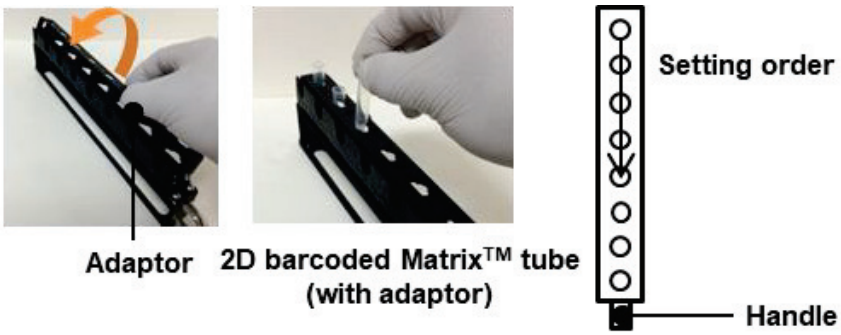


4) Set the Cartridges (CAL2) to the Cartridge holder (same number as sample number) and close the cover and lock the 3 fasteners.



5) Set the Collection tubes to the Collection tube holder (same number as sample number).

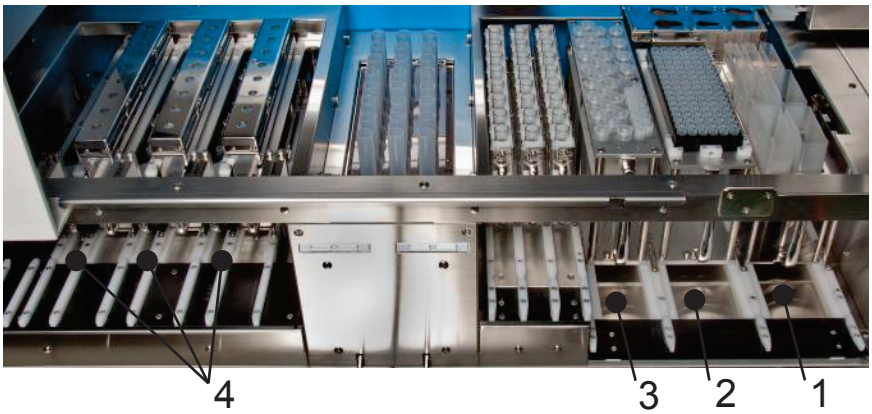
Use the adopter to fit the size of Collection tubes.



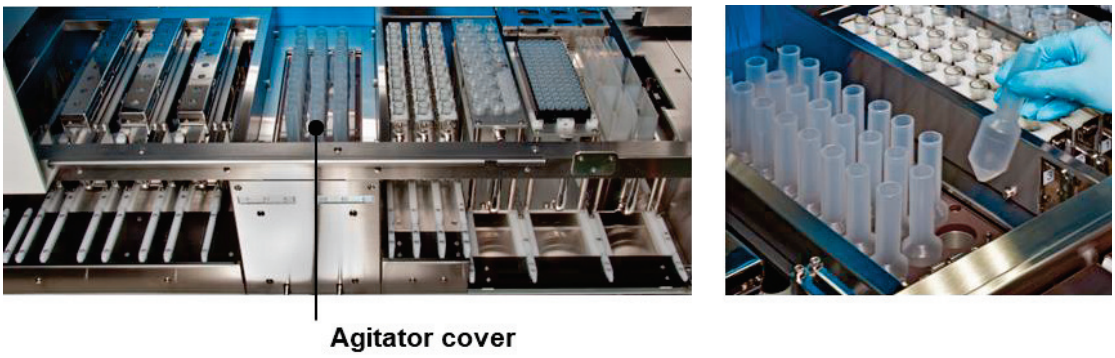
6) Set all containers into Reagent holder.

7) Set Reagent holder, Sample tip holder, Cartridge/Waste tube holder and Reagent tip holder to each holder slot in QuickGene-Auto240L.

Holder Name	Position	Holder Name	Position
Reagent holder	1	Reagent tip holder	3
Sample tip holder	2	Cartridge/Waste tube holder	4

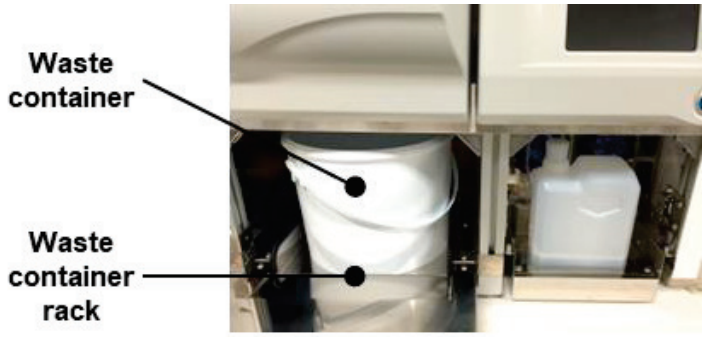


8) Open the Agitator cover and set the Lysate tubes on the Lysate unit in QuickGene-Auto240L (same number as sample number) after setting the Lysate tube, close the Agitator cover tightly.



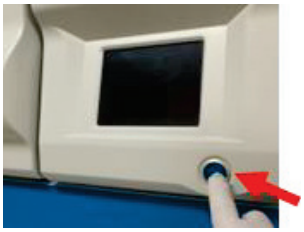
9) Set the Waste container into the Waste container rack of QuickGene-Auto240L drawer.

⚠ Confirm that the Waste container is empty.



8-3. System start-up

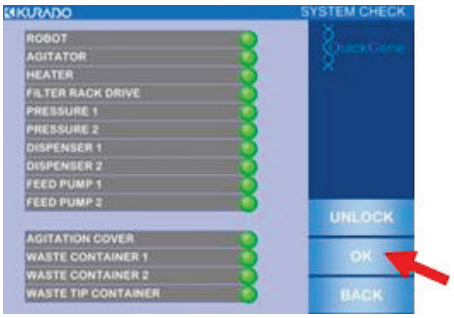
1) Press the Power switch ON (located below of the Operation panel).



2) Press the “SYSTEM CHECK” button and wait until the checks are completed.

3) After all the checks are complete, press “OK” button.

If some items are “NG”, refer to the Operation manual of QuickGene-Auto240L and solve the matters.

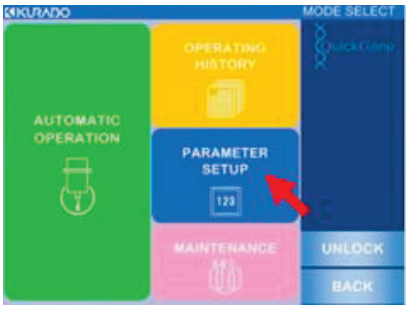


4) After select the “USER ID” and input “USER PASSWARD”, press “SIGN IN” button.

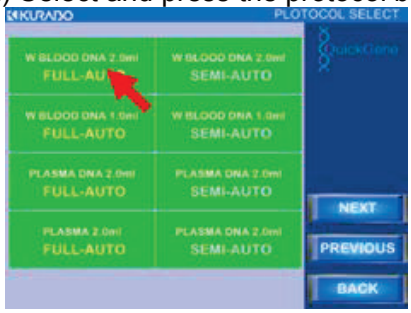
Refer to the Operation manual of QuickGene-Auto240L about “USER ID” and “USER PASSWORD” setting.

5) Setting of barcode reading mode

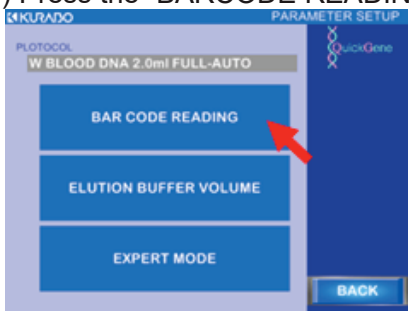
5-1) Press the “PARAMETER SETUP” button on the “MODE SELECT” screen.



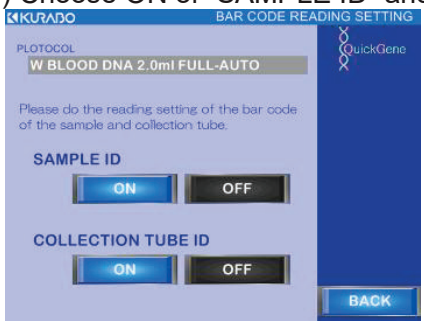
5-2) Select and press the protocol button (ex. “W BLOOD DNA 2ml FULL-AUTO”).



5-3) Press the “BARCODE READING” button.

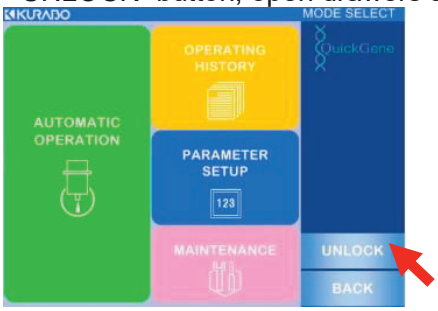


5-4) Choose ON of “SAMPLE ID” and “COLLECTION ID”.



5-5) Press the “BACK” button and back to “MODE SELECT” screen.

6) Press “UNLOCK” button, open drawers and take out all holders.



8-4. Reagent setting

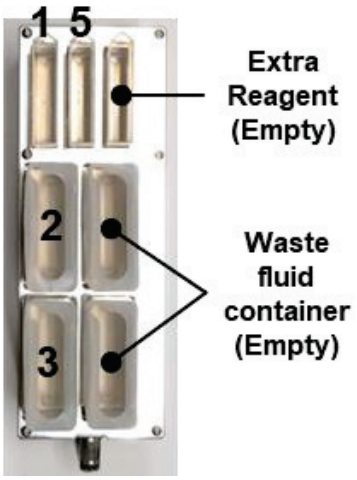
1) Setting of the reagents in QuickGene-Auto240L

Refer to p.8, prepare all reagents and put the requirements of EDB, LDB, Special grade ethanol (>99%), Wash Buffer (WDB) with >99% ethanol and Elution Buffer (CDB) according to the number of samples for isolation; refer to the following table.

Table2 Buffer volume and the number of samples to set in the QuickGene-Auto240L

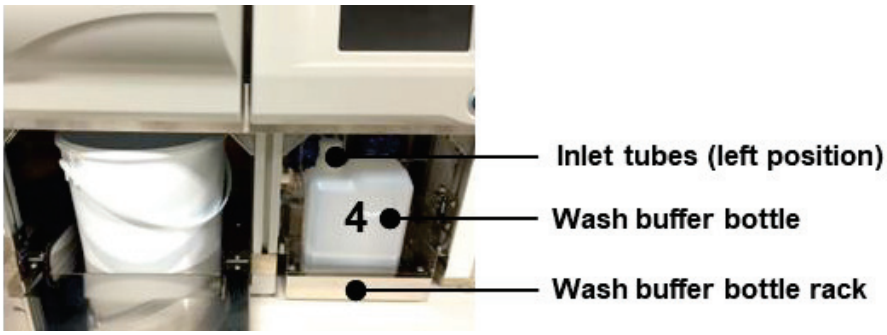
Reagent	Reagent Container	Reagent Set Position	Quantity of Use /1 sample	Other Required Quantity*	Required Quantity / 1 Operation		
					8 Samples	16 Samples	24 Samples
EDB	Reagent Container S	1	0.3 ml	1 ml	3.4 ml	5.8 ml	8.2 ml
LDB	Reagent Container L	2	2.5 ml	10 ml	30 ml	50 ml	70 ml
Special Grade Ethanol (>99%)	Reagent Container L	3	2.5 ml	10 ml	30 ml	50 ml	70 ml
WDB (mixed with ethanol)	Wash Buffer Bottle	4	19.5 ml	50 ml	206 ml	362 ml	518 ml
CDB	Reagent Container S	5	0.5 ml	1 ml	5 ml	9 ml	13 ml

2) Set the Reagent container S and L to the Reagent container holder at the correct position.



3) Set the Reagent holder to the Reagent container holder slot in QuickGene-Auto240L.

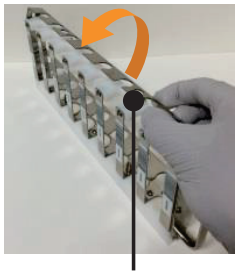
4) Set the Wash buffer bottle into the Wash buffer bottle rack of QuickGene-Auto240L drawer.

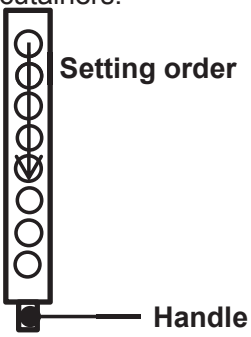


8-5. Sample preparation and sample tube / collection tube setting

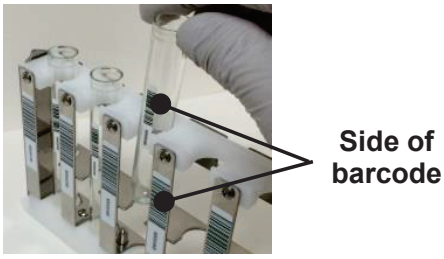
- The QuickGene DNA whole blood kit L / DB-L (IVD) is specifically designed for genomic DNA isolation from 2 ml of whole blood.
- Recommend using the whole blood collected in EDTA·2Na, EDTA·2K or heparin.
- The yield will depend on the sample condition.
- Use the kit at room temperature (15-30°C). When using the kit at lower or higher temperatures, the expected yield may not be obtained.
- Accurately measure the buffer volume during the experiments.

1) Mix the sample of vacutainer by inverting gently.
2) Remove the lid of vacutainer.
3) Set the vacutainer to the Sample holder.
   Use the adapter to fit the size of vacutainers.

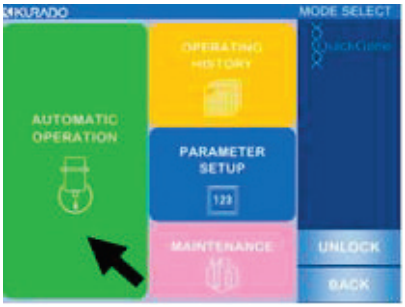




4) Set the Sample holder to the Sample holder slot in QuickGene-Auto240L.



5) Press “AUTOMATED OPERATION” of QuickGene-Auto240L.



6) Press “OK” in the displayed pop-up window. Check that the waste container in the system drawer is empty and execute the automated operation mode.

7) Select “W BLOOD DNA 2.0 mL FULL AUTO” .

8) When the door lock is released, open the right flap door.

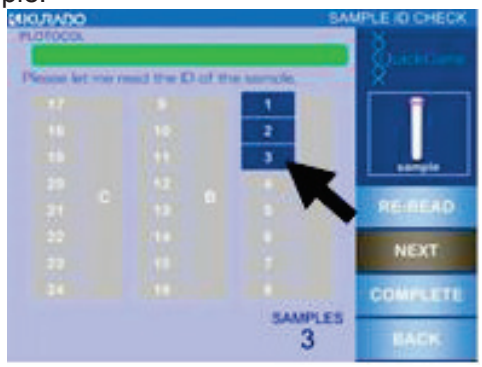
9) Insert sample holder A in slot A slowly over approx. 8 seconds. The ID is read. Securely set until it contacts the stopper on the end.

⚠ Do not peer into the system during sample ID reading and directly view the red LED light source for the barcode reader. Direct viewing at length may cause eye disorders.

- When setting a holder in the slot, securely set until it contacts the stopper on the end.
- When several holders are used, pay attention to the holder identification symbols A-C for setting.

Barcode Reader (Inside of system)

10) The reading of complete samples will be displayed in reversed deep blue on the operation screen. Check for the correctness of readout positional information and the position of the set sample.



11) If there are more holders to set, press [NEXT] and carry out (A-2), (A-3) for holders B, C.

12) After confirming the reading of all sample ID information, press [COMPLETE].

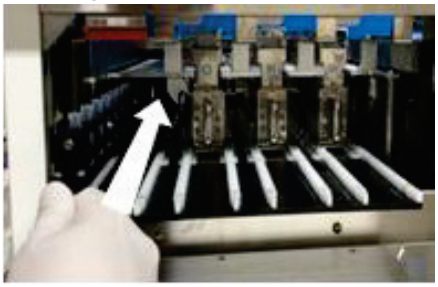
13) The number of samples whose IDs are read out will be displayed in a pop-up window. If it is correct, close all doors and press [OK]

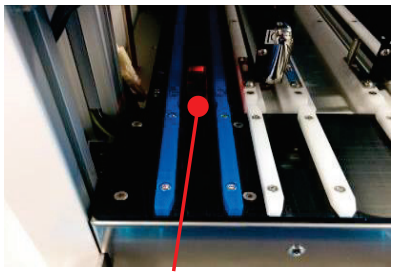
14) Open the left flap door to set the Collection tube holders.

Left flap

15) Insert the collection tube holder A in the collection ID reading slot slowly over approx. 8 seconds. The ID is read.

⚠
- Securely set until it contacts the stopper on the end.
- Position of the collection tubes completed with reading will be displayed in reversed green on the operation screen.
- When the position of the read-out collection tube and the previously entered sample setting position.





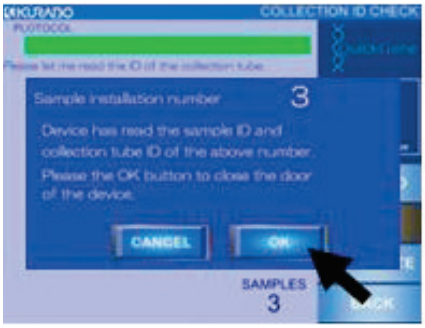
2D Barcode

16) Set collection tube holder A in collection tube holder slot A.

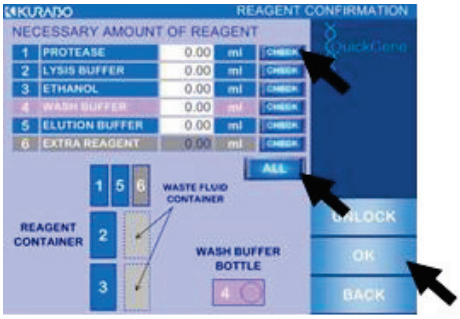
17) If there are more holders to set, press [NEXT] and carry out (C-2), (C-3) for holders B, C.

18) Confirm that all the holders are set in each slot and press [COMPLETE].

19) The number of samples whose IDs are read out will be indicated in the pop-up window. If they are correct, close all the doors and press [OK].



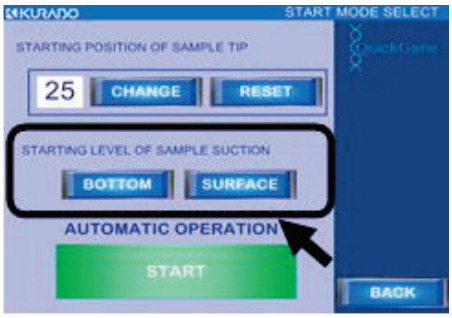
20) Refer to the indicated information on the screen regarding the reagents to be used for the automatic isolating operation and confirm that the required quantity is set in the correct position.



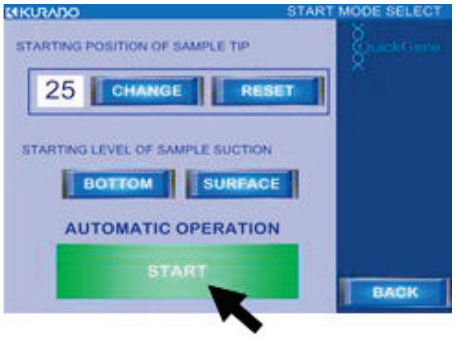
21) Press [CHECK] for a confirmed reagent. If [ALL] is pressed, all [CHECK] buttons are pressed at the same time.

22) Press [OK].
When all [CHECK] buttons are pressed, the [OK] button will be enabled.

23) Select the sample suction starting position.
Select [BOTTOM] for sample suction from the bottom of the vacutainer; select [SURFACE] for suction from the fluid surface.



24) Press [START] to start the automatic operation.



Refer to operation manual of QuickGene-Auto240L if some items shows “NG”.

25) After finish the operation, collect DNA tube.

Store the eluted genomic DNA at -20°C for long storage.

26) Remove the Waste Tubes (WTL) and dispose the waste fluid according to applicable regulations.
Remove the all other consumables and samples tubes.

Warning: Disposal of waste fluid and consumables.
When using the potentially infectious samples for experiments, dispose them according to applicable regulations.

9. Troubleshooting

Review the information below to troubleshoot the experiments with QuickGene DNA whole blood kit L / DB-L (IVD). For system-related problems (e.g., when an error message appears), see the QuickGene- Auto240L Operation manual.

(1) Low yield or no DNA obtained

Cause	Possible Solution
Insufficient dissolution of protease (EDB).	Add nuclease-free ultra pure water, and vortex the bottle. Leave the solution 30-40 minutes and mix it a few times. Make sure if all the powder in the solution is dissolved completely before use.
Excess amount of leukocyte cells	A sample contained over 2×10^7 of leukocyte cells, the yield may decrease. In the case of sample, dilute the sample not over 2×10^7 by PBS.
Requirement volume of ethanol was not added to Wash Buffer (WDB)	Always confirm that the required volume of ethanol was added to the Wash Buffer (WDB) prior to use.
Old Wash Buffer (WDB: including ethanol) used	Flash remaining Wash Buffer (WDB: including ethanol) which may be one day old or more in the instrument prior to use. Store the WDB with cap for long storage.
Insufficient amounts of reagents used	Make sure that sufficient amount of reagent are in the reagent containers.

(2) Clogging the cartridge

Cause	Possible Solution
Insufficient dissolution of protease (EDB).	Add nuclease-free ultra pure water, and vortex the bottle. Leave the solution 30-40 minutes and mix it a few times. Make sure if all the powder in the solution is dissolved completely before use.
Excess amount of leukocyte cells	A sample contained over 2×10^7 of leukocyte cells, the yield may decrease. In the case of sample, dilute the sample not over 2×10^7 by PBS.

(3) Subsequent experiments (e.g., PCR) unsuccessful

Cause	Possible Solution
Improper amount of DNA used for subsequent experiments	Determine the concentration based on the absorbance at 260 nm.

(4) Supplying the precipitates in reagents

Cause	Possible Solution
Stored at low temperature	Store solutions at 15-28°C. If the precipitates are contained, incubate the bottle in a water bath at 37°C and mix with inversion the bottle intermittently until the precipitates are dissolved.

10. Attention for Administrator and Operator

To avoid any accident and unfortunate risk, administrator and operator adhere closely to the rule mentioned below.

10-1. Administrator should

a. Set specific space to apart working area from standard area for using this kit and instrument.
b. Make operation learn the risk of using QuickGene to operator including potential operator.
c. Approve blood sample without any infection from donor before use.

10-2. The education for operator consists at least below

Operator should keep

a. To be out of danger in the process of DNA isolation using this kit and instrument.
b. To take steps to prevent any infection from unknown virus.
c. To be conscious the important of double blind methods to secure the personal information from the sequence information of DNA, which is isolated from whole blood with this kit and instrument.
d. To protect environment by avoiding the exposure of disposal plastic ware in this kit and the waste materials after operation.
e. Not to be conducted this kit and instrument by the third party, who did not learn the education.
f. To work with the kit and instrument in the specific directive area.
g. The best physical condition and to check own healthy situation before the operation.
h. Not to sterilize this kit and instrument by high pressure and high temperature.

Appendix 1 “W BLOOD DNA 2.0 mL FULL AUTO ” mode is set in the following parameter.

No.	Screen Display	Parameter name	Set value	Unit
1	DISP PROTEASE	Protease divided injection quantity	0.30	ml
2	LB SUCTIONING SP	Protease suction speed	10	mm/sec
3	LB DISCHARGING SP	Protease discharge speed	10	mm/sec
4	DISP SAMPLES	Sample divided injection quantity	2.00	ml
5	SAMP SUCTIONING SP	Sample absorption speed	5	mm/sec
6	SAMP DISCHARGING SP	Sample discharge speed	10	mm/sec
7	MIXING SPEED(1)	Primary mixing speed	0	*
8	MIXING TIME(1)	Primary mixing time	0	sec
9	MIXING SPEED(2)	Secondary mixing speed	0	*
10	MIXING TIME(2)	Secondary mixing time	0	sec
11	DISP LYSIS BUFFER	Lysis reagent divided injection quantity	2.50	ml
12	LB SUCTIONING SP	Lysis reagent suctionning speed	10	mm/sec
13	LB DISCHARGING SP	Lysis reagent discharging speed	10	mm/sec
14	MIXING SPEED(1)	Primary mixing speed	0	*
15	MIXING TIME(1)	Primary mixing time	120	sec
16	MIXING SPEED(2)	Secondary mixing speed	0	*
17	MIXING TIME(2)	Secondary mixing time	0	sec
18	INCUBATING TEMP	Incubating temperature	50	degC
19	INCUBATING TIME	Incubating time	300	sec
20	HEATER ON TIMING	Heat ON timing	0	sec
21	DISP ETHANOL	Ethanol divided injection quantity	2.50	ml
22	EN SUCTIONING SP	Ethanol suction speed	10	mm/sec
23	EN DISCHARGING SP	Ethanol discharging speed	10	mm/sec
24	MIXING SPEED(1)	Primary mixing speed	0	*
25	MIXING TIME(1)	Primary mixing time	90	sec
26	MIXING SPEED(2)	Secondary mixing speed	0	*
27	MIXING TIME(2)	Secondary mixing time	0	sec
28	TRANSFER LYSATE	Lysate transfering quantity	7.30	ml
29	LS SUCTIONING SP	Lysate suctioning speed	10	mm/sec
30	LS DISCHARGING SP	Lysate discharging speed	10	mm/sec
31	BIND SPEED	Binding process pressurizing speed	450	rpm
32	BIND PEEK	Binding process pressurizing peak pressure	120	Kpa
33	BIND UP TM	Binding process pressurizing time over	6	sec
34	BIND RETRY	Binding process pressurizing retry peak pressure	120	Kpa
35	BIND LOWER	Binding process depressurizing threshold	50	Kpa
36	BIND DOWN TM	Binding process depressurizing time over	20	sec
37	BIND R DOWN TM	Binding process depressurizing retry time over	25	sec
38	BIND FALL	Binding process depressurizing monioring pressure	20	Kpa
39	WB DISPENSING SP	Washing reagent divided injection speed	200	rpm
40	DISP WASH BUFFER 1	Washing reagent divided injection quantity	7.50	ml

No.	Screen Display	Parameter name	Set value	Unit
41	WASH SPEED(1)	Washing process presurizing speed (1st)	450	rpm
42	WASH PEEK(1)	Washing process peak pressure (1st)	120	Kpa
43	WASH UP TM(1)	Washing process presurizing time over (1st)	6	sec
44	WASH RETRY(1)	Washing process presurizing retry peak pressure (1st)	120	Kpa
45	WASH LOWER(1)	Washing process depresurizing threshold (1st)	50	Kpa
46	WASH DOWN TM(1)	Washing process depresurizing time over (1st)	20	sec
47	WASH R DOWN TM(1)	Washing process depresurizing retry time over (1st)	25	sec
48	WASH FALL(1)	Washing process depresurizing monitoring pressure (1st)	20	Kpa
49	DISP WASH BUFFER 2	Washing reagent dividedinjection quantity	6.50	ml
50	WASH SPEED(2)	Washing process presurizing speed (2nd)	450	rpm
51	WASH PEEK(2)	Washing process peak pressure (2nd)	120	Kpa
52	WASH UP TM(2)	Washing process time over (2nd)	6	sec
53	WASH RETRY(2)	Washing process retry peak pressure (2nd)	120	Kpa
54	WASH LOWER(2)	Washing process depressurizing threshold (2nd)	50	Kpa
55	WASH DOWN TM(2)	Washing process depressurizing time over (2nd)	20	sec
56	WASH R DOWN TM(2)	Washing process depressurizing retry time over (2nd)	25	sec
57	WASH FALL(2)	Washing process depressurizing monitoring pressure (2nd)	20	Kpa
58	DISP WASH BUFFER 3	Washing reagent dividedinjection quantity	5.50	ml
59	WASH SPEED(3)	Washing process presurizing speed (3rd)	450	rpm
60	WASH PEEK(3)	Washing process peak pressure (3rd)	120	Kpa
61	WASH UP TM(3)	Washing process time over (3rd)	6	sec
62	WASH RETRY(3)	Washing process retry peak pressure (3rd)	120	Kpa
63	WASH LOWER(3)	Washing process depressurizing threshold (3rd)	50	Kpa
64	WASH DOWN TM(3)	Washing process depressurizing time over (3rd)	20	sec
65	WASH R DOWN TM(3)	Washing process depressurizing retry time over (3rd)	25	sec
66	WASH FALL(3)	Washing process depressurizing monitoring pressure (3rd)	20	Kpa
67	DISP WASH BUFFER 4	Washing reagent dividedinjection quantity	0.00	ml
68	WASH SPEED(4)	Washing process presurizing speed (4th)	1	rpm
69	WASH PEEK(4)	Washing process peak pressure (4th)	50	Kpa
70	WASH UP TM(4)	Washing process time over (4th)	6	sec
71	WASH RETRY(4)	Washing process retry peak pressure (4th)	70	Kpa
72	WASH LOWER(4)	Washing process depressurizing threshold (4th)	50	Kpa
73	WASH DOWN TM(4)	Washing process depressurizing time over (4th)	15	sec
74	WASH R DOWN TM(4)	Washing process depressurizing retry time over (4th)	20	sec
75	WASH FALL(4)	Washing process depressurizing monitoring pressure (4th)	20	Kpa
76	DISP WASH BUFFER 5	Washing reagent dividedinjection quantity	0.00	ml
77	WASH SPEED(5)	Washing process presurizing speed (5th)	1	rpm
78	WASH PEEK(5)	Washing process peak pressure (5th)	50	Kpa
79	WASH UP TM(5)	Washing process time over (5th)	6	sec
80	WASH RETRY(5)	Washing process retry peak pressure (5th)	70	Kpa
81	WASH LOWER(5)	Washing process depressurizing threshold (5th)	50	Kpa
82	WASH DOWN TM(5)	Washing process depressurizing time over (5th)	15	sec
83	WASH R DOWN TM(5)	Washing process depressurizing retry time over (5th)	20	sec
84	WASH FALL(5)	Washing process depressurizing monitoring pressure (5th)	20	Kpa
85	DISP ELUTION BUFFER 1	DNA elution reagent dividing injection quantity	0.50	ml
86	EB SUCTIONING SP	DNA elution reagent suctioning speed	10	mm/sec
87	EB DISCHARGING SP	DNA elution reagent discharging speed	10	mm/sec
88	WATING	Waiting	0	sec
89	ELUTION SPEED(1)	DNA eluting process presurizing speed (1st)	450	rpm

No.	Screen Display	Parameter name	Set value	Unit
90	ELUTION PEEK(1)	DNA eluting process peak pressure (1st)	120	Kpa
91	ELUTION UP TM(1)	DNA eluting process presurizing time over (1st)	6	sec
92	ELUTION RETRY(1)	DNA eluting process presurizing retry peak pressure (1st)	120	Kpa
93	ELUTION LOWER(1)	DNA eluting process depresurizing threshold (1st)	50	Kpa
94	ELUTION DOWN TM(1)	DNA eluting process depresurizing time over (1st)	20	sec
95	ELUTION R DOWN TM(1)	DNA eluting process depresurizing retry time over (1st)	25	sec
96	ELUTION FALL(1)	DNA eluting process depresurizing monitoring pressure (1st)	20	Kpa
97	DISP ELUTION BUFFER 2	DNA eluted reagent divided injection quantity	0.00	ml
98	WATING	Waiting	0	sec
99	ELUTION SPEED(2)	DNA eluting process presurizing speed (2nd)	450	rpm
100	ELUTION PEEK(2)	DNA eluting process peak pressure (2nd)	50	Kpa
101	ELUTION UP TM(2)	DNA eluting process presurizing time over (2nd)	6	sec
102	ELUTION RETRY(2)	DNA eluting process presurizing retry peak pressure (2nd)	70	Kpa
103	ELUTION LOWER(2)	DNA eluting process depresurizing threshold (2nd)	50	Kpa
104	ELUTION DOWN TM(2)	DNA eluting process depresurizing time over (2nd)	15	sec
105	ELUTION R DOWN TM(2)	DNA eluting process depresurizing retry time over (2nd)	20	sec
106	ELUTION FALL(2)	DNA eluting process depresurizing monitoring pressure (2nd)	20	Kpa
107	DIS CARRIER RNA	Additional reagent divided injection quantity	0.00	ml
108	CR SUCTIONING SP	Additional reagent suctioning speed	1	mm/sec
109	CR DISCHARGING SP	Additional reagent discharging speed	1	mm/sec
110	MIXING SPEED(1)	Primary mixing speed	0	*
111	MIXING TIME(1)	Primary mixing time	0	sec
112	MIXING SPEED(2)	Secondary mixing speed	0	*
113	MIXING TIME(2)	Secondary mixing time	0	sec
114	DETECT PRES	Pressurizing threshold pressure	4	Kpa
115	DOWN PRES	Depressurizing threshould pressure during pressurizing	20	Kpa

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