# User Guide
# Standard Quantitative Cartridge Kit (C105201-Q)

## A. Specifications

| Specifications | Description |
|---|---|
| **Sample Volume Requirement** | ≧2 µL |
| **DNA Sizing Range** | 20-5000 bp |
| **DNA Sizing Precision*** | 2% CV |
| **Fragment DNA Concentration Range**** | 0.2 ng/ µL to 50 ng/ µL |
| **Smeared DNA Concentration Range**** | 1 ng/ µL to 50 ng/ µL |
| **DNA Quantitative Precision*** | 4% CV |

* Determined by the DNA ladder (15-622 DNA Size Marker, C109200) as sample.
** Best Quantitative Range: 0.5-5 ng/µL (Fragment DNA); 2-20 ng/ µL (Smeared DNA)

## B. Kit components and storage conditions

| Contents | Storage Conditions |
|---|---|
| **Standard Cartridges (S2)** | 4°C~27°C (Do Not Freeze) |
| **Quantitative Marker (20 bp & 1500 bp, C109109-500Q)*** | -20°C |
| **Size Marker (15-622bp, C109200-100A)*** | -20°C |
| **Separation Buffer (C104406)** | 4°C~27°C |
| **Dilution Buffer (C104405)** | 4°C~27°C |
| **Mineral Oil (C104407)** | 4°C~27°C |

*Short-Term Storage (≦ 3 months): 4°C ~ 27°C ; Long-Term Storage: -20°C

## C. Additional reagents (optional)

| Contents | Storage Conditions |
|---|---|
| **Quantitative Marker (20 bp & 5000 bp, C109102-500Q)*** | -20°C |
| **Size Marker (50 bp plus, C109300-500A)** | -20°C |

*Short-Term Storage (≦ 3 months): 4°C ~ 27°C ; Long-Term Storage: -20°C

## D. Cartridge preparation

**New cartridge:** please follow cartridge unpacking guide to unpack cartridges and do HV check.

*§ **Note:** Please mix 5 µL Quantitative Marker (20 bp-1500 bp, C109109-500Q) and 15 µL dilution buffer in 0.2 mL PCR tube for cartridge calibration. Please place Quantitative marker mixture at corresponding position.*

| Instrument | Position | |
|---|---|---|
| $Qsep_{400}$ | AM01, 04, 07, 10 | |
| $Qsep_{100}$ | MD1 | |
| $Qsep_1$ | 8-wells: M | 12-wells: M |

## E. Sample preparation

- When Sample size is between 20 bp to 1500 bp, please follow the instruction of Section E-1.
- When Sample size is between 1500 bp to 5000 bp, please follow the instruction of Section E-2.

**E-1:** Sample size is between 20 bp to 1500 bp:

**Material requirement:**

- Quantitative Marker (20 bp & 1500 bp, C109109-500Q)
- 15-622 bp Size Marker (C109200-100A)
- Dilution Buffer (C104405)

**Size Marker preparation:**

Mix Quantitative Marker with Size Marker according to below table:

| Materials | Volume (µL) |
|---|---|
| Quantitative Marker (20 & 1500 bp, C109109-500Q) | 5 |
| Size Marker (15-622 bp) (C109200-100A) | 10 |
| Dilution Buffer (C104405) | 5 |
| Total | 20 |

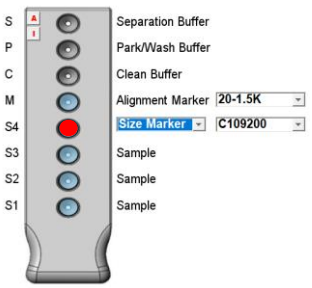
Place Size Marker mixture at corresponding position.

| Instrument | Position | |
|---|---|---|
| $Qsep_{400}$ | SM01, 04, 07, 10 | |
| $Qsep_{100}$ | MA2 | |
| $Qsep_1$ | 8-wells: S4 | 12-wells: S8 |

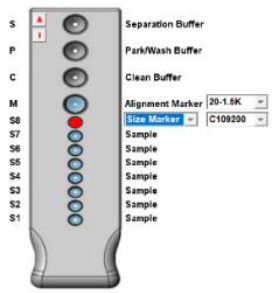
$Qsep_{400}$


$Qsep_{100}$


$Qsep_1$




**8-wells sample tray**




**12-wells sample tray**

***§ Note:***

*Please set up alignment marker as 20-1.5K and S4/ S8 position as Size Marker and C109200 on $Qsep_1$.*

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**Sample preparation:**

Mix Quantitative Marker with samples according to below table:

| Materials | Volume (μL) |
|---|---|
| Quantitative Marker (20& 1500 bp, C109109-500Q) | 5 |
| Sample | X (2~15) |
| $H_2O$ | 15-X (0~13) |
| Total | 20 |

*§ **Note:** Size Marker should be placed at regular 0.2 mL PCR tube. For Qsep$_1$ 12-wells sample tray, Size Marker and samples should be loaded at 0.1 mL strip tube (C104252).*

**E-2:** Sample size is between 1500 bp to 5000 bp:

**Material requirement:**

- Quantitative Marker (20 bp & 5000 bp, C109102-500Q)
- 50 bp plus Size Marker (C109300-500A)
- Dilution Buffer (C104405)

**Size Marker preparation:**

Mix Quantitative Marker with size marker according to below table:

| Materials | Volume (μL) |
|---|---|
| Quantitative Marker (20& 5000 bp, C109102-500Q) | 5 |
| Size Marker (50 bp plus) (C109300) | 10 |
| Dilution Buffer (C104405) | 5 |
| Total | 20 |

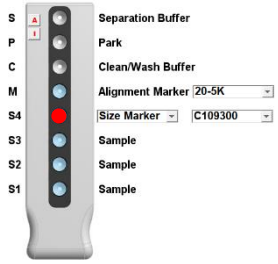
Place size marker mixture at corresponding position.

| Instrument | Position | |
|---|---|---|
| Qsep$_{400}$ | SM01, 04, 07, 10 | |
| Qsep$_{100}$ | MB2 | |
| Qsep$_1$ | 8-wells: S4 | 12-wells: S8 |

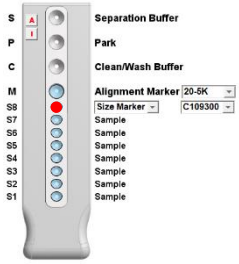
**Qsep$_{400}$**


**Qsep$_{100}$**


**Qsep$_1$**




**8-wells sample tray**




**12-wells sample tray**

***§ Note:***

*Please set up alignment marker as 20-5K and S4/ S8 position as Size Marker and C109300 on Qsep$_1$.*

**Sample preparation:**

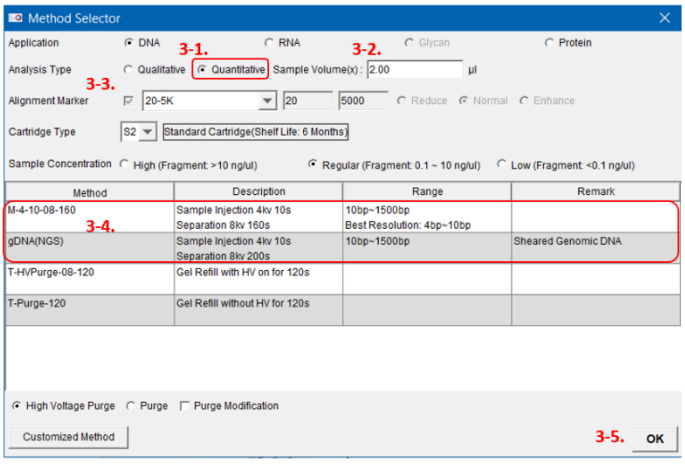
Mix Quantitative Marker with samples according to below table:

| Materials | Volume (μL) |
|---|---|
| Quantitative Marker (20& 5000 bp, C1091102-500Q) | 5 |
| Sample | X (2~15) |
| $H_2O$ | 15-X (0~13) |
| Total | 20 |

*§ **Note:** Size Marker mixture should be placed at regular 0.2 mL PCR tube. For Qsep$_1$ 12-wells sample tray, Size Marker and samples should be loaded at 0.1 mL strip tube (C104252).*

## F. Software Operation

1. Place sample and select corresponding position.
2. Enter Sample information (optional).
3. Set up analytic method.
   - 3-1. Select analytic method "Quantitative".
   - 3-2. Enter sample volume (X).
   - 3-3. Select Quantitative Marker (20-1.5K or 20-5K) which you mixed with samples and Size Markers.
   - 3-4. Select method
     - If samples are DNA fragments, please use method “M4-10-08-160”.
     - If samples are smeared DNA, please use method “gDNA (NGS)”.
   - 3.5. Click OK.




4. Click Run to start analysis. 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