

# Quality Control Reagents

## Catalogue Numbers:

QC-DNA-CIC,

QC-DNA-SSC,

QC-RNA-LOW,

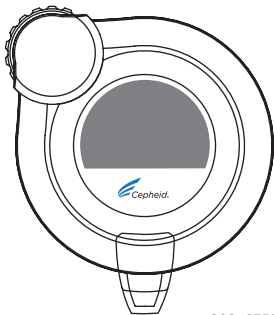
QC-RNA-MED,

QC-RNA-HIGH

100 25- $\mu$ l reactions

QC-RNA-SPC

5 X 20 SPC Beads



## **QC-DNA-CIC:**

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## **QC-RNA-LOW / MED / HIGH Smart Control (Primer-Probe Set for SPC):**

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## Product Overview

Cepheid Smart Reagents are stable, easy-to-use premium quality reagents delivered in bead format. They can be used for sample preparation control or inhibition/quality control. The Smart Reagents are designed to be a part of multiplex assays to provide you with the means to obtain consistent and quality result.

## Ingredients

When reconstituted to a final volume of 250  $\mu\text{L}$ , each product contains:

**Table 1. Reagents Ingredients**

Smart Reagent	Forward Primer	Reverse Primer	Probe	HEPES	KCl
QC-DNA-CIC	0.4 $\mu\text{M}$	0.4 $\mu\text{M}$	0.3 $\mu\text{M}$	5 mM pH 8.0	3 mM
QC-DNA-SSC	0.12 $\mu\text{M}$	0.12 $\mu\text{M}$	0.12 $\mu\text{M}$	0.875 mM pH 8.2	6 mM
QC-RNA-LOW	0.25 $\mu\text{M}$	0.25 $\mu\text{M}$	0.1 $\mu\text{M}$	0.875 mM pH 8.2	0
QC-RNA-MED	0.25 $\mu\text{M}$	0.25 $\mu\text{M}$	0.2 $\mu\text{M}$	0.875 mM pH 8.2	0
QC-RNA-HIGH	0.2 $\mu\text{M}$	0.4 $\mu\text{M}$	0.2 $\mu\text{M}$	0.875 mM pH 8.2	0

**Note:** Concentrations are based on one (1) control bead in 250  $\mu\text{L}$  of molecular biology grade water. It is the laboratory's responsibility to determine the optimal reagent concentration.

## Storage Requirements

- Store beads in their foil packets at 2–8 °C.
- Always reseal the foil packets completely to avoid exposure to moisture.
- Do not use reagents that have passed the expiration date.

## Instruction for Use

1 Prepare the Master Mix for ten 25- $\mu$ L reactions using the Table 2.

**Table 2. Smart Reagent Master Mix Contents**

Smart Reagent	QC Bead	QSmartMix™ HM Bead	Qiagen OneStep RT-PCR Buffer	Qiagen OneStep RT-PCR Enzyme Mix	Qiagen dNTPs	MgCL <sub>2</sub> (100 mM)	RNase Inhibitor (40 U/ $\mu$ L)	SPC*	Sample	w/MBG H <sub>2</sub> O
QC-DNA-CIC	1 bead	5 beads	N/A	N/A	N/A	N/A	N/A	N/A	Y $\mu$ L	250 $\mu$ L
QC-DNA-SSC	1 bead	5 beads	N/A	N/A	N/A	N/A	N/A	N/A	Y $\mu$ L	250 $\mu$ L
QC-RNA-LOW	1 bead	N/A	50 $\mu$ L	10 $\mu$ L	10 $\mu$ L	3.75 $\mu$ L	2.5 $\mu$ L	X $\mu$ L	Y $\mu$ L	250 $\mu$ L
QC-RNA-MED	1 bead	N/A	50 $\mu$ L	10 $\mu$ L	10 $\mu$ L	3.75 $\mu$ L	2.5 $\mu$ L	X $\mu$ L	Y $\mu$ L	250 $\mu$ L
QC-RNA-HIGH	1 bead	N/A	50 $\mu$ L	10 $\mu$ L	10 $\mu$ L	N/A	2.5 $\mu$ L	X $\mu$ L	Y $\mu$ L	250 $\mu$ L

\*It is the laboratory's responsibility to determine the optimal reagent concentration and SPC volume.

The H<sub>2</sub>O volume required to bring the total volume of the Master Mix to 250  $\mu$ L is dependent on the amount of Sample /SPC added to the Master Mix.

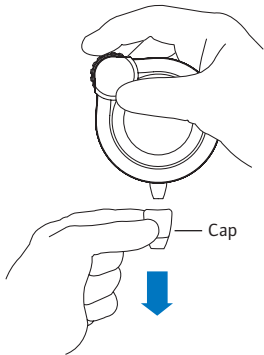
- 2 Aliquot 25  $\mu\text{L}$  of the master mix into each SmartCycler<sup>®</sup> tube.
- 3 Spin SmartCycler<sup>®</sup> tubes for 3–5 seconds.
- 4 Start the SmartCycler<sup>®</sup> Software and enter the thermal cycling protocol given in Table 3.

**Table 3. Thermal Cycling Protocol**

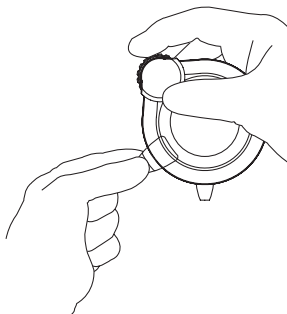
Smart Reagent	Reverse Transcription Step	Initial Activation	Repeat of Cycles	Denature	Anneal	Extension	Optics on at
QC-DNA-CIC	N/A	95°C/ 120 Sec	50	95°C/ 15 Sec	57°C/ 15 Sec	72°C/ 15 Sec	Anneal
QC-DNA-SSC	N/A	95°C/ 30 Sec	40	95°C/ 15 Sec	67°C/ 15 Sec	72°C/ 18 Sec	Anneal
QC-RNA-LOW	50°C/ 1800 Sec	95°C/ 900 Sec	40	94°C/ 15 Sec	60°C/ 45 Sec	72°C/ 15 Sec	Anneal
QC-RNA-MED	50°C/ 3000 Sec	95°C/ 900 Sec	45	95°C/ 10 Sec	53°C/ 25 Sec	62°C/ 70 Sec	Extension
QC-RNA-HIGH	48°C/ 900 Sec	95°C/ 900 Sec	50	95°C/ 15 Sec	60°C/ 30 Sec	72°C/ 15 Sec	Anneal

- 5 Enter a run name, select the FATA25 dye set and select the protocol and sites. Click ***Start Run***.

## Dispensing the Beads

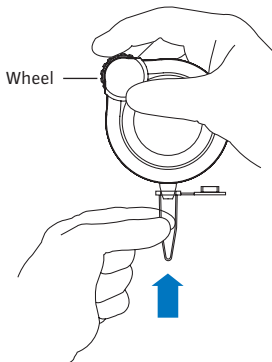


- 1** Remove the dispenser from the resealable foil packet and remove the protective cap.

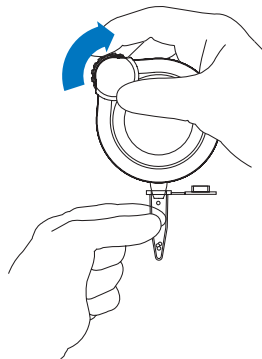


The cap can be stored on the side of the dispenser.

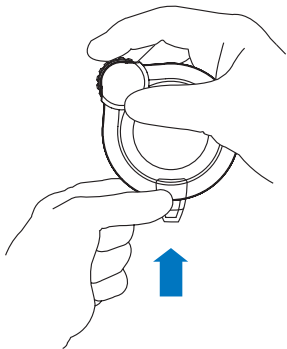
## Dispensing the Beads



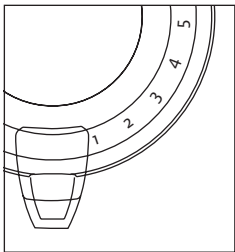
- 2** Place the dispenser spout into a clean, dry sample tube. Keep the dispenser vertical.



- 3** Turn the dispenser wheel slowly clockwise to dispense one bead at a time.



- 4** Replace the dispenser cap. Seal and store the dispenser in its packet. See “Storage Requirements” on page 3.



Numbers on the back of the dispenser indicate the number of beads remaining.

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