Cow RT² RNA QC PCR Array

Cat. no. 330291 PABT-999ZA

For real-time PCR applications

The Cow RT² RNA QC PCR Array, when used together with the RT² First Strand Kit (cat. no. 330401), is designed to assess the quality of cow RNA samples before characterization with RT² Profiler PCR Arrays or RT² qPCR Primer Assays in real-time PCR-based gene expression analysis. It contains a number of PCR controls, listed below, that test for RNA integrity, inhibitors of reverse transcription and PCR amplification, and genomic and general DNA contamination. These are all factors that could lead to unreliable results in SYBR® Green real-time PCR. Use of the RT² RNA QC PCR Array and the RT² First Strand Kit enables testing of the quality of RNA samples, thereby ensuring that RT² SYBR Green qPCR Mastermix and RT² Profiler PCR Arrays or RT² qPCR Primer Assays are not used with substandard samples. For full protocol details, consult the *RT² Profiler PCR Array Handbook*.

Contents

Product	Contents	Cat. no.
RT² RNA QC PCR Array Format A	96-well RT² RNA QC PCR Array, 12 Optical Thin-Wall 8-Cap Strips; Suitable for use with the following real-time cyclers: Applied Biosystems® models 5700, 7000, 7300, 7500, 7700, 7900HT, ViiA™ 7 (96-well block); Bio-Rad® models iCycler®, iQ™5, MyiQ™, MyiQ2; Bio-Rad/MJ Research Chromo4™; Eppendorf® MasterCycler® ep realplex models 2, 2s, 4, 4s; Stratagene® models Mx3005P®, Mx3000P®; Takara: TP-800	330291
RT² RNA QC PCR Array Format C	96-well RT² RNA QC PCR Array, Optical Adhesive Film; Suitable for use with the following real-time cyclers: Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)	330291
RT² RNA QC PCR Array Format D	96-well RT² RNA QC PCR Array, 12 Optical Thin-Wall 8-Cap Strips; Suitable for use with the following real-time cyclers: Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000®	330291

Product	Contents	Cat. no.
RT² RNA QC PCR Array Format E	384-well RT² RNA QC PCR Array, Optical Adhesive Film; Suitable for use with the following real-time cyclers: Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™	330291
RT² RNA QC PCR Array Format F	96-well RT² RNA QC PCR Array, Optical Adhesive Film; Suitable for use with the following real-time cyclers: Roche® LightCycler® 480 (96-well block)	330291
RT² RNA QC PCR Array Format G	384-well RT² RNA QC PCR Array, Optical Adhesive Film; Suitable for use with the following real-time cyclers: Roche: LightCycler 480 (384-well block)	330291
RT² RNA QC PCR Array Format R	Rotor-Disc® 100 RT² RNA QC PCR Array, Suitable for use with the following real-time cyclers: QIAGEN® Rotor-Gene® Q; Rotor-Gene 6000; other Rotor-Gene cyclers	330291

Shipping and storage

RT² RNA QC PCR Array Formats A, C, D, E, F, G, and R are shipped at room temperature (15–25°C) or on ice, depending on the destination and accompanying products. All RT² RNA QC PCR Array Formats should be stored at –20°C upon arrival. When stored properly at –20°C, RT² RNA QC PCR Arrays are stable for up to 6 months after delivery.

Note: Open the package and store the products appropriately immediately on receipt.

96-well RT² RNA QC PCR Array (Formats A, C, D, F) layout

Row	Content	Material to add	Control type
A	ACTB	cDNA, mastermix	Housekeeping gene
B	HPRT1	cDNA, mastermix	Housekeeping gene
C	RTC	cDNA, mastermix	Reverse transcription control
D	PPC	cDNA, mastermix	Positive PCR control
E	GDC	cDNA, mastermix	Cow genomic DNA contamination control
F	NRT	RNA, mastermix	No reverse transcription control
G	PPC	Water, mastermix	Positive PCR control
H	NTC	Water, mastermix	No template control

384-well RT² RNA QC PCR Array (Formats E, G) layout

Row	Content	Material to add	Control type
A, B	ACTB	cDNA, mastermix	Housekeeping gene
C, D	HPRT1	cDNA, mastermix	Housekeeping gene
E, F	RTC	cDNA, mastermix	Reverse transcription control
G, H	PPC	cDNA, mastermix	Positive PCR control
I, J	GDC	cDNA, mastermix	Cow genomic DNA contamination control
K, L	NRT	RNA, mastermix	No reverse transcription control
M, N	PPC	Water, mastermix	Positive PCR control
O, P	NTC	Water, mastermix	No template control

Rotor-Disc 100 RT² RNA QC PCR Array (Format R) layout

Well	Content	Material to add	Control type
1–12	ACTB	cDNA, mastermix	Housekeeping gene
13–24	HPRT1	cDNA, mastermix	Housekeeping gene
25–36	RTC	cDNA, mastermix	Reverse transcription control
37–48	PPC	cDNA, mastermix	Positive PCR control
49–60	GDC	cDNA, mastermix	Cow genomic DNA contamination control
61–72	NRT	RNA, mastermix	No reverse transcription control
73–84	PPC	Water, mastermix	Positive PCR control
85–96	NTC	Water, mastermix	No template control

Quality control parameters for 96-well and 384-well formats

Control type	Pass test result* Formats A, C, D, F	Fail test result* Formats A, C, D, F	Pass test result* Formats E, G	Fail test result* Formats E, G
Reverse transcription control	$C_T^C - C_T^G$ value < 5	$C_T^C - C_T^G$ value > 5	$C_T^{E,F} - C_T^{M,N}$ value < 5	$C_T^{E,F} - C_T^{M,N}$ value > 5
Positive PCR control	$C_T^G = 20 \pm 2$ $C_T^D - C_T^G < 3$	$C_T^G > 22$ $C_T^D - C_T^G > 3$	$C_T^{M,N} = 20 \pm 2$ $C_T^{G,H} - C_T^{M,N} < 3$	$C_T^{M,N} > 22$ $C_T^{G,H} - C_T^{M,N} > 3$
Genomic DNA contamination control	$C_T^E > 35$	$C_T^E < 35$	$C_T^{I,J} > 35$	$C_T^{I,J} < 35$
No reverse transcription control	C_T^F value ≥ 35 or N/A	C_T^F value < 35	$C_T^{K,L}$ value ≥ 35 or N/A	$C_T^{K,L}$ value < 35
No template control	C_T^H value ≥ 35 or N/A	C_T^H value < 35	$C_T^{O,P}$ value ≥ 35 or N/A	$C_T^{O,P}$ value < 35

* Superscript indicates row designation.

Quality control parameters for Rotor-Disc format

Control type	Pass test result* Formats R	Fail test result* Format R
Reverse transcription control	$C_T^{25 \text{ to } 36} - C_T^{73 \text{ to } 84}$ value < 5	$C_T^{25 \text{ to } 36} - C_T^{73 \text{ to } 84}$ value > 5
Positive PCR control	$C_T^{73 \text{ to } 84} = 14 \pm 2$ $C_T^{37 \text{ to } 48} - C_T^{73 \text{ to } 84} < 3$	$C_T^{73 \text{ to } 84} > 16$ $C_T^{37 \text{ to } 48} - C_T^{73 \text{ to } 84} > 3$
Genomic DNA contamination control	$C_T^{49 \text{ to } 60} > 33$	$C_T^{49 \text{ to } 60} < 33$
No reverse transcription control	$C_T^{61 \text{ to } 72}$ value ≥ 33 or N/A	$C_T^{61 \text{ to } 72}$ value < 33
No template control	$C_T^{85 \text{ to } 96}$ value ≥ 33 or N/A	$C_T^{85 \text{ to } 96}$ value < 33

* Superscript indicates well designation.

Related products

Product	Contents	Cat. no.
RT² Profiler PCR Array	Pathway- or disease-specific primer assays in 96-well, 384-well, Rotor-Disc 100, or 96 x 96 format	Varies
RT² First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT² SYBR Green qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with real-time cyclers that do not require a reference dye, including: Bio-Rad models CFX96, CFX384, DNA Engine Opticon 2; Bio-Rad/MJ Research Chromo4; Roche LightCycler 480 (96-well and 384-well); all other cyclers	330500
RT² SYBR Green ROX qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the following real-time cyclers: Applied Biosystems models 5700, 7000, 7300, 7500 [Standard and FAST], 7700, 7900HT 96-well block [Standard and FAST] and 384-well block, StepOnePlus; Eppendorf Mastercycler ep realplex models 2, 2S, 4, 4S; Stratagene models Mx3000p, Mx3005p, Mx4000; Takara TP-800	330520
RT² SYBR Green Fluor qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the following real-time cyclers: Bio-Rad models iCycler, iQ5, MyiQ, MyiQ2	330510
RT² SYBR Green ROX FAST Mastermix (2)*	For 2 x 96 assays in 96-well plates/100-well Rotor-Discs; suitable for use with the Rotor-Gene Q and other Rotor-Gene cyclers	330620

* Larger kit sizes available; please inquire.

The RT² RNA QC PCR Array is intended for molecular biology applications. This product is not intended for the diagnosis, prevention, or treatment of a disease.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.

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