

miScript™ miRNA PCR Array

Rat T Cell & B Cell Activation

For mature miRNA expression profiling using SYBR® Green-based real-time PCR

Cyclers for use with miScript miRNA PCR Array formats

Format	Suitable real-time cyclers	Plate	Cat. no.
A	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	96 well	331221 MIRN-111ZA
C	Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)	96 well	331221 MIRN-111ZC
D	Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000®	96 well	331221 MIRN-111ZD
E	Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™	384 well	331221 MIRN-111ZE
F	Roche® LightCycler® 480 (96-well block)	96 well	331221 MIRN-111ZF
G	Roche: LightCycler 480 (384-well block)	384 well	331221 MIRN-111ZG
R	Rotor-Gene® Q, Rotor-Gene 6000, other Rotor-Gene cyclers	Rotor-Disc® 100	331221 MIRN-111ZR



Sample & Assay Technologies

Contents

miScript miRNA PCR Arrays Formats A, C, D, and F consist of 2, 12, or 24 PCR array plates. miScript miRNA PCR Arrays Formats E and G consist of 4 PCR array plates. miScript miRNA PCR Arrays Format R consists of 2, 12, or 24 Rotor-Discs. Formats A and D are provided with 24, 144, or 288 Optical Thin-Wall 8-Cap Strips. Formats C and F are provided with 2, 12, or 24 Optical Adhesive Films. Formats E and G are provided with 4 Optical Adhesive Films and 4 sets of 384EZLoad Covers. Format R is provided with 2, 12, or 24 Rotor-Disc Heat Sealing Films.

Description

The Rat T Cell & B Cell Activation miScript miRNA PCR Array profiles the expression of 84 miRNAs involved in the activation and differentiation of T cells and B cells. This array provides scientific researchers with a convenient way to quickly analyze the miRNAs most relevant to specific stages of T cell and B cell development. Hematopoietic stem cells differentiate into lymphoid and myeloid progenitor cells. To develop into T cells, lymphoid progenitor cells migrate to the thymus, where T cell lineage commitment starts with the double negative (CD4-/CD8-) stage. The cells proceed through the double positive (CD4+/CD8+) stage, and end with the single positive stage, generating either naïve CD4+ or naïve CD8+ T cells. During the adaptive immune response, naïve CD8+ T cells interact with antigen and activate, differentiating into effector T cells and potentially memory T cells after antigen clearance, while naïve CD4+ T cells activated by antigen differentiate into helper T cells. B cells mature in the spleen and remain naïve until they encounter antigen. Activated B cells differentiate into plasma B cells or memory B cells, or undergo an intermediate differentiation step and switch antibody classes to become germinal center B cells. T cell and B cell activation involves many sequential steps and the careful timing of cellular signaling pathways. Specific miRNAs play roles in fine-tuning the differentiation and activation of these essential immune cells, and dysregulation of B cell or T cell functions can cause immunodeficiencies or cancer. A set of controls present on each array enables data analysis using the $\Delta\Delta\text{CT}$ method of relative quantification, assessment of reverse transcription performance, and assessment of PCR performance. Using SYBR Green-based real-time PCR, the expression of a focused panel of miRNAs involved in T cell and B cell activation can be easily and reliably analyzed with this miScript miRNA PCR Array.

For further details, consult the *miScript miRNA PCR Array Handbook*.

QIAGEN reserves the right to occasionally redesign individual assays on the miScript Arrays for improved performance. This revision history can be accessed by contacting technical support and supplying the batch numbers from your arrays.

Shipping and storage

miScript miRNA PCR Arrays are shipped at ambient temperature, on ice, or on dry ice depending on

the destination and accompanying products. Upon receipt, store at -20°C . If stored under these conditions, miScript miRNA PCR Arrays are stable for 6 months after receipt.

Note: Ensure that you have the correct miScript miRNA PCR Array format for your real-time cycler (see table above).

Note: Open the package and store the products at the indicated temperature immediately on receipt.

Array layout(96- and 384-well [4x96])

Note: Wells A1 to H12 of a 96-well plate correspond to wells 1 to 96 of a Rotor-Disc 100.

Note: miScript Primer Assays can be ordered for each mature miRNA at

www.qiagen.com/GeneGlobe.

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Related products

Product	Contents	Cat. no.
miScript II RT Kit (12)	For 12 cDNA synthesis reactions: miScript Reverse Transcriptase Mix, 10x miScript Nucleics Mix, 5x miScript HiSpec Buffer, 5x miScript HiFlex Buffer, RNase-Free Water	218160
miScript II RT Kit (50)	For 50 cDNA synthesis reactions: miScript Reverse Transcriptase Mix, 10x miScript Nucleics Mix, 5x miScript HiSpec Buffer, 5x miScript HiFlex Buffer, RNase-Free Water	218161
miScript SYBR Green PCR Kit (200)	For 200 reactions: QuantiTect SYBR Green PCR Master Mix, miScript Universal Primer	218073
miScript SYBR Green PCR Kit (1000)	For 1000 reactions: QuantiTect SYBR Green PCR Master Mix, miScript Universal Primer	218075
miRNome miScript miRNA PCR Array	Array of assays for the human, mouse, rat, or dog miRNome; available in 96-well, 384-well, or Rotor-Disc 100 format	Varies
miScript miRNA QC PCR Array	Array for assessing cDNA sample quality	Varies
miScript Primer Assay (100)	10x miScript Primer Assay (contains one miRNA-specific primer)	Varies
RT ² PCR Array Loading Reservoirs	12 x 5 ml capacity, irradiation-sterilized loading reservoirs	338162
384EZLoad Covers	Pack of 4 color-coded covers for loading 384-well plates	338125

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.

Trademarks: QIAGEN®, miScript™, Rotor-Gene®, Rotor-Disc® (QIAGEN Group); Roche®, LightCycler® (Roche Group); Applied Biosystems®, ROX™, StepOnePlus™, SYBR®, ViiA™ (Life Technologies Corporation); Eppendorf®, Mastercycler® (Eppendorf AG); Stratagene®, Mx3005P®, Mx3000P®, Mx4000® (Agilent Technologies); Bio-Rad®, iCycler®, Chromo4™, CFX96™, DNA Engine Opticon®, CFX384™, iQ™, MyiQ™ (Bio-Rad Laboratories, Inc.).

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