

miProfile™ Human IPS(Stem cell) miRNA qPCR Array

For focused group profiling of human IPS (stem cell) related miRNA expression

Cat. No. QM034-A (2 x 96-well plate, Format A)

Cat. No. QM034-B (2 x 96-well plate, Format B)

Cat. No. QM034-C (2 x 96-well plate, Format C)

Cat. No. QM034-D (2 x 96-well plate, Format D)

Cat. No. QM034-E (2 x 96-well plate, Format E)

Available as 1 set or 6 sets. Each set contains 168 unique miRNA primers deposited in two 96-well plates.

Introduction

The miProfile human IPS (stem cell) miRNA qPCR array profiles 168 miRNAs that are associated with stem cell differentiation and homeostasis. One of the key characteristics of stem cells is their capacity to divide for long periods of time. They have the potential to reproduce themselves as well as differentiate into many different cell types. miRNAs are emerging as important regulators of cellular differentiation and proliferation. The research has shown that stem cell development is also regulated by miRNAs. This product contains 168 miRNAs that have been identified for their association with stem cell homeostasis and differentiation, and provides researchers a convenient way to study how miRNAs regulate these processes.

- QM034 plate 01: 84 unique miRNA PCR primer pairs
- QM034 plate 02: 84 unique miRNA PCR primer pairs

Shipping and storage condition

Shipped at room temperature

Stable for at least 6 months when stored at -20 °C

Array format

GeneCopoeia provides five qPCR array formats (A, B, C, D, and E) suitable for use with the following real-time cyclers.

Important note: Upon receiving, please check to make sure that the correct array format was ordered to ensure the compatibility with your qPCR instrument.

Plate format	Instrument provider	qPCR instrument model
A (96-well)	Applied Biosystems	5700, 7000, 7300, 7500, 7700, 7900HT (Standard 96-well block), ViiA™7 (Standard 96-well block)
B (96-well)	Applied Biosystems	7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA™7 (Fast block)
C (96-well)	Bio-Rad Laboratories	iCycler iQ®, MyiQ™, iQ™5
D (96-well)	Bio-Rad Laboratories	CFX96™, DNA Engine Opticon™, DNA Engine Opticon 2™, Chromo4™
E (96-well)	Roche Applied Science	LightCycler® 480 (96-well block)

Quality control

1. Each miRNA-specific primer in the miProfile miRNA qPCR array has been experimentally validated to yield a single dissociation curve peak and to generate a single amplicon of the correct size for the targeted miRNA.
2. The positive PCR controls (PCR) have been verified to amplify a single amplicon of the correct size with Ct values around **20±2**.
3. The Spike-in reverse transcription controls (RT) have been verified to amplify a single amplicon of the correct size with Ct values around **20±3**.
4. $R_2 > 0.99$ was observed for high inter/ intra-array reproducibility.

Materials required but not provided

All-in-One™ miRNA First-Strand cDNA Synthesis Kit
 All-in-One™ qPCR Mix
 Total RNA extraction kit (RNAzol® RT RNA extraction reagent is recommended)
 DNase/RNase free tips, PCR reaction tubes, 1.5 ml microcentrifuge tubes
 5 ml and 10 ml graduated pipettes, beakers, flasks, and cylinders
 10 µl to 1,000 µl adjustable single channel micropipettes with disposable tips
 5 µl to 20 µl adjustable multichannel micropipette, disposable tips, and reservoir
 qPCR instrument, compatible with gene qPCR arrays ordered

Array layout

	1	2	3	4	5	6	7	8	9	10	11	12
A	1	2	3	4	5	6	7	8	9	10	11	12
B	13	14	15	16	17	18	19	20	21	22	23	24
C	25	26	27	28	29	30	31	32	33	34	35	36
D	37	38	39	40	41	42	43	44	45	46	47	48
E	49	50	51	52	53	54	55	56	57	58	59	60
F	61	62	63	64	65	66	67	68	69	70	71	72
G	73	74	75	76	77	78	79	80	81	82	83	84
H	NC	NC	HK1	HK2	HK3	HK4	HK5	HK6	RT	RT	PCR	PCR

Figure1. Illustration of miProfile miRNA qPCR array (96-well plate)

- **miRNA primer pairs:** Wells 1-84 are designated wells for pre-deposited miRNA primer pairs.
- **NC:** Negative controls, which only have the pre-deposited reverse universal primers.
- **HK1-6:** Six pre-deposited housekeeping snRNAs primer pairs, which can be used as endogenous positive controls as well as for array normalization.
- **RT:** Three replicates of spike-in reverse transcription controls, which can be used to monitor the efficiency of the RT reaction. These pre-deposited primer pairs specifically amplify the cDNA template reverse transcribed from the spike-in exogenous RNA in the sample.
- **PCR:** Three replicates of positive PCR controls, which are used to verify the PCR efficiency by amplifying the pre-deposited DNA template with its specific pre-deposited primer pairs.

miRNA primer list

The primer list can be downloaded from <http://www.genecopoeia.com/product/qpcr-arrays/mirna/disease.php>.

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