

## miProfile<sup>TM</sup> Human Lymphoma miRNA qPCR Array

**For focused group profiling of human lymphoma related miRNA expression**

Cat. No. QM019-A (1 x 96-well plate, Format A)

Cat. No. QM019-B (1 x 96-well plate, Format B)

Cat. No. QM019-C (1 x 96-well plate, Format C)

Cat. No. QM019-D (1 x 96-well plate, Format D)

Cat. No. QM019-E (1 x 96-well plate, Format E)

Available as 1 set or 6 sets. Each set contains 84 unique miRNA primers deposited in one 96-well plate.

### Introduction

The miProfile human lymphoma miRNA qPCR array profiles 84 aberrantly expressed miRNAs most relevant to lymphoma. Lymphoma is present as a tumor of lymphoid cells and is closely related to lymphoid leukemia. These malignant cells often originate in lymph nodes. They can also affect other organs, including the skin, brain, bowels and bone. miRNAs are known for their extensive involvement in cancer development and progression and their altered pattern of expression may affect the cell cycle and survival program. For example, the miRNA-17-92 cluster can target multiple cellular pathways, favoring tumorigenesis by enhancing cell proliferation and inhibiting apoptosis. Over-expression of miRNA-17-92 significantly increased survival cell number and cell proliferation, but decreased cell death of human mantle cell lymphoma cells after different doses of radiation. Studying miRNA expression regulation could help to understand the molecular mechanisms behind the pathogenesis of lymphoma. This array provides 84 aberrantly expressed miRNAs that have been identified for their associations with lymphoma, providing researchers a convenient way to study the regulation of miRNA expression relevant to the tumorigenesis of lymphoma.

- QM019 plate 01: 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

GeneCopia 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
<b>A</b> (96-well)	Applied Biosystems	5700, 7000, 7300, 7500, 7700, 7900HT (Standard 96-well block), ViiA <sup>TM</sup> 7 (Standard 96-well block)
<b>B</b> (96-well)	Applied Biosystems	7500 (Fast block), 7900HT (Fast block), StepOnePlus <sup>TM</sup> , ViiA <sup>TM</sup> 7 (Fast block)
<b>C</b> (96-well)	Bio-Rad Laboratories	iCycler iQ <sup>®</sup> , MyiQ <sup>TM</sup> , iQ <sup>TM</sup> 5
<b>D</b> (96-well)	Bio-Rad Laboratories	CFX96 <sup>TM</sup> , DNA Engine Opticon <sup>TM</sup> , DNA Engine Opticon 2 <sup>TM</sup> , Chromo4 <sup>TM</sup>
<b>E</b> (96-well)	Roche Applied Science	LightCycler <sup>®</sup> 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 reversed 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/cancer.php>.

### Limited Use License

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