miProfile™ Human Breast Cancer miRNA qPCR Array

For focused group profiling of human breast cancer related miRNA expression

Cat. No. QM005-A (2 x 96-well plate, Format A)
Cat. No. QM005-B (2 x 96-well plate, Format B)
Cat. No. QM005-C (2 x 96-well plate, Format C)
Cat. No. QM005-D (2 x 96-well plate, Format D)
Cat. No. QM005-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 breast cancer miRNA qPCR array profiles the expression of 168 miRNAs, which have been identified for their associations with breast tumorigenesis either as oncogenes or as tumor suppressors. For example, the expression of miR-126 and miR-335 is lost in the majority of primary breast tumors from patients who relapse. Most significantly, early manifestation of altered miRNA expression in breast cancer suggests that these miRNAs may have a potential clinical application as a novel biomarker for early detection. Through investigating the miRNA expression profile in breast cancers, one can evaluate the molecular mechanisms involved in malignant progression of breast tumors, and discover a potential approach for diagnosis, prognosis, and therapy response in human breast cancers.

- QM005 plate 01: 84 unique miRNA PCR primer pairs
- QM005 plate 02: 84 unique miRNA PCR primer pairs

Shipping and storage condition

Shipped at room temperate
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.

<table>
<thead>
<tr>
<th>Plate format</th>
<th>Instrument provider</th>
<th>qPCR instrument model</th>
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<tbody>
<tr>
<td>A (96-well)</td>
<td>Applied Biosystems</td>
<td>5700, 7000, 7300, 7500, 7700, 7900HT (Standard 96-well block), ViiA™7 (Standard 96-well block)</td>
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<td>B (96-well)</td>
<td>Applied Biosystems</td>
<td>7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA™7 (Fast block)</td>
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<td>C (96-well)</td>
<td>Bio-Rad Laboratories</td>
<td>iCycler iQ®, MyIQ™, iQ™5</td>
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<td>D (96-well)</td>
<td>Bio-Rad Laboratories</td>
<td>CFX96™, DNA Engine Opticon™, DNA Engine Opticon 2™, Chromo4™</td>
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<td>E (96-well)</td>
<td>Roche Applied Science</td>
<td>LightCycler® 480 (96-well block)</td>
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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 $20 \pm 2$.

3. The Spike-in reverse transcription controls (RT) have been verified to amplify a single amplicon of the correct size with Ct values around $20 \pm 3$.

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

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- **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

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