# miRCURY LNA™ miRNA Focus PCR Panels
# Human Tumor Suppressor miRNAs Product Data Sheet

Cat. no. 339325 YAHS-219Z

For mature miRNA expression profiling using real-time PCR

| 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 | YAHS-219ZA |
| C | Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block) | 96-well | YAHS-219ZC |
| D | Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000® | 96-well | YAHS-219ZD |
| E | Applied Biosystems® models 7900HT (384-well block), ViiA™ 7 (384-well block); Bio-Rad CFX384™ | 384-well | YAHS-219ZE |
| F | Roche® LightCycler® 480 (96-well block) | 96-well | YAHS-219ZF |
| G | Roche® LightCycler® 480 (384-well block) | 384-well | YAHS-219ZG |

## Description

The Human Tumor Suppressor miRNAs miRCURY LNA™ miRNA Focus PCR Panel profiles the expression of 84 miRNAs that have been identified as tumor suppressor miRNAs. Oncogenes activate carcinogenic processes such as cell cycle progression, invasion, and metastasis. These genes commonly function in signaling pathways such as RAS as well as epigenetic regulation. Tumor suppressor genes (TSGs) counteract oncogenes by inhibiting these oncogenic processes, and their expression is often downregulated in tumors. Therefore, miRNAs that inhibit tumorigenesis or target oncogenes are considered tumor suppressor miRNAs. Depending on the type of cancer under study, some TSGs can also act as oncogenes. This array provides cancer researchers with a convenient way to quickly analyze the tumor suppressor miRNAs most relevant to a wide variety of cancers. Profiling the expression of these miRNAs in tumor samples may facilitate their correlation with biological phenotypes or clinical outcomes like staging, therapy selection, metastasis, recurrence, and survival rate. A set of controls present on each array enables data analysis using the ΔΔCT method of relative quantification, assessment of reverse transcription performance, and assessment of PCR performance. Using SYBR Green real-time PCR, the expression of a focused panel of miRNAs related to tumor suppression can be easily and reliably analyzed with this miRCURY LNA™ miRNA Focus PCR Panel.

For further details, consult the *miRCURY LNA™ miRNA Focus PCR Panels Handbook*.

Array Layout

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | hsa-let-7a-5p | hsa-let-7b-5p | hsa-let-7c-5p | hsa-let-7d-5p | hsa-let-7e-5p | hsa-let-7f-5p | hsa-let-7g-5p | hsa-let-7i-5p | hsa-miR-1-3p | hsa-miR-100-5p | hsa-miR-101-3p | hsa-miR-122-5p |
| B | hsa-miR-124-3p | hsa-miR-125a-5p | hsa-miR-125b-5p | hsa-miR-126-3p | hsa-miR-128-3p | hsa-miR-1291 | hsa-miR-133a-3p | hsa-miR-133b | hsa-miR-137-3p | hsa-miR-138-5p | hsa-miR-140-5p | hsa-miR-141-3p |
| C | hsa-miR-142-3p | hsa-miR-143-3p | hsa-miR-145-5p | hsa-miR-146a-5p | hsa-miR-150-5p | hsa-miR-152-3p | hsa-miR-155-5p | hsa-miR-15a-5p | hsa-miR-16-5p | hsa-miR-181a-5p | hsa-miR-181b-5p | hsa-miR-185-5p |
| D | hsa-miR-192-5p | hsa-miR-193a-3p | hsa-miR-193b-3p | hsa-miR-195-5p | hsa-miR-196b-5p | hsa-miR-200a-3p | hsa-miR-200b-3p | hsa-miR-200c-3p | hsa-miR-206 | hsa-miR-211-5p | hsa-miR-214-3p | hsa-miR-215-5p |
| E | hsa-miR-216b-5p | hsa-miR-218-5p | hsa-miR-223-3p | hsa-miR-22-3p | hsa-miR-23b-3p | hsa-miR-24-3p | hsa-miR-25-3p | hsa-miR-26a-5p | hsa-miR-26b-5p | hsa-miR-296-5p | hsa-miR-29a-3p | hsa-miR-29b-3p |
| F | hsa-miR-29c-3p | hsa-miR-30a-5p | hsa-miR-30c-5p | hsa-miR-335-5p | hsa-miR-34a-5p | hsa-miR-34b-3p | hsa-miR-34c-5p | hsa-miR-370-3p | hsa-miR-372-3p | hsa-miR-424-5p | hsa-miR-449a | hsa-miR-483-3p |
| G | hsa-miR-483-5p | hsa-miR-486-5p | hsa-miR-497-5p | hsa-miR-502-5p | hsa-miR-517a-3p | hsa-miR-520c-3p | hsa-miR-542-5p | hsa-miR-622 | hsa-miR-7-5p | hsa-miR-96-5p | hsa-miR-99a-5p | hsa-miR-98-5p |
| H | cel-miR-39-3p | cel-miR-39-3p | SNORD44 (hsa) | SNORD38B (hsa) | SNORD49A (hsa) | U6 snRNA (v2) | UniSp2 | UniSp4 | UniSp5 | UniSp6 | UniSP3 | UniSP3 |

## miRNA Table

| Well | miRNA ID | Accession # | Assay Catalog # | Well | miRNA ID | Accession # | Assay Catalog # |
|---|---|---|---|---|---|---|---|
| A01 | hsa-let-7a-5p | MIMAT0000062 | YP00205727 | E01 | hsa-miR-216b-5p | MIMAT0004959 | YP00204289 |
| A02 | hsa-let-7b-5p | MIMAT0000063 | YP00204750 | E02 | hsa-miR-218-5p | MIMAT0000275 | YP00206034 |
| A03 | hsa-let-7c-5p | MIMAT0000064 | YP00204767 | E03 | hsa-miR-223-3p | MIMAT0000280 | YP00205986 |
| A04 | hsa-let-7d-5p | MIMAT0000065 | YP00204124 | E04 | hsa-miR-22-3p | MIMAT0000077 | YP00204606 |
| A05 | hsa-let-7e-5p | MIMAT0000066 | YP00205711 | E05 | hsa-miR-23b-3p | MIMAT0000418 | YP02119314 |
| A06 | hsa-let-7f-5p | MIMAT0000067 | YP00204359 | E06 | hsa-miR-24-3p | MIMAT0000080 | YP00204260 |
| A07 | hsa-let-7g-5p | MIMAT0000414 | YP00204565 | E07 | hsa-miR-25-3p | MIMAT0000081 | YP00204361 |
| A08 | hsa-let-7i-5p | MIMAT0000415 | YP00204394 | E08 | hsa-miR-26a-5p | MIMAT0000082 | YP00206023 |
| A09 | hsa-miR-1-3p | MIMAT0000416 | YP00204344 | E09 | hsa-miR-26b-5p | MIMAT0000083 | YP00204172 |
| A10 | hsa-miR-100-5p | MIMAT0000098 | YP00205689 | E10 | hsa-miR-296-5p | MIMAT0000690 | YP00204436 |
| A11 | hsa-miR-101-3p | MIMAT0000099 | YP00204786 | E11 | hsa-miR-29a-3p | MIMAT0000086 | YP00204698 |
| A12 | hsa-miR-122-5p | MIMAT0000421 | YP00205664 | E12 | hsa-miR-29b-3p | MIMAT0000100 | YP00204679 |
| B01 | hsa-miR-124-3p | MIMAT0000422 | YP00206026 | F01 | hsa-miR-29c-3p | MIMAT0000681 | YP00204729 |
| B02 | hsa-miR-125a-5p | MIMAT0000443 | YP00204339 | F02 | hsa-miR-30a-5p | MIMAT0000087 | YP00205695 |
| B03 | hsa-miR-125b-5p | MIMAT0000423 | YP00205713 | F03 | hsa-miR-30c-5p | MIMAT0000244 | YP00204783 |
| B04 | hsa-miR-126-3p | MIMAT0000445 | YP00204227 | F04 | hsa-miR-335-5p | MIMAT0000765 | YP02119293 |
| B05 | hsa-miR-128-3p | MIMAT0000424 | YP00205995 | F05 | hsa-miR-34a-5p | MIMAT0000255 | YP00204486 |
| B06 | hsa-miR-1291 | MIMAT0005881 | YP02107164 | F06 | hsa-miR-34b-3p | MIMAT0004676 | YP00204005 |
| B07 | hsa-miR-133a-3p | MIMAT0000427 | YP00204788 | F07 | hsa-miR-34c-5p | MIMAT0000686 | YP00205659 |
| B08 | hsa-miR-133b | MIMAT0000770 | YP00206058 | F08 | hsa-miR-370-3p | MIMAT0000722 | YP00204011 |
| B09 | hsa-miR-137-3p | MIMAT0000429 | YP00206062 | F09 | hsa-miR-372-3p | MIMAT0000724 | YP00204137 |
| B10 | hsa-miR-138-5p | MIMAT0000430 | YP00206078 | F10 | hsa-miR-424-5p | MIMAT0001341 | YP00204736 |
| B11 | hsa-miR-140-5p | MIMAT0000431 | YP00204540 | F11 | hsa-miR-449a | MIMAT0001541 | YP00204481 |
| B12 | hsa-miR-141-3p | MIMAT0000432 | YP00204504 | F12 | hsa-miR-483-3p | MIMAT0002173 | YP00204012 |
| C01 | hsa-miR-142-3p | MIMAT0000434 | YP00204291 | G01 | hsa-miR-483-5p | MIMAT0004761 | YP00205693 |
| C02 | hsa-miR-143-3p | MIMAT0000435 | YP00205992 | G02 | hsa-miR-486-5p | MIMAT0002177 | YP00204001 |
| C03 | hsa-miR-145-5p | MIMAT0000437 | YP00204483 | G03 | hsa-miR-497-5p | MIMAT0002820 | YP00204354 |
| C04 | hsa-miR-146a-5p | MIMAT0000449 | YP00204688 | G04 | hsa-miR-502-5p | MIMAT0002873 | YP00204449 |
| C05 | hsa-miR-150-5p | MIMAT0000451 | YP00204660 | G05 | hsa-miR-517a-3p | MIMAT0002852 | YP00206019 |
| C06 | hsa-miR-152-3p | MIMAT0000438 | YP00204294 | G06 | hsa-miR-520c-3p | MIMAT0002846 | YP00204497 |
| C07 | hsa-miR-155-5p | MIMAT0000646 | YP02119311 | G07 | hsa-miR-542-5p | MIMAT0003340 | YP00204198 |
| C08 | hsa-miR-15a-5p | MIMAT0000068 | YP00204066 | G08 | hsa-miR-622 | MIMAT0003291 | YP00205615 |
| C09 | hsa-miR-16-5p | MIMAT0000069 | YP00205702 | G09 | hsa-miR-7-5p | MIMAT0000252 | YP02119317 |
| C10 | hsa-miR-181a-5p | MIMAT0000256 | YP00206081 | G10 | hsa-miR-96-5p | MIMAT0000095 | YP00204417 |
| C11 | hsa-miR-181b-5p | MIMAT0000257 | YP00204530 | G11 | hsa-miR-99a-5p | MIMAT0000097 | YP00204521 |
| C12 | hsa-miR-185-5p | MIMAT0000455 | YP00206037 | G12 | hsa-miR-98-5p | MIMAT0000096 | YP00204640 |
| D01 | hsa-miR-192-5p | MIMAT0000222 | YP00204099 | H01 | cel-miR-39-3p | MIMAT0000010 | YP00203952 |
| D02 | hsa-miR-193a-3p | MIMAT0000459 | YP00204591 | H02 | cel-miR-39-3p | MIMAT0000010 | YP00203952 |
| D03 | hsa-miR-193b-3p | MIMAT0002819 | YP00204226 | H03 | SNORD44 (hsa) | N/A | YP00203902 |
| D04 | hsa-miR-195-5p | MIMAT0000461 | YP00205869 | H04 | SNORD38B (hsa) | N/A | YP00203901 |
| D05 | hsa-miR-196b-5p | MIMAT0001080 | YP00204555 | H05 | SNORD49A (hsa) | N/A | YP00203904 |
| D06 | hsa-miR-200a-3p | MIMAT0000682 | YP00204707 | H06 | U6 snRNA (v2) | N/A | YP02119464 |
| D07 | hsa-miR-200b-3p | MIMAT0000318 | YP00206071 | H07 | UniSp2 | N/A | YP00203950 |
| D08 | hsa-miR-200c-3p | MIMAT0000617 | YP00204482 | H08 | UniSp4 | N/A | YP00203953 |
| D09 | hsa-miR-206 | MIMAT0000462 | YP00206073 | H09 | UniSp5 | N/A | YP00203955 |
| D10 | hsa-miR-211-5p | MIMAT0000268 | YP00204009 | H10 | UniSp6 | N/A | YP00203954 |
| D11 | hsa-miR-214-3p | MIMAT0000271 | YP00204510 | H11 | UniSP3 | N/A | YP02119288 |
| D12 | hsa-miR-215-5p | MIMAT0000272 | YP00204598 | H12 | UniSP3 | N/A | YP02119288 |

Functional Groupings

**Target Common Oncogene Classes**

Target Apoptosis Genes: hsa-let-7a-5p,hsa-miR-122-5p,hsa-miR-125b-5p,hsa-miR-141-3p,hsa-miR-143-3p,hsa-miR-15a-5p,hsa-miR-16-5p,hsa-miR-181a-5p,hsa-miR-181b-5p,hsa-miR-192-5p,hsa-miR-195-5p,hsa-miR-200b-3p,hsa-miR-200c-3p,hsa-miR-211-5p,hsa-miR-215-5p,hsa-miR-22-3p,hsa-miR-29a-3p,hsa-miR-29b-3p,hsa-miR-29c-3p,hsa-miR-30a-5p,hsa-miR-30c-5p,hsa-miR-34a-5p,hsa-miR-34c-5p,hsa-miR-424-5p,hsa-miR-497-5p,hsa-miR-7-5p.

Target Epigenetic Regulatory Genes: hsa-miR-101-3p,hsa-miR-124-3p,hsa-miR-126-3p,hsa-miR-137-3p,hsa-miR-138-5p,hsa-miR-140-5p,hsa-miR-143-3p,hsa-miR-152-3p,hsa-miR-185-5p,hsa-miR-214-3p,hsa-miR-25-3p,hsa-miR-26a-5p,hsa-miR-26b-5p,hsa-miR-29a-3p,hsa-miR-29b-3p,hsa-miR-29c-3p,hsa-miR-372-3p,hsa-miR-517a-3p,hsa-miR-520c-3p.

Target Transcriptional Factors: hsa-miR-124-3p,hsa-miR-128-3p,hsa-miR-145-5p,hsa-miR-185-5p,hsa-miR-200a-3p,hsa-miR-214-3p,hsa-miR-25-3p,hsa-miR-502-5p.

Target Immune Regulatory Genes: hsa-let-7d-5p,hsa-let-7e-5p,hsa-let-7f-5p,hsa-miR-155-5p,hsa-miR-98-5p.

Target Tyrosine Kinases: hsa-let-7a-5p,hsa-let-7b-5p,hsa-miR-1-3p,hsa-miR-100-5p,hsa-miR-125a-5p,hsa-miR-125b-5p,hsa-miR-128-3p,hsa-miR-133a-3p,hsa-miR-133b,hsa-miR-137-3p,hsa-miR-140-5p,hsa-miR-146a-5p,hsa-miR-150-5p,hsa-miR-193a-3p,hsa-miR-193b-3p,hsa-miR-196b-5p,hsa-miR-206,hsa-miR-218-5p,hsa-miR-223-3p,hsa-miR-23b-3p,hsa-miR-24-3p,hsa-miR-29a-3p,hsa-miR-34a-5p,hsa-miR-34b-3p,hsa-miR-34c-5p,hsa-miR-449a,hsa-miR-542-5p,hsa-miR-7-5p,hsa-miR-99a-5p.

Target G-Protein Signaling Genes: hsa-let-7a-5p,hsa-let-7b-5p,hsa-let-7c-5p,hsa-let-7g-5p,hsa-let-7i-5p,hsa-miR-126-3p,hsa-miR-142-3p,hsa-miR-143-3p,hsa-miR-145-5p,hsa-miR-155-5p,hsa-miR-193a-3p,hsa-miR-193b-3p,hsa-miR-196b-5p,hsa-miR-216b-5p,hsa-miR-622,hsa-miR-96-5p.

Target Other Oncogenes: hsa-miR-1291,hsa-miR-370-3p.

**Oncogenic miRNAs:** hsa-miR-122-5p,hsa-miR-125b-5p,hsa-miR-146a-5p,hsa-miR-155-5p,hsa-miR-181a-5p,hsa-miR-211-5p,hsa-miR-29a-3p,hsa-miR-29b-3p,hsa-miR-29c-3p,hsa-miR-34a-5p.

**Other Tumor Suppressor miRNAs:** hsa-miR-296-5p,hsa-miR-335-5p,hsa-miR-483-3p,hsa-miR-483-5p,hsa-miR-486-5p.

## Ordering Information

| Product | Contents | Cat. no. |
|---|---|---|
| miRCURY LNA miRNA Focus PCR Panels | miRCURY LNA miRNA PCR Panels for application-based miRNome profiling, available in 96-well or 384-well format; for SYBR® Green-based detection | 339325 |
| miRCURY LNA miRNA miRNome PCR Panels | miRCURY LNA miRNA PCR Panels for PCR-based miRNome profiling, available in 384-well format; for SYBR® Green-based detection | 339322 |
| miRCURY LNA miRNA QC PCR Panel | miRCURY LNA miRNA PCR Panel of quality control assays, available in 96-well or 384-well format; for SYBR® Green-based detection | 339331 |
| miRCURY LNA miRNA Custom PCR Panels | 8 identical, ready-to-use 96- or 384-well plates; each well contains primers sufficient for one 10 µl reaction; for SYBR® Green-based detection | 339330 |
| miRCURY LNA Custom PCR Panel Additional Plate | Additional miRCURY LNA Custom PCR Panel plates; set of 4 plates; only available in addition to the base plates ordered through the core product (cat. no. 339330) | 339332 |
| miRCURY LNA miRNA PCR Assays | Contains forward and reverse primers for 200 SYBR® Green-based, real-time qPCR reactions, 166 EvaGreen-based digital PCR reactions for Nanoplate 8.5k or 50 EvaGreen-based digital PCR reactions for Nanoplate 26k | 339306 |
| miRCURY LNA miRNA Probe PCR Assays | Complete premixed assays containing LNA-enhanced target-specific foward primer and probe. For 200 reactions. | 339350 |
| miRCURY LNA miRNA Custom Probe PCR Assays | Custom-designed, target-specific forward primer and probe for any user-defined miRNA target. Complete premixed assay for 200 reactions. | 339351 |

## Related Products

| Product | Contents | Cat. no. |
|---|---|---|
| miRCURY LNA RT Kit | For 8–64 cDNA synthesis reactions: 5x RT SYBR Green Reaction Buffer, 5x RT Probe Reaction Buffer, 10x RT Enzyme Mix, UniSp6, RNA Spike-in template, RNase-Free Water | 339340 |
| RNA Spike-In Kit, For RT | Contains the UniSp2, UniSp4, and UniSp5 RNA Spike-in Template Mix and the cel-miR-39-3p RNA Spike-in Template | 339390 |
| miRCURY LNA SYBR® Green PCR Kits (200) | For 200 reactions: 2X miRCURY SYBR Green Master Mix, RNase-Free Water | 339345 |
| miRCURY LNA SYBR® Green PCR Kits (600) | For 600 reactions: 2X miRCURY SYBR Green Master Mix, RNase-Free Water | 339346 |
| miRCURY LNA SYBR® Green PCR Kits (4000) | For 4000 reactions: 2X miRCURY SYBR Green Master Mix, RNase-Free Water | 339347 |
| miRCURY LNA Probe PCR Kit (200) | For 200 reactions: 2X QuantiNova Probe Master Mix, 10X miRCURY Probe Univ. Primer, Rox Reference Dye, RNase-Free Water | 339371 |
| miRCURY LNA Probe PCR Kit (800) | For 800 reactions: 2X QuantiNova Probe Master Mix, 10X miRCURY Probe Univ. Primer, Rox Reference Dye, RNase-Free Water | 339372 |
| miRCURY LNA Probe PCR Kit (4000) | For 4000 reactions: 2X QuantiNova Probe Master Mix, 10X miRCURY Probe Univ. Primer, Rox Reference Dye, RNase-Free Water | 339373 |
| miRCURY LNA miRNA PCR Starter Kit | Two miRCURY LNA PCR Assays of your choice, spike-in control Assay (UniSp6), one candidate endogenous control assay (miR-103-3p) and all reagents for 20 reverse transcription reactions and 100 PCR amplifications; for SYBR® Green-based qPCR detection | 339320 |

## Important

The miRCURY LNA™ miRNA PCR Panels are Ready-to-Use and designed for optimal performance with the miRCURY LNA RT Kit and the miRCURY LNA SYBR® Green PCR Kit. The performance of the primer sets will be affected when used in combination with less than optimal reagents. Use the miRCURY LNA miRNA PCR Panel Handbook for experiment setup. RNA work requires specific handling and precautions should be taken to prevent RNase contamination and degradation of the RNA sample and reagents.

## Shipping and storage

The Ready-to-Use miRCURY LNA miRNA PCR Panels are shipped at room temperature and can be stored at 4°C for at least 6 months. For long term storage, it is recommended to place the panels at -20°C. Under these conditions, the LNA PCR primers are stable for at least 6 months after receipt.

## Intended use

miRCURY LNA miRNA PCR Assays are intended for molecular biology applications. This product is not intended for the diagnosis, prevention or treatment of a disease.

## Safety information

When working with chemicals, always wear a suitable lab coat, disposable gloves, and protective goggles. For more information, please consult the appropriate safety data sheets (SDSs). These are available online in convenient and compact PDF format at **www.qiagen.com/safety** where you can find, view and print the SDS for each QIAGEN kit and kit component.

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.