Vantage™ Breast Cancer Panel 1

Store at 2-8°C

Catalog No. AM100047 **50 Reactions**

To be used in conjunction with the Vantage™ microRNA Detection Kit, catalog number AM100091 (50 reactions) or AM100092 (200 reactions).

Components included in this kit:

Component	Amount
Breast Cancer Panel 1 Bead Mix	400 µL

Handling Instructions

The kit is shipped on ice packs. Upon receipt, store all components at 2-8ºC.

Related Products **Catalog Number**

Vantage™ microRNA Detection Kit (50 reactions) AM100091
Vantage™ microRNA Detection Kit (200 reactions).....AM100092
Vantage™ Total RNA Purification Kit NP100026
Vantage™ microRNA Purification Kit NP100028
Vantage™ microRNA Labeling Kit.....AM100044
Vantage™ Oncology Panel 1.....AM100045
Vantage™ Pancreatic Cancer Panel 1 .....AM100046
Vantage™ Ovarian Cancer Panel 1.....AM100048
Vantage™ Cardiac Panel 1 .....AM100049
Vantage™ Diabetes Panel 1.....AM100050
Vantage™ Hypoxia Panel 1.....AM100051
Vantage™ microRNA Prostate Cancer Panel.....AM100052
Vantage™ miR-Plex Control.....AM100090

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Sequences and Nomenclature

The sequences and nomenclature of the mature microRNAs were obtained from the miRBase Sequence Database version 14.0, released in September 2009. Names annotated with (*) indicate a mature microRNA sequence that originated from a stem-loop molecule that generated two mature microRNA sequences. In these cases, one mature sequence has a standard name while the other sequence from the same stem-loop has an annotated name (*).

xMAP® Bead Region	Human microRNA Nomenclature	Human microRNA mature sequence	Equivalent Mouse (Mus musculus)	Equivalent Rat (Rattus norvegicus)
8	hsa-miR-10b	UACCCUGUAGAACCGAAUUUGUG	mmu-miR-10b	rno-miR-10b
52	hsa-miR-126	UCGUACCGUGAGUAAUAAUGCG	mmu-miR-126-3p	rno-miR-126
61	hsa-miR-206	UGGAAUGUAAGGAAGUGUGUGG	mmu-miR-206	rno-miR-206
27	hsa-miR-21	UAGCUUAUCAGACUGAUGUUGA	mmu-miR-21	rno-miR-21
71	hsa-miR-335	UCAAGAGCAAUAACGAAAAAUGU	mmu-miR-335-5p	rno-miR-335
55	hsa-miR-373	GAAGUGCUUCGAUUUUGGGGUGU	NA	NA
64	hsa-miR-520c-3p	AAAGUGCUUCCUUUUAGAGGGU	NA	NA
74	hsa-miR-520c-5p	CUCUAGAGGGAAGCACUUUCUG	NA	NA
49	5.8S Ribosomal RNA			

Performance Characteristics

I. Specificity

In separate reactions, 50 pg of synthetic biotinylated miR-10b, miR-126, miR-206, miR-21, miR-335, miR-373, miR-520c-3p, and miR-520c-5p were detected with the *Van*tage™ microRNA detection kit (Cat. No. AM100091). The assay was performed using the standard protocol. No cross-reactivity in excess of 1% was observed.

	Cross-Reactivity							
microRNA Sequence	**miR-10b**	**miR-126**	**miR-206**	**miR-21**	**miR-335**	**miR-373**	**miR-520c-3p**	**miR-520c-5p**
miR-10b	100.0%	0.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%
miR-126	0.1%	100.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%
miR-206	0.0%	0.0%	100.0%	0.0%	0.3%	0.1%	0.1%	0.0%
miR-21	0.1%	0.1%	0.1%	100.0%	0.2%	0.1%	0.2%	0.1%
miR-335	0.0%	0.1%	0.0%	0.0%	100.0%	0.1%	0.1%	0.0%
miR-373	0.0%	0.0%	0.0%	0.0%	0.1%	100.0%	0.3%	0.0%
miR-520c-3p	0.1%	0.1%	0.0%	0.1%	0.1%	0.7%	100.0%	0.0%
miR-520c-5p	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%

II. Sensitivity – Limit of Detection (LOD) determined using synthetic microRNAs

Synthetic microRNAs were labeled using the *Van*tage™ microRNA Labeling Kit (Cat. AM100044). A range of different concentrations of labeled microRNA was tested with the Vantage microRNA Detection Kit. The limit of detection was calculated using 2 x the mean of the negative control (blank).

Limit of Detection Range : 0.003-0.068 pg (0.4-9.5 attomoles)

III. Sensitivity (LOD) determined using total RNA from normal pancreatic tissue

Total RNA was extracted from normal pancreatic tissue. The total RNA was labeled using the *Van*tage™ microRNA Labeling Kit (Cat. No. AM100044). A range of different concentrations of labeled microRNA was tested with the Vantage microRNA Detection Kit. The limit of detection was calculated using 2 x the mean of the negative control (blank).

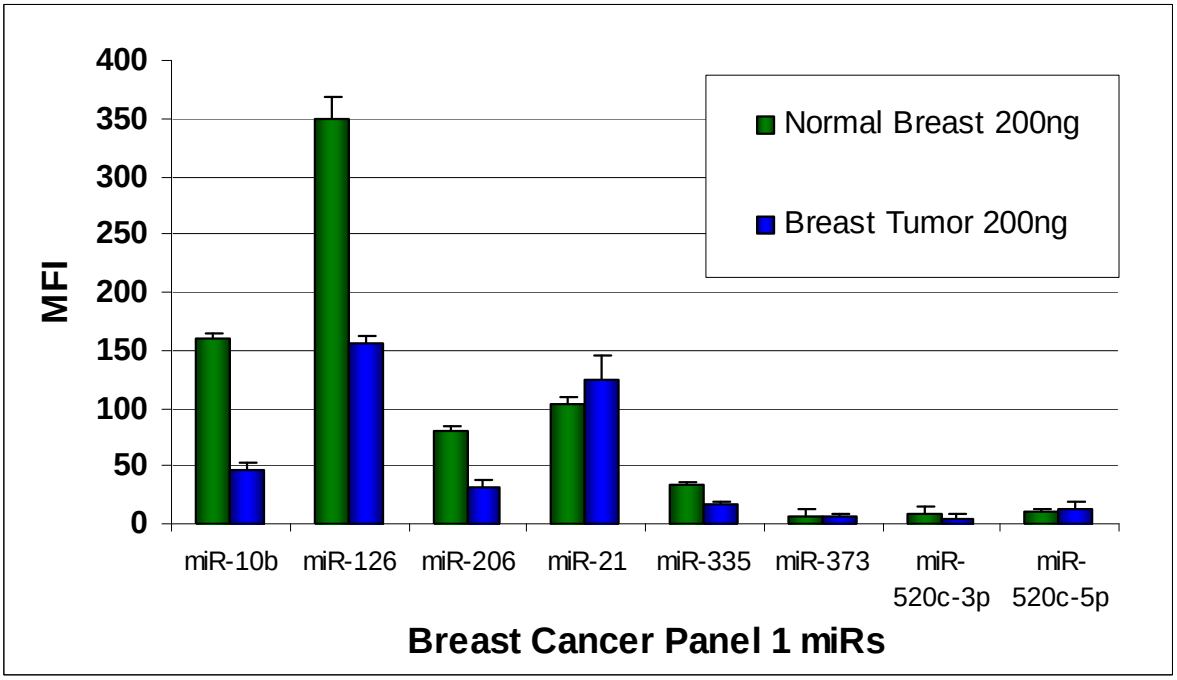
microRNA	Limit of Detection (ng Total RNA)
miR-10b	3.7
miR-126	15.2
miR-206	2.1
miR-21	0.8
miR-335	58.4

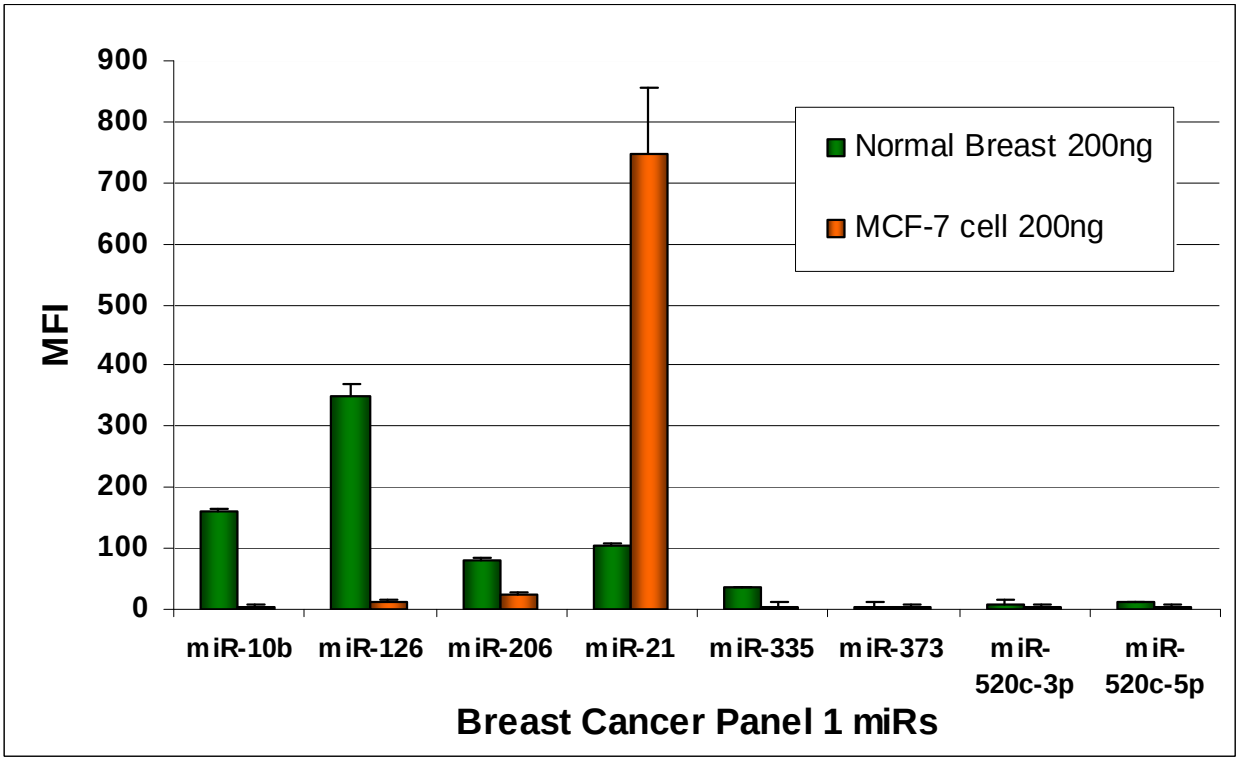
microRNA	Limit of Detection (ng Total RNA)
miR-373	not detected
miR-520c-3p	not detected
miR-520c-5p	not detected
5.8 S	1.4

The limit of detection of different microRNAs in tissues and cells is dependent upon expression levels. 5.8S ribosomal RNA is ubiquitously expressed in mammalian cells and tissues.

IV. MicroRNA profiles in normal versus pancreatic cancer and MCF7 breast cancer cell line

Total RNA was extracted from normal breast tissue, breast tumor tissue* and from MCF-7 cells. 200ng of total RNA from each sample was labeled using the *Van*tage™ microRNA Labeling Kit (AM100044) and then detected with the Vantage microRNA Detection Kit and the *Van*tage™ microRNA Breast Cancer Panel 1. The signal from the 5.8S control were used to normalize the signal between the normal breast sample and the tumor and MCF-7 samples. The results below show that microRNAs are differentially expressed between normal breast, breast tumor, and MCF-7, a breast cancer cell line.





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miR-plex™ Control Panel (Catalog # AM100090)

The miR-Plex™ Control is a mix of seven biotinylated microRNAs that can be used as controls for the Vantage™ microRNA Detection Panels. The miR-plex™ Control Panel panel contains labeled microRNA comprising miR-1, miR-107, miR0126, miR-203, miR-21, miR-9, and 5.8S ribosomal RNA. When used in place of a labeled RNA sample, the following results should be obtained

Detection Panel	Cat. No.	miR-1	miR-107	miR-126	miR-203	miR-21	miR-9	5.8S
Breast Cancer Panel 1	AM100047	Neg	Neg	Low	Neg	Medium	Neg	High

Terms and Conditions

By opening this Assay Product (which contains fluorescently labeled microsphere beads authorized by Luminex Corporation) or using this Assay Product in any manner, you are consenting to be bound by the following terms and conditions. You are also agreeing that the following terms and conditions constitute a legally valid and binding contract that is enforceable against you. If you do not agree to all of the terms and conditions set forth below, you must promptly return this Assay Product for a full refund prior to using it in any manner. You, the customer, acquire the right under Luminex Corporation's patent rights, if any, to use this Assay Product or any portion of this Assay Product, including without limitation the microsphere beads contained herein, only with Luminex Corporation's laser based fluorescent under the name Luminex Instrument.

Safety and Use Statement

All biological materials should be handled as potentially hazardous. Follow universal precautions as established by the Centers for Disease Control and Prevention and by the Occupational Safety and Health Administration when handling and disposing of potentially infectious or hazardous agents.

This product is authorized for laboratory research use only. The product has not been qualified or found safe and effective for any human or animal diagnostic application. Uses other than the labeled intended use may be a violation of applicable law. If you have any questions concerning the use of this product, please contact OriGene Technologies, Inc. at 1-888-267-4436 (301-340-3188 outside the US) or visit www.origene.com.

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