

# RT<sup>2</sup> Profiler PCR Array (Rotor-Gene<sup>®</sup> Format)

## Mouse Breast Cancer

Cat. no. 330231 PAMM-131ZR

### For pathway expression analysis

Format	For use with the following real-time cyclers
RT <sup>2</sup> Profiler PCR Array, Format R	Rotor-Gene Q, other Rotor-Gene cyclers

### Description

The Mouse Breast Cancer RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 key genes commonly involved in the dysregulation of signal transduction and other normal biological processes during breast carcinogenesis and in breast cancer cell lines. Breast cancer is a heterogeneous disease, classified molecularly into normal breast-like, luminal, HER2-like, and basal-like (also inaccurately called triple-negative) tumors. Intense research into carcinogenic mechanisms identified dysregulated genes, either via functional alterations due to somatic mutations, gene expression alterations, or altered posttranslational modifications. Carcinogenic changes to gene expression affect cellular signaling and the function of entire biological pathways. Focused research of these dysregulated genes and their coincidence with known tumor classification markers can identify the underlying molecular mechanisms of breast cancer initiation, progression or metastasis of this deadly disease. This array includes genes involved in tumor classification, signal transduction, and other commonly affected pathways such as angiogenesis, adhesion, proteolysis, cell cycle, and apoptosis. Using real-time PCR, your research study can easily and reliably analyze the expression of a focused panel of genes involved in the molecular mechanisms of breast oncogenesis with this array.

For further details, consult the *RT<sup>2</sup> Profiler PCR Array Handbook*.

### Shipping and storage

RT<sup>2</sup> Profiler PCR Arrays in the Rotor-Gene format are shipped at ambient temperature, on dry ice, or blue ice packs depending on destination and accompanying products.

For long term storage, keep plates at –20°C.

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**Note:** Ensure that you have the correct RT<sup>2</sup> Profiler PCR Array format for your real-time cycler (see table above).

**Note:** Open the package and store the products appropriately immediately on receipt.



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Sample & Assay Technologies

## Array layout

The 96 real-time assays in the Rotor-Gene format are located in wells 1–96 of the Rotor-Disc™ (plate A1–A12=Rotor-Disc 1–12, plate B1–B12=Rotor-Disc 13–24, etc.). To maintain data analysis compatibility, wells 97–100 do not contain real-time assays but will contain master mix to account for weight balance.

## Gene table: RT<sup>2</sup> Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Mm.207354	NM_011076	Abcb1a	ATP-binding cassette, sub-family B (MDR/TAP), member 1A
A02	Mm.333096	NM_011920	Abcg2	ATP-binding cassette, sub-family G (WHITE), member 2
A03	Mm.124892	NM_011780	Adam23	A disintegrin and metallopeptidase domain 23
A04	Mm.6645	NM_009652	Akt1	Thymoma viral proto-oncogene 1
A05	Mm.384171	NM_007462	Apc	Adenomatous polyposis coli
A06	Mm.39005	NM_013476	Ar	Androgen receptor
A07	Mm.5088	NM_007499	Atm	Ataxia telangiectasia mutated homolog (human)
A08	Mm.4387	NM_007522	Bad	BCL2-associated agonist of cell death
A09	Mm.257460	NM_009741	Bcl2	B-cell leukemia/lymphoma 2
A10	Mm.8552	NM_009689	Birc5	Baculoviral IAP repeat-containing 5
A11	Mm.244975	NM_009764	Brcal	Breast cancer 1
A12	Mm.236256	NM_009765	Brc2	Breast cancer 2
B01	Mm.4815	NM_007628	Ccna1	Cyclin A1
B02	Mm.273049	NM_007631	Ccnd1	Cyclin D1
B03	Mm.333406	NM_009829	Ccnd2	Cyclin D2
B04	Mm.16110	NM_007633	Ccne1	Cyclin E1
B05	Mm.35605	NM_009864	Cdh1	Cadherin 1
B06	Mm.334841	NM_019707	Cdh13	Cadherin 13
B07	Mm.111326	NM_016756	Cdk2	Cyclin-dependent kinase 2
B08	Mm.195663	NM_007669	Cdkn1a	Cyclin-dependent kinase inhibitor 1A (P21)
B09	Mm.168789	NM_009876	Cdkn1c	Cyclin-dependent kinase inhibitor 1C (P57)
B10	Mm.4733	NM_009877	Cdkn2a	Cyclin-dependent kinase inhibitor 2A
B11	Mm.795	NM_007778	Csf1	Colony stimulating factor 1 (macrophage)
B12	Mm.36816	NM_028623	Cst6	Cystatin E/M
C01	Mm.291928	NM_007614	Cttnb1	Catenin (cadherin associated protein), beta 1
C02	Mm.231395	NM_009983	Ctsd	Cathepsin D
C03	Mm.252481	NM_010113	Egf	Epidermal growth factor
C04	Mm.8534	NM_007912	Egfr	Epidermal growth factor receptor
C05	Mm.290822	NM_001003817	Erb2	V-erb-b2 erythroblastic leukemia viral oncogene homolog 2, neuro/glioblastoma derived oncogene homolog (avian)
C06	Mm.9213	NM_007956	Esr1	Estrogen receptor 1 (alpha)
C07	Mm.2561	NM_010157	Esr2	Estrogen receptor 2 (beta)
C08	Mm.4578	NM_008259	Foxa1	Forkhead box A1
C09	Mm.313866	NM_008091	Gata3	GATA binding protein 3
C10	Mm.391450	NM_010296	Gli1	GLI-Kruppel family member GLI1
C11	Mm.276702	NM_010346	Grb7	Growth factor receptor bound protein 7
C12	Mm.299292	NM_013541	Gstp1	Glutathione S-transferase, pi 1
D01	Mm.57250	NM_010430	Hic1	Hypermethylated in cancer 1
D02	Mm.444	NM_010495	Id1	Inhibitor of DNA binding 1
D03	Mm.268521	NM_010512	Igf1	Insulin-like growth factor 1
D04	Mm.275742	NM_010513	Igf1r	Insulin-like growth factor I receptor
D05	Mm.29254	NM_008343	Igfbp3	Insulin-like growth factor binding protein 3
D06	Mm.1019	NM_031168	Il6	Interleukin 6
D07	Mm.275071	NM_010591	Jun	Jun oncogene
D08	Mm.22479	NM_010664	Krt18	Keratin 18
D09	Mm.439699	NM_008471	Krt19	Keratin 19
D10	Mm.451847	NM_027011	Krt5	Keratin 5
D11	Mm.358618	NM_031170	Krt8	Keratin 8
D12	Mm.196581	NM_011949	Mapk1	Mitogen-activated protein kinase 1
E01	Mm.8385	NM_011952	Mapk3	Mitogen-activated protein kinase 3
E02	Mm.21495	NM_016700	Mapk8	Mitogen-activated protein kinase 8
E03	Mm.440219	NM_008598	Mgmt	O-6-methylguanine-DNA methyltransferase
E04	Mm.4078	NM_001081117	Mki67	Antigen identified by monoclonal antibody Ki 67
E05	Mm.196006	NM_026810	Mlh1	MuL homolog 1 (E. coli)
E06	Mm.29564	NM_008610	Mmp2	Matrix metallopeptidase 2
E07	Mm.4406	NM_013599	Mmp9	Matrix metallopeptidase 9
E08	Mm.16193	NM_013605	Muc1	Mucin 1, transmembrane

Position	UniGene	GenBank	Symbol	Description
E09	Mm.2444	NM_010849	Myc	Myelocytomatosis oncogene
E10	Mm.439702	NM_008704	Nme1	Non-metastatic cells 1, protein (NM23A) expressed in
E11	Mm.290610	NM_008714	Notch1	Notch gene homolog 1 (Drosophila)
E12	Mm.129481	NM_008173	Nr3c1	Nuclear receptor subfamily 3, group C, member 1
F01	Mm.12798	NM_008829	Pgr	Progesterone receptor
F02	Mm.4183	NM_008873	Plau	Plasminogen activator, urokinase
F03	Mm.332020	NM_001081355	Prdm2	PR domain containing 2, with ZNF domain
F04	Mm.245395	NM_008960	Pten	Phosphatase and tensin homolog
F05	Mm.292547	NM_011198	Ptgs2	Prostaglandin-endoperoxide synthase 2
F06	Mm.24163	NM_023258	Pycard	PYD and CARD domain containing
F07	Mm.259318	NM_011243	Rarb	Retinoic acid receptor, beta
F08	Mm.12091	NM_019713	Rassf1	Ras association (RalGDS/AF-6) domain family member 1
F09	Mm.273862	NM_009029	Rb1	Retinoblastoma 1
F10	Mm.250422	NM_008871	Serpine1	Serine (or cysteine) peptidase inhibitor, clade E, member 1
F11	Mm.44482	NM_018754	Sfn	Stratifin
F12	Mm.281691	NM_013834	Sfrp1	Secreted frizzled-related protein 1
G01	Mm.21688	NM_139143	Slc39a6	Solute carrier family 39 (metal ion transporter), member 6
G02	Mm.289739	NM_178804	Slit2	Slit homolog 2 (Drosophila)
G03	Mm.4272	NM_011415	Snai2	Snail homolog 2 (Drosophila)
G04	Mm.22845	NM_009271	Src	Rous sarcoma oncogene
G05	Mm.4641	NM_011575	Tff3	Trefoil factor 3, intestinal
G06	Mm.248380	NM_011577	Tgfb1	Transforming growth factor, beta 1
G07	Mm.4159	NM_011580	Thbs1	Thrombospondin 1
G08	Mm.222	NM_011640	Trp53	Transformation related protein 53
G09	Mm.78015	NM_011642	Trp73	Transformation related protein 73
G10	Mm.3280	NM_011658	Twist1	Twist homolog 1 (Drosophila)
G11	Mm.282184	NM_009505	Vegfa	Vascular endothelial growth factor A
G12	Mm.469937	NM_013842	Xbp1	X-box binding protein 1
H01	Mm.328431	NM_007393	Actb	Actin, beta
H02	Mm.163	NM_009735	B2m	Beta-2 microglobulin
H03	Mm.343110	NM_008084	Gapdh	Glyceraldehyde-3-phosphate dehydrogenase
H04	Mm.3317	NM_010368	Gusb	Glucuronidase, beta
H05	Mm.2180	NM_008302	Hsp90ab1	Heat shock protein 90 alpha (cytosolic), class B member 1
H06	N/A	SA_00106	MGDC	Mouse Genomic DNA Contamination
H07	N/A	SA_00104	RTC	Reverse Transcription Control
H08	N/A	SA_00104	RTC	Reverse Transcription Control
H09	N/A	SA_00104	RTC	Reverse Transcription Control
H10	N/A	SA_00103	PPC	Positive PCR Control
H11	N/A	SA_00103	PPC	Positive PCR Control
H12	N/A	SA_00103	PPC	Positive PCR Control

## Related products

For optimal performance, RT<sup>2</sup> Profiler PCR Arrays should be used together with the RT<sup>2</sup> First Strand Kit for cDNA synthesis and RT<sup>2</sup> SYBR<sup>®</sup> Green qPCR Mastermixes for PCR.

Product	Contents	Cat. no.
RT <sup>2</sup> First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT <sup>2</sup> SYBR Green ROX™ FAST Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the Rotor-Gene Q and other Rotor-Gene cyclers	330620

\* Larger kit sizes available; please inquire.

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RT<sup>2</sup> Profiler PCR Array products are intended for molecular biology applications. These products are not intended for the diagnosis, prevention, or treatment of a disease.

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](http://www.qiagen.com) or can be requested from QIAGEN Technical Services or your local distributor.

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