RT² Profiler PCR Array (Rotor-Gene® Format)

Rat Breast Cancer

Cat. no. 330231 PARN-131ZR

For pathway expression analysis

Format	For use with the following real-time cyclers
RT² Profiler PCR Array, Format R	Rotor-Gene Q, other Rotor-Gene cyclers

Description

The Rat Breast Cancer RT² 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 *RT² Profiler PCR Array Handbook*.

Shipping and storage

RT² 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.

Note: Ensure that you have the correct RT² Profiler PCR Array format for your real-time cycler (see table above).

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

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: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Rn.154810	NM_133401	Abcb1a	ATP-binding cassette, sub-family B (MDR/TAP), member 1A
A02	Rn.13131	NM_181381	Abcg2	ATP-binding cassette, subfamily G (WHITE), member 2
A03	Rn.24184	NM_001029899	Adam23	ADAM metallopeptidase domain 23
A04	Rn.11422	NM_033230	Akt1	V-akt murine thymoma viral oncogene homolog 1
A05	Rn.88057	NM_012499	Apc	Adenomatous polyposis coli
A06	Rn.9813	NM_012502	Ar	Androgen receptor
A07	Rn.214048	NM_001106821	Atm	Ataxia telangiectasia mutated homolog (human)
A08	Rn.36696	NM_022698	Bad	BCL2-associated agonist of cell death
A09	Rn.9996	NM_016993	Bcl2	B-cell CLL/lymphoma 2
A10	Rn.54471	NM_022274	Birc5	Baculoviral IAP repeat-containing 5
A11	Rn.48840	NM_012514	Brca1	Breast cancer 1
A12	Rn.103225	NM_031542	Brca2	Breast cancer 2
B01	Rn.102823	NM_001011949	Ccna1	Cyclin A1
B02	Rn.22279	NM_171992	Ccnd1	Cyclin D1
B03	Rn.96083	NM_022267	Ccnd2	Cyclin D2
B04	Rn.15455	NM_001100821	Ccne1	Cyclin E1
B05	Rn.1303	NM_031334	Cdh1	Cadherin 1
B06	Rn.23806	NM_138889	Cdh13	Cadherin 13
B07	Rn.104460	NM_199501	Cdk2	Cyclin dependent kinase 2
B08	Rn.10089	NM_080782	Cdkn1a	Cyclin-dependent kinase inhibitor 1A
B09	Rn.162507	NM_182735	Cdkn1c	Cyclin-dependent kinase inhibitor 1C
B10	Rn.48717	NM_031550	Cdkn2a	Cyclin-dependent kinase inhibitor 2A
B11	Rn.83632	NM_023981	Csf1	Colony stimulating factor 1 (macrophage)
B12	Rn.9609	NM_133566	Cst6	Cystatin E/M
C01	Rn.112601	NM_053357	Ctnnb1	Catenin (cadherin associated protein), beta 1
C02	Rn.11085	NM_134334	Ctsd	Cathepsin D
C03	Rn.6075	NM_012842	Egf	Epidermal growth factor
C04	Rn.37227	NM_031507	Egfr	Epidermal growth factor receptor
C05	Rn.93966	NM_017003	Erbb2	V-erb-b2 erythroblastic leukemia viral oncogene homolog 2, neuro/glioblastoma derived oncogene homolog (avian)
C06	Rn.10595	NM_012689	Esr1	Estrogen receptor 1
C07	Rn.37460	NM_012754	Esr2	Estrogen receptor 2 (ER beta)
C08	Rn.10470	NM_012742	Foxa1	Forkhead box A1
C09	Rn.92350	NM_133293	Gata3	GATA binding protein 3
C10	Rn.219157	XM_345832	Gli1	GLI family zinc finger 1
C11	Rn.28109	NM_053403	Grb7	Growth factor receptor bound protein 7
C12	Rn.87063	NM_012577	Gstp1	Glutathione S-transferase pi 1
D01	Rn.11570	NM_001107021	Hic1	Hypermethylated in cancer 1
D02	Rn.2113	NM_012797	Id1	Inhibitor of DNA binding 1
D03	Rn.6282	NM_178866	Igf1	Insulin-like growth factor 1
D04	Rn.10957	NM_052807	Igf1r	Insulin-like growth factor 1 receptor
D05	Rn.26369	NM_012588	Igfbp3	Insulin-like growth factor binding protein 3
D06	Rn.9873	NM_012589	Il6	Interleukin 6
D07	Rn.93714	NM_021835	Jun	Jun oncogene
D08	Rn.103924	NM_053976	Krt18	Keratin 18
D09	Rn.9359	NM_199498	Krt19	Keratin 19
D10	Rn.120205	NM_183333	Krt5	Keratin 5
D11	Rn.11083	NM_199370	Krt8	Keratin 8
D12	Rn.34914	NM_053842	Mapk1	Mitogen activated protein kinase 1
E01	Rn.2592	NM_017347	Mapk3	Mitogen activated protein kinase 3
E02	Rn.4090	XM_341399	Mapk8	Mitogen-activated protein kinase 8
E03	Rn.9836	NM_012861	Mgmt	O-6-methylguanine-DNA methyltransferase
E04	Rn.73551	XM_225460	Mki67	Antigen identified by monoclonal antibody Ki-67
E05	Rn.20391	NM_031053	Mlh1	MutL homolog 1 (E. coli)
E06	Rn.6422	NM_031054	Mmp2	Matrix metallopeptidase 2
E07	Rn.10209	NM_031055	Mmp9	Matrix metallopeptidase 9
E08	Rn.10779	NM_012602	Muc1	Mucin 1, cell surface associated

Position	UniGene	GenBank	Symbol	Description
E09	Rn.12072	NM_012603	Myc	Myelocytomatosis oncogene
E10	Rn.6236	NM_138548	Nme1	Non-metastatic cells 1, protein (NM23A) expressed in
E11	Rn.25046	NM_001105721	Notch1	Notch homolog 1, translocation-associated (Drosophila)
E12	Rn.90070	NM_012576	Nr3c1	Nuclear receptor subfamily 3, group C, member 1
F01	Rn.10303	NM_022847	Pgr	Progesterone receptor
F02	Rn.6064	NM_013085	Plau	Plasminogen activator, urokinase
F03	Rn.202632	NM_001077648	Prdm2	PR domain containing 2, with ZNF domain
F04	Rn.22158	NM_031606	Pten	Phosphatase and tensin homolog
F05	Rn.44369	NM_017232	Ptgs2	Prostaglandin-endoperoxide synthase 2
F06	Rn.7817	NM_172322	Pycard	PYD and CARD domain containing
F07	Rn.220045	XM_223843	Rarb	Retinoic acid receptor, beta
F08	Rn.83042	NM_001007754	Rassf1	Ras association (RalGDS/AF-6) domain family member 1
F09	Rn.55115	NM_017045	Rb1	Retinoblastoma 1
F10	Rn.29367	NM_012620	Serpine1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1
F11	Rn.145079	XM_232745	Sfn	Stratifin
F12	Rn.163333	XM_224987	Sfrp1	Secreted frizzled-related protein 1
G01	Rn.99415	NM_001024745	Slc39a6	Solute carrier family 39 (zinc transporter), member 6
G02	Rn.146652	NM_022632	Slit2	Slit homolog 2 (Drosophila)
G03	Rn.43117	NM_013035	Snai2	Snail homolog 2 (Drosophila)
G04	Rn.112600	NM_031977	Src	V-src sarcoma (Schmidt-Ruppin A-2) viral oncogene homolog (avian)
G05	Rn.87477	NM_013042	Tff3	Trefoil factor 3, intestinal
G06	Rn.40136	NM_021578	Tgfb1	Transforming growth factor, beta 1
G07	Rn.185771	NM_001013062	Thbs1	Thrombospondin 1
G08	Rn.54443	NM_030989	Tp53	Tumor protein p53
G09	Rn.103860	NM_001108696	Tp73	Tumor protein p73
G10	Rn.161904	NM_053530	Twist1	Twist homolog 1 (Drosophila)
G11	Rn.1923	NM_031836	Vegfa	Vascular endothelial growth factor A
G12	Rn.101044	NM_001004210	Xbp1	X-box binding protein 1
H01	Rn.94978	NM_031144	Actb	Actin, beta
H02	Rn.1868	NM_012512	B2m	Beta-2 microglobulin
H03	Rn.47	NM_012583	Hprt1	Hypoxanthine phosphoribosyltransferase 1
H04	Rn.107896	NM_017025	Ldha	Lactate dehydrogenase A
H05	Rn.973	NM_001007604	Rplp1	Ribosomal protein, large, P1
H06	N/A	U26919	RGDC	Rat 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, RT² Profiler PCR Arrays should be used together with the RT² First Strand Kit for cDNA synthesis and RT² SYBR® Green qPCR Mastermixes for PCR.

Product	Contents	Cat. no.
RT² First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT² 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.

RT² 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 or can be requested from QIAGEN Technical Services or your local distributor.

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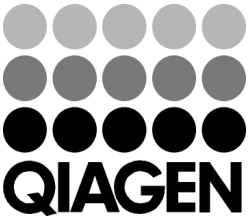

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