RT² Profiler PCR Array (96-Well Format and 384-Well [4 x 96] Format)

Mouse Cancer PathwayFinder

Cat. no. 330231 PAMM-033ZA

For pathway expression analysis

Format	For use with the following real-time cyclers
RT² Profiler PCR Array, Format 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
RT² Profiler PCR Array, Format C	Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)
RT² Profiler PCR Array, Format D	Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000®
RT² Profiler PCR Array, Format E	Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™
RT² Profiler PCR Array, Format F	Roche® LightCycler® 480 (96-well block)
RT² Profiler PCR Array, Format G	Roche LightCycler 480 (384-well block)
RT² Profiler PCR Array, Format H	Fluidigm® BioMark™

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Description

The Mouse Cancer PathwayFinder RT² Profiler PCR Array profiles the expression of 84 genes representative of 9 different biological pathways involved in transformation and tumorigenesis. During oncogenesis, gene mutations and related expression changes accumulate in pathways regulating specific aspects of cell growth. Biological pathways that, when deregulated, allow cells to grow and divide unchecked include apoptosis (or programmed cell death), cell cycle, DNA damage repair, cellular senescence, and telomere maintenance. Recent studies indicate that changes in metabolism also occur as tumors grow, due in part to altered gene expression. Angiogenesis, another commonly affected pathway, allows further tumor growth via vascularization and oxygenation when stimulated by tumor cell hypoxia signaling. Epithelial-to-mesenchymal transition (EMT) permits tumors to invade surrounding tissue and metastasize. Many genes mediate and control each of these pathways, and changes in the expression of any of those genes can deregulate its pathway. Thus, the combination of affected genes in any given cancer or tumor can be distinctive. Understanding the molecular mechanisms behind specific cancers and researching diagnostic and prognostic biomarkers requires analyses of not just one of these pathways in isolation, but of all the pathways together. This array includes target genes for these 9 important cancer-related pathways, and its results can suggest pathways that are potentially activated or inhibited in tumor cell samples for further follow-up studies. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes related to oncogenesis with this array.

For further details, consult the *RT² Profiler PCR Array Handbook*.

Shipping and storage

RT² Profiler PCR Arrays in formats A, C, D, E, F, and G are shipped at ambient temperature, on dry ice, or blue ice packs depending on destination and accompanying products. RT² Profiler PCR Arrays in format H are shipped on dry ice or blue ice packs.

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 (96-well)

For 384-well 4 x 96 PCR arrays, genes are present in a staggered format. Refer to the *RT² Profiler PCR Array Handbook* for layout.

	1	2	3	4	5	6	7	8	9	10	11	12
A	Acly	Acsl4	Adm	Angpt1	Angpt2	Apaf1	Arnt	Atp5a1	Atrx	Aurka	Bcl2l11	Birc3
B	Bmi1	Car9	Casp2	Casp7	Casp9	Ccl2	Ccnd2	Ccnd3	Cdc20	Cdh2	Cflar	Cox5a
C	Cpt2	Ddb2	Dkc1	Dsp	E2f4	Epo	Ercc3	Ercc5	Ets2	Fasl	Fgf2	Flt1
D	Foxc2	G6pdx	Gadd45g	Gpd2	Gsc	Hmox1	Igfbp3	Igfbp5	Igfbp7	Ing1	Kdr	Krt14
E	Ldha	Lig4	Lpl	Map2k1	Map2k3	Mcm2	Mki67	Nol3	Ocln	Pfkl	Pgf	Pinx1
F	Ppp1r15a	Serpinb2	Serpinf1	Sirt1	Sirt2	Skp2	Slc2a1	Snai1	Snai2	Snai3	Sox10	Stmn1
G	Tbx2	Tek	Tep1	Terf2ip	Tinf2	Tnks	Tnks2	Uqcrfs1	Vegfc	Wee1	Xiap	Xrcc4
H	Actb	B2m	Gapdh	Gusb	Hsp90ab1	MGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Mm.282039	NM_134037	Acly	ATP citrate lyase
A02	Mm.391337	NM_019477	Acsl4	Acyl-CoA synthetase long-chain family member 4
A03	Mm.1408	NM_009627	Adm	Adrenomedullin
A04	Mm.309336	NM_009640	Angpt1	Angiopoietin 1
A05	Mm.439874	NM_007426	Angpt2	Angiopoietin 2
A06	Mm.220289	NM_009684	Apaf1	Apoptotic peptidase activating factor 1
A07	Mm.250265	NM_009709	Arnt	Aryl hydrocarbon receptor nuclear translocator
A08	Mm.276137	NM_007505	Atp5a1	ATP synthase, H+ transporting, mitochondrial F1 complex, alpha subunit 1
A09	Mm.10141	NM_009530	Atrx	Alpha thalassemia/mental retardation syndrome X-linked homolog (human)
A10	Mm.249363	NM_011497	Aurka	Aurora kinase A
A11	Mm.141083	NM_009754	Bcl2l11	BCL2-like 11 (apoptosis facilitator)
A12	Mm.2026	NM_007464	Birc3	Baculoviral IAP repeat-containing 3
B01	Mm.289584	NM_007552	Bmi1	Bmi1 polycomb ring finger oncogene
B02	Mm.283682	NM_139305	Car9	Carbonic anhydrase 9
B03	Mm.3921	NM_007610	Casp2	Caspase 2
B04	Mm.35687	NM_007611	Casp7	Caspase 7
B05	Mm.88829	NM_015733	Casp9	Caspase 9
B06	Mm.290320	NM_011333	Ccl2	Chemokine (C-C motif) ligand 2
B07	Mm.333406	NM_009829	Ccnd2	Cyclin D2
B08	Mm.246520	NM_007632	Ccnd3	Cyclin D3
B09	Mm.289747	NM_023223	Cdc20	Cell division cycle 20 homolog (S. cerevisiae)
B10	Mm.257437	NM_007664	Cdh2	Cadherin 2
B11	Mm.336848	NM_009805	Cflar	CASP8 and FADD-like apoptosis regulator
B12	Mm.273403	NM_007747	Cox5a	Cytochrome c oxidase, subunit Va
C01	Mm.307620	NM_009949	Cpt2	Carnitine palmitoyltransferase 2
C02	Mm.389334	NM_028119	Ddb2	Damage specific DNA binding protein 2
C03	Mm.291062	NM_001030307	Dkc1	Dyskeratosis congenita 1, dyskerin homolog (human)
C04	Mm.355327	NM_023842	Dsp	Desmoplakin
C05	Mm.34554	NM_148952	E2f4	E2F transcription factor 4
C06	Mm.349116	NM_007942	Epo	Erythropoietin
C07	Mm.282335	NM_133658	Ercc3	Excision repair cross-complementing rodent repair deficiency, complementation group 3
C08	Mm.2213	NM_011729	Ercc5	Excision repair cross-complementing rodent repair deficiency, complementation group 5
C09	Mm.290207	NM_011809	Ets2	E26 avian leukemia oncogene 2, 3' domain
C10	Mm.3355	NM_010177	Fasl	Fas ligand (TNF superfamily, member 6)
C11	Mm.473689	NM_008006	Fgf2	Fibroblast growth factor 2
C12	Mm.389712	NM_010228	Flt1	FMS-like tyrosine kinase 1
D01	Mm.14092	NM_013519	Foxc2	Forkhead box C2
D02	Mm.27210	NM_008062	G6pdx	Glucose-6-phosphate dehydrogenase X-linked
D03	Mm.281298	NM_011817	Gadd45g	Growth arrest and DNA-damage-inducible 45 gamma
D04	Mm.3711	NM_010274	Gpd2	Glycerol phosphate dehydrogenase 2, mitochondrial
D05	Mm.129	NM_010351	Gsc	Goosecoid homeobox
D06	Mm.276389	NM_010442	Hmox1	Heme oxygenase (decycling) 1
D07	Mm.29254	NM_008343	Igfbp3	Insulin-like growth factor binding protein 3

Position	UniGene	GenBank	Symbol	Description
D08	Mm.405761	NM_010518	Igfbp5	Insulin-like growth factor binding protein 5
D09	Mm.233470	NM_008048	Igfbp7	Insulin-like growth factor binding protein 7
D10	Mm.25709	NM_011919	Ing1	Inhibitor of growth family, member 1
D11	Mm.285	NM_010612	Kdr	Kinase insert domain protein receptor
D12	Mm.439898	NM_016958	Krt14	Keratin 14
E01	Mm.29324	NM_010699	Ldha	Lactate dehydrogenase A
E02	Mm.80584	NM_176953	Lig4	Ligase IV, DNA, ATP-dependent
E03	Mm.1514	NM_008509	Lpl	Lipoprotein lipase
E04	Mm.248907	NM_008927	Map2k1	Mitogen-activated protein kinase kinase 1
E05	Mm.18494	NM_008928	Map2k3	Mitogen-activated protein kinase kinase 3
E06	Mm.16711	NM_008564	Mcm2	Minichromosome maintenance deficient 2 mitotin (S. cerevisiae)
E07	Mm.4078	NM_001081117	Mki67	Antigen identified by monoclonal antibody Ki 67
E08	Mm.475715	NM_030152	Nol3	Nucleolar protein 3 (apoptosis repressor with CARD domain)
E09	Mm.4807	NM_008756	Ocln	Occludin
E10	Mm.269649	NM_008826	Pfkl	Phosphofructokinase, liver, B-type
E11	Mm.4809	NM_008827	Pgf	Placental growth factor
E12	Mm.379214	NM_028228	Pinx1	PIN2/TERF1 interacting, telomerase inhibitor 1
F01	Mm.4048	NM_008654	Ppp1r15a	Protein phosphatase 1, regulatory (inhibitor) subunit 15A
F02	Mm.271870	NM_011111	Serpinb2	Serine (or cysteine) peptidase inhibitor, clade B, member 2
F03	Mm.2044	NM_011340	Serpinf1	Serine (or cysteine) peptidase inhibitor, clade F, member 1
F04	Mm.351459	NM_019812	Sirt1	Sirtuin 1 (silent mating type information regulation 2, homolog) 1 (S. cerevisiae)
F05	Mm.272443	NM_022432	Sirt2	Sirtuin 2 (silent mating type information regulation 2, homolog) 2 (S. cerevisiae)
F06	Mm.35584	NM_013787	Skp2	S-phase kinase-associated protein 2 (p45)
F07	Mm.21002	NM_011400	Slc2a1	Solute carrier family 2 (facilitated glucose transporter), member 1
F08	Mm.2093	NM_011427	Snai1	Snail homolog 1 (Drosophila)
F09	Mm.4272	NM_011415	Snai2	Snail homolog 2 (Drosophila)
F10	Mm.103673	NM_013914	Snai3	Snail homolog 3 (Drosophila)
F11	Mm.276739	NM_011437	Sox10	SRY-box containing gene 10
F12	Mm.378957	NM_019641	Stmn1	Stathmin 1
G01	Mm.287052	NM_009324	Tbx2	T-box 2
G02	Mm.14313	NM_013690	Tek	Endothelial-specific receptor tyrosine kinase
G03	Mm.318736	NM_009351	Tep1	Telomerase associated protein 1
G04	Mm.213064	NM_020584	Terf2ip	Telomeric repeat binding factor 2, interacting protein
G05	Mm.29346	NM_145705	Tinf2	Terf1 (TRF1)-interacting nuclear factor 2
G06	Mm.88364	NM_175091	Tnks	Tankyrase, TRF1-interacting ankyrin-related ADP-ribose polymerase
G07	Mm.249310	NM_001163635	Tnks2	Tankyrase, TRF1-interacting ankyrin-related ADP-ribose polymerase 2
G08	Mm.181933	NM_025710	Uqcrfs1	Ubiquinol-cytochrome c reductase, Rieske iron-sulfur polypeptide 1
G09	Mm.1402	NM_009506	Vegfc	Vascular endothelial growth factor C
G10	Mm.287173	NM_009516	Wee1	WEE 1 homolog 1 (S. pombe)
G11	Mm.259879	NM_009688	Xiap	X-linked inhibitor of apoptosis
G12	Mm.37531	NM_028012	Xrcc4	X-ray repair complementing defective repair in Chinese hamster cells 4
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, 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 qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with real-time cyclers that do not require a reference dye, including: Bio-Rad models CFX96, CFX384, DNA Engine Opticon 2; Bio-Rad/MJ Research Chromo4; Roche LightCycler 480 (96-well and 384-well); all other cyclers	330500
RT² SYBR Green ROX™ qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the following real-time cyclers: Applied Biosystems models 5700, 7000, 7300, 7500 [Standard and FAST], 7700, 7900HT 96-well block [Standard and FAST] and 384-well block, StepOnePlus; Eppendorf Mastercycler ep realplex models 2, 2S, 4, 4S; Stratagene models Mx3000P, Mx3005P, Mx4000; Takara TP-800	330520
RT² SYBR Green Fluor qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the following real-time cyclers: Bio-Rad models iCycler, iQ5, MyiQ, MyiQ2	330510

* 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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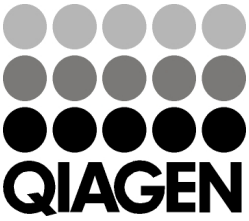

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