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

Mouse Leukemia

Cat. no. 330231 PAMM-137ZA

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 Leukemia RT² Profiler PCR Array profiles the expression of 84 key genes commonly involved in leukemia development, classification, and therapeutic response. The term leukemia covers a spectrum of diseases called hematological neoplasms, but mostly refers to cancer of the blood or bone marrow characterized by an abnormal increase of white blood cells. Clinical and pathological subtypes of leukemia define both its onset (Acute or Chronic) and the affected blood cell type (Lymphoblastic/Lymphocytic or Myeloid/Myelogenous). Leukemia affects molecular and biological pathways responsible for the normal blood cell function including inflammatory and immune responses, JAK-STAT signaling, and lymphocyte and myeloid cell development and differentiation. In addition, a common chromosomal translocation in leukemia, the BCR-ABL fusion gene, over-stimulates ABL signaling. The differentiation of the affected cells from lymphopoietic and erythropoietic stem cells has led to the concept of leukemia stem cells, reinforcing the importance of their regulatory transcription factors. This array represents many genes in these pathways as well as a number of common leukemia therapeutic targets derived from molecular analyses of those same pathways. The array also includes deregulated genes detected routinely in molecular analysis of leukemia samples and in high-throughput microarray profiling studies, as well as genes known to have differentially methylated promoters in leukemia. Monitoring the expression of these genes may lead to a better understanding of the molecular mechanisms behind leukemia. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in leukemia initiation and progression 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	Abl1	Akt1	Alox5	Apaf1	Baalc	Bcl2	Bcr	Bmpr1b	Btg3	Cadm1	Ccl3	Cd34
B	Cdc42ep3	Cdh1	Cdh13	Cdkn1a	Cdkn1b	Cdkn1c	Cdkn2b	Cebpb	Csf3	Ctgf	Ctnnb1	Cxcl10
C	Dapk1	Dkk3	Dlc1	Egr3	Fgr	Foxo3	Gas2l3	Gata1	Grb2	Hck	Hdac1	Hic1
D	Hsp90aa1	Ifna2	Ikzf3	Il10	Il12a	Il15	Il1r1	Il4	Il6	Jak2	Jun	Junb
E	Lmo1	Lmo2	Lyl1	Mcl1	Meis1	Mertk	Mlh1	Mn1	Mtor	Nfkb1	Npm1	Nr4a3
F	Pml	Prkcb	Pten	Rac2	Rgs12	Runx1	Runx2	Runx3	Sfpi1	Sfrp2	Sfrp4	Sfrp5
G	Shc1	Smo	Socs1	Stat1	Stat3	Stat5a	Stat5b	Tal1	Tlx1	Tlx3	Trp53	Wif1
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.1318	NM_009594	Abl1	C-abl oncogene 1, non-receptor tyrosine kinase
A02	Mm.6645	NM_009652	Akt1	Thymoma viral proto-oncogene 1
A03	Mm.41072	NM_009662	Alox5	Arachidonate 5-lipoxygenase
A04	Mm.220289	NM_009684	Apaf1	Apoptotic peptidase activating factor 1
A05	Mm.233837	NM_080640	Baalc	Brain and acute leukemia, cytoplasmic
A06	Mm.257460	NM_009741	Bcl2	B-cell leukemia/lymphoma 2
A07	Mm.333722	NM_001081412	Bcr	Breakpoint cluster region
A08	Mm.39089	NM_007560	Bmpr1b	Bone morphogenetic protein receptor, type 1B
A09	Mm.392910	NM_009770	Btg3	B-cell translocation gene 3
A10	Mm.234832	NM_018770	Cadm1	Cell adhesion molecule 1
A11	Mm.1282	NM_011337	Ccl3	Chemokine (C-C motif) ligand 3
A12	Mm.29798	NM_133654	Cd34	CD34 antigen
B01	Mm.140601	NM_026514	Cdc42ep3	CDC42 effector protein (Rho GTPase binding) 3
B02	Mm.35605	NM_009864	Cdh1	Cadherin 1
B03	Mm.334841	NM_019707	Cdh13	Cadherin 13
B04	Mm.195663	NM_007669	Cdkn1a	Cyclin-dependent kinase inhibitor 1A (P21)
B05	Mm.2958	NM_009875	Cdkn1b	Cyclin-dependent kinase inhibitor 1B
B06	Mm.168789	NM_009876	Cdkn1c	Cyclin-dependent kinase inhibitor 1C (P57)
B07	Mm.423094	NM_007670	Cdkn2b	Cyclin-dependent kinase inhibitor 2B (p15, inhibits CDK4)
B08	Mm.439656	NM_009883	Cebpb	CCAAT/enhancer binding protein (C/EBP), beta
B09	Mm.1238	NM_009971	Csf3	Colony stimulating factor 3 (granulocyte)
B10	Mm.390287	NM_010217	Ctgf	Connective tissue growth factor
B11	Mm.291928	NM_007614	Ctnnb1	Catenin (cadherin associated protein), beta 1
B12	Mm.877	NM_021274	Cxcl10	Chemokine (C-X-C motif) ligand 10
C01	Mm.24103	NM_029653	Dapk1	Death associated protein kinase 1
C02	Mm.55143	NM_015814	Dkk3	Dickkopf homolog 3 (Xenopus laevis)
C03	Mm.210875	NM_015802	Dlc1	Deleted in liver cancer 1
C04	Mm.103737	NM_018781	Egr3	Early growth response 3
C05	Mm.271665	NM_010208	Fgr	Gardner-Rasheed feline sarcoma viral (Fgr) oncogene homolog
C06	Mm.338613	NM_019740	Foxo3	Forkhead box O3
C07	Mm.11982	NM_001033331	Gas2l3	Growth arrest-specific 2 like 3
C08	Mm.335973	NM_008089	Gata1	GATA binding protein 1
C09	Mm.439649	NM_008163	Grb2	Growth factor receptor bound protein 2
C10	Mm.715	NM_010407	Hck	Hemopoietic cell kinase
C11	Mm.202504	NM_008228	Hdac1	Histone deacetylase 1
C12	Mm.57250	NM_010430	Hic1	Hypermethylated in cancer 1
D01	Mm.1843	NM_010480	Hsp90aa1	Heat shock protein 90, alpha (cytosolic), class A member 1
D02	Mm.14091	NM_010503	Ifna2	Interferon alpha 2
D03	Mm.133367	NM_011771	Ikzf3	IKAROS family zinc finger 3
D04	Mm.874	NM_010548	Il10	Interleukin 10
D05	Mm.103783	NM_008351	Il12a	Interleukin 12A
D06	Mm.4392	NM_008357	Il15	Interleukin 15
D07	Mm.896	NM_008362	Il1r1	Interleukin 1 receptor, type I
D08	Mm.276360	NM_021283	Il4	Interleukin 4
D09	Mm.1019	NM_031168	Il6	Interleukin 6

Position	UniGene	GenBank	Symbol	Description
D10	Mm.275839	NM_008413	Jak2	Janus kinase 2
D11	Mm.275071	NM_010591	Jun	Jun oncogene
D12	Mm.1167	NM_008416	Junb	Jun-B oncogene
E01	Mm.360145	NM_057173	Lmo1	LIM domain only 1
E02	Mm.29266	NM_008505	Lmo2	LIM domain only 2
E03	Mm.4925	NM_008535	Lyl1	Lymphoblastomic leukemia 1
E04	Mm.1639	NM_008562	Mcl1	Myeloid cell leukemia sequence 1
E05	Mm.356578	NM_010789	Meis1	Meis homeobox 1
E06	Mm.239655	NM_008587	Mertk	C-mer proto-oncogene tyrosine kinase
E07	Mm.196006	NM_026810	Mlh1	MutL homolog 1 (E. coli)
E08	Mm.332576	NM_001081235	Mn1	Meningioma 1
E09	Mm.21158	NM_020009	Mtor	Mechanistic target of rapamycin (serine/threonine kinase)
E10	Mm.256765	NM_008689	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1, p105
E11	Mm.485384	NM_008722	Npm1	Nucleophosmin 1
E12	Mm.247261	NM_015743	Nr4a3	Nuclear receptor subfamily 4, group A, member 3
F01	Mm.392123	NM_008884	Pml	Promyelocytic leukemia
F02	Mm.207496	NM_008855	Prkcb	Protein kinase C, beta
F03	Mm.245395	NM_008960	Pten	Phosphatase and tensin homolog
F04	Mm.1972	NM_009008	Rac2	RAS-related C3 botulinum substrate 2
F05	Mm.196208	NM_173402	Rgs12	Regulator of G-protein signaling 12
F06	Mm.4081	NM_009821	Runx1	Runt related transcription factor 1
F07	Mm.391013	NM_009820	Runx2	Runt related transcription factor 2
F08	Mm.378894	NM_019732	Runx3	Runt related transcription factor 3
F09	Mm.1302	NM_011355	Sfpi1	SFFV proviral integration 1
F10	Mm.19155	NM_009144	Sfrp2	Secreted frizzled-related protein 2
F11	Mm.42095	NM_016687	Sfrp4	Secreted frizzled-related protein 4
F12	Mm.470071	NM_018780	Sfrp5	Secreted frizzled-related sequence protein 5
G01	Mm.86595	NM_011368	Shc1	Src homology 2 domain-containing transforming protein C1
G02	Mm.29279	NM_176996	Smo	Smoothened homolog (Drosophila)
G03	Mm.130	NM_009896	Socs1	Suppressor of cytokine signaling 1
G04	Mm.277406	NM_009283	Stat1	Signal transducer and activator of transcription 1
G05	Mm.249934	NM_011486	Stat3	Signal transducer and activator of transcription 3
G06	Mm.277403	NM_011488	Stat5a	Signal transducer and activator of transcription 5A
G07	Mm.34064	NM_011489	Stat5b	Signal transducer and activator of transcription 5B
G08	Mm.439685	NM_011527	Tal1	T-cell acute lymphocytic leukemia 1
G09	Mm.391203	NM_021901	Tlx1	T-cell leukemia, homeobox 1
G10	Mm.25362	NM_019916	Tlx3	T-cell leukemia, homeobox 3
G11	Mm.222	NM_011640	Trp53	Transformation related protein 53
G12	Mm.32831	NM_011915	Wif1	Wnt inhibitory factor 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, 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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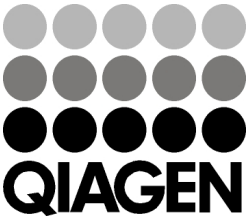

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