

# RT<sup>2</sup> Profiler PCR Array (96-Well Format and 384-Well [4 x 96] Format)

## Mouse Lymphoma

Cat. no. 330231 PAMM-139ZA

For pathway expression analysis

Format	For use with the following real-time cyclers
RT <sup>2</sup> Profiler PCR Array, Format A	Applied Biosystems <sup>®</sup> models 5700, 7000, 7300, 7500, 7700, 7900HT, ViiA™ 7 (96-well block); Bio-Rad <sup>®</sup> models iCycler <sup>®</sup> , iQ™ 5, MyiQ™, MyiQ2; Bio-Rad/MJ Research Chromo4™; Eppendorf <sup>®</sup> Mastercycler <sup>®</sup> ep realplex models 2, 2s, 4, 4s; Stratagene <sup>®</sup> models Mx3005P <sup>®</sup> , Mx3000P <sup>®</sup> ; Takara TP-800
RT <sup>2</sup> Profiler PCR Array, Format C	Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)
RT <sup>2</sup> Profiler PCR Array, Format D	Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon <sup>®</sup> , DNA Engine Opticon 2; Stratagene Mx4000 <sup>®</sup>
RT <sup>2</sup> Profiler PCR Array, Format E	Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™
RT <sup>2</sup> Profiler PCR Array, Format F	Roche <sup>®</sup> LightCycler <sup>®</sup> 480 (96-well block)
RT <sup>2</sup> Profiler PCR Array, Format G	Roche LightCycler 480 (384-well block)
RT <sup>2</sup> Profiler PCR Array, Format H	Fluidigm <sup>®</sup> BioMark™



## Description

The Mouse Lymphoma RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 key genes commonly involved in lymphoma development, classification, prognosis, and therapeutic response. Lymphoma is a cancer of lymphatic cells in the immune system. The major clinical and pathological subtypes of adulthood lymphoma include follicular lymphoma and diffuse large B-cell lymphoma (DLBCL). Lymphoma affects molecular and biological pathways responsible for cell adhesion, cell cycle, immune and inflammatory responses, PI-3-Kinase/AKT signaling, and T cell differentiation. This array represents many genes in these pathways as well as a number of common lymphoma therapeutic targets derived from the same pathways. The array also includes dysregulated genes detected routinely in molecular analysis of lymphoma samples and in high-throughput microarray profiling studies, especially those associated with lymphoma survival. Genes known to have differentially methylated promoters in lymphoma are also represented. The profiling results from this array may lead to a better understanding of the molecular mechanisms behind lymphoma. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in lymphoma initiation and progression 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 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. RT<sup>2</sup> Profiler PCR Arrays in format H are shipped on dry ice or blue ice packs.

For long term storage, keep plates at  $-20^{\circ}\text{C}$ .

**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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## Array layout (96-well)

For 384-well 4 x 96 PCR arrays, genes are present in a staggered format. Refer to the *RT<sup>2</sup> Profiler PCR Array Handbook* for layout.

	1	2	3	4	5	6	7	8	9	10	11	12
<b>A</b>	Aff1	Alk	Asb13	Atm	Bcl2	Bcl6	Birc5	Blk	C1qa	C4a	Cadm1	Ccnd1
<b>B</b>	Ccr1	Cd2	Cd22	Cd34	Cd3d	Cd4	Cd40	Cd40lg	Cd5	Cd79a	Cd80	Cd8a
<b>C</b>	Cdh1	Cdh13	Cdkn1c	Cdkn2b	Cdkn2c	Csf3	Cxcr4	Dapk1	Dlc1	Dntt	F8	Fcer2a
<b>D</b>	Fcgr1	Fhit	Fli3l	Gstp1	Hic1	Hrk	Hsp90aa1	Id4	Ifng	Il2	Il6	Itpkb
<b>E</b>	Lmo2	Lrmp	Lrp1b	Mcl1	Mki67	Mlh1	Mme	Ms4a1	Mtor	Mybl1	Myc	Mycd1
<b>F</b>	Ncam1	Nfkb1	Notch1	Pag1	Parp1	Pdlim7	Pik2	Piprc	Rassf1	Rbp1	Slc19a1	Src
<b>G</b>	Stat4	Sykb	Tgfb1	Timp2	Timp3	Tlr5	Tnf	Tnfrsf1b	Tnfrsf13b	Trp53	Ttc9	Vgll4
<b>H</b>	Actb	B2m	Gapdh	Gusb	Hsp90ab1	MGDC	RTC	RTC	RTC	PPC	PPC	PPC

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

Position	UniGene	GenBank	Symbol	Description
A01	Mm.6949	NM_133919	Aff1	AF4/FMR2 family, member 1
A02	Mm.311854	NM_007439	Alk	Anaplastic lymphoma kinase
A03	Mm.253061	NM_178283	Asb13	Ankyrin repeat and SOCS box-containing 13
A04	Mm.5088	NM_007499	Atm	Ataxia telangiectasia mutated homolog (human)
A05	Mm.257460	NM_009741	Bcl2	B-cell leukemia/lymphoma 2
A06	Mm.347398	NM_009744	Bcl6	B-cell leukemia/lymphoma 6
A07	Mm.8552	NM_009689	Birc5	Baculoviral IAP repeat-containing 5
A08	Mm.4475	NM_013482	Blk	Bruton agammaglobulinemia tyrosine kinase
A09	Mm.439957	NM_007572	C1qa	Complement component 1, q subcomponent, alpha polypeptide
A10	Mm.477109	NM_011413	C4a	Complement component 4A (Rodgers blood group)
A11	Mm.234832	NM_018770	Cadm1	Cell adhesion molecule 1
A12	Mm.273049	NM_007631	Ccnd1	Cyclin D1
B01	Mm.274927	NM_009912	Ccr1	Chemokine (C-C motif) receptor 1
B02	Mm.22842	NM_013486	Cd2	CD2 antigen
B03	Mm.260994	NM_009845	Cd22	CD22 antigen
B04	Mm.29798	NM_133654	Cd34	CD34 antigen
B05	Mm.4527	NM_013487	Cd3d	CD3 antigen, delta polypeptide
B06	Mm.2209	NM_013488	Cd4	CD4 antigen
B07	Mm.271833	NM_011611	Cd40	CD40 antigen
B08	Mm.4861	NM_011616	Cd40lg	CD40 ligand
B09	Mm.779	NM_007650	Cd5	CD5 antigen
B10	Mm.1355	NM_007655	Cd79a	CD79A antigen (immunoglobulin-associated alpha)
B11	Mm.89474	NM_009855	Cd80	CD80 antigen
B12	Mm.1858	NM_001081110	Cd8a	CD8 antigen, alpha chain
C01	Mm.35605	NM_009864	Cdh1	Cadherin 1
C02	Mm.334841	NM_019707	Cdh13	Cadherin 13
C03	Mm.168789	NM_009876	Cdkn1c	Cyclin-dependent kinase inhibitor 1C (P57)
C04	Mm.423094	NM_007670	Cdkn2b	Cyclin-dependent kinase inhibitor 2B (p15, inhibits CDK4)
C05	Mm.1912	NM_007671	Cdkn2c	Cyclin-dependent kinase inhibitor 2C (p18, inhibits CDK4)
C06	Mm.1238	NM_009971	Csf3	Colony stimulating factor 3 (granulocyte)
C07	Mm.1401	NM_009911	Cxcr4	Chemokine (C-X-C motif) receptor 4
C08	Mm.24103	NM_029653	Dapk1	Death associated protein kinase 1
C09	Mm.210875	NM_015802	Dlc1	Deleted in liver cancer 1
C10	Mm.25620	NM_009345	Dntt	Deoxynucleotidyltransferase, terminal
C11	Mm.1805	NM_007977	F8	Coagulation factor VIII
C12	Mm.1233	NM_013517	Fcer2a	Fc receptor, IgE, low affinity II, alpha polypeptide
D01	Mm.150	NM_010186	Fcgr1	Fc receptor, IgG, high affinity I
D02	Mm.397619	NM_010210	Fhit	Fragile histidine triad gene
D03	Mm.1658	NM_013520	Fli3l	FMS-like tyrosine kinase 3 ligand
D04	Mm.299292	NM_013541	Gstp1	Glutathione S-transferase, pi 1
D05	Mm.57250	NM_010430	Hic1	Hypermethylated in cancer 1
D06	Mm.384468	NM_007545	Hrk	Harakiri, BCL2 interacting protein (contains only BH3 domain)
D07	Mm.1843	NM_010480	Hsp90aa1	Heat shock protein 90, alpha (cytosolic), class A member 1
D08	Mm.458006	NM_031166	Id4	Inhibitor of DNA binding 4
D09	Mm.240327	NM_008337	Ifng	Interferon gamma

Position	UniGene	GenBank	Symbol	Description
D10	Mm.14190	NM_008366	Il2	Interleukin 2
D11	Mm.1019	NM_031168	Il6	Interleukin 6
D12	Mm.132535	NM_001081175	Itpkb	Inositol 1,4,5-trisphosphate 3-kinase B
E01	Mm.29266	NM_008505	Lmo2	LIM domain only 2
E02	Mm.843	NM_008511	Lrmp	Lymphoid-restricted membrane protein
E03	Mm.441398	NM_053011	Lrp1b	Low density lipoprotein-related protein 1B (deleted in tumors)
E04	Mm.1639	NM_008562	Mcl1	Myeloid cell leukemia sequence 1
E05	Mm.4078	NM_001081117	Mki67	Antigen identified by monoclonal antibody Ki 67
E06	Mm.196006	NM_026810	Mlh1	MutL homolog 1 (E. coli)
E07	Mm.296022	NM_008604	Mme	Membrane metallo endopeptidase
E08	Mm.4046	NM_007641	Ms4a1	Membrane-spanning 4-domains, subfamily A, member 1
E09	Mm.21158	NM_020009	Mtor	Mechanistic target of rapamycin (serine/threonine kinase)
E10	Mm.479	NM_008651	Mybl1	Myeloblastosis oncogene-like 1
E11	Mm.2444	NM_010849	Myc	Myelocytomatosis oncogene
E12	Mm.1526	NM_010866	Myod1	Myogenic differentiation 1
F01	Mm.4974	NM_010875	Ncam1	Neural cell adhesion molecule 1
F02	Mm.256765	NM_008689	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1, p105
F03	Mm.290610	NM_008714	Notch1	Notch gene homolog 1 (Drosophila)
F04	Mm.23897	NM_053182	Pag1	Phosphoprotein associated with glycosphingolipid microdomains 1
F05	Mm.277779	NM_007415	Parp1	Poly (ADP-ribose) polymerase family, member 1
F06	Mm.275648	NM_026131	Pdlim7	PDZ and LIM domain 7
F07	Mm.254494	NM_007982	Ptk2	PTK2 protein tyrosine kinase 2
F08	Mm.391573	NM_011210	Ptprc	Protein tyrosine phosphatase, receptor type, C
F09	Mm.12091	NM_019713	Rassf1	Ras association (RalGDS/AF-6) domain family member 1
F10	Mm.279741	NM_011254	Rbp1	Retinol binding protein 1, cellular
F11	Mm.265060	NM_031196	Slc19a1	Solute carrier family 19 (sodium/hydrogen exchanger), member 1
F12	Mm.22845	NM_009271	Src	Rous sarcoma oncogene
G01	Mm.1550	NM_011487	Stat4	Signal transducer and activator of transcription 4
G02	Mm.375031	NM_011518	Sykb	Spleen tyrosine kinase
G03	Mm.248380	NM_011577	Tgfb1	Transforming growth factor, beta 1
G04	Mm.206505	NM_011594	Timp2	Tissue inhibitor of metalloproteinase 2
G05	Mm.4871	NM_011595	Timp3	Tissue inhibitor of metalloproteinase 3
G06	Mm.116894	NM_016928	Tlr5	Toll-like receptor 5
G07	Mm.1293	NM_013693	Tnf	Tumor necrosis factor
G08	Mm.235328	NM_011610	Tnfrsf1b	Tumor necrosis factor receptor superfamily, member 1b
G09	Mm.28835	NM_033622	Tnfrsf13b	Tumor necrosis factor (ligand) superfamily, member 13b
G10	Mm.222	NM_011640	Trp53	Transformation related protein 53
G11	Mm.130002	NM_001033149	Ttc9	Tetratricopeptide repeat domain 9
G12	Mm.268357	NM_177683	Vgll4	Vestigial like 4 (Drosophila)
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 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
RT <sup>2</sup> SYBR Green ROX <sup>™</sup> 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
RT <sup>2</sup> 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.

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.

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