

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

Mouse Lung Cancer

Cat. no. 330231 PAMM-134ZA

For pathway expression analysis

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



Sample & Assay Technologies

Description

The Mouse Lung Cancer RT² Profiler PCR Array profiles the expression of 84 key genes commonly involved in lung cancer development. Most instances of lung cancer arise from cigarette smoking, but also exposure to other environmental hazards such as passive cigarette smoke, radon gas, asbestos, and viral infection. The major subtype of lung cancer in patients with smoking history, non-small-cell lung carcinoma (NSCLC), includes adenocarcinoma (AC) which derives from peripheral lung tissue and squamous-cell carcinoma (SCC) which derives from central bronchi. While the exact molecular mechanisms behind lung cancer are still under heavy investigation, tumor suppressor gene inhibition and oncogene activation play important roles. The affected tumor suppressors and oncogenes regulate immune response, apoptosis, cell cycle, PI3K/AKT, and cell adhesion pathways. Research directed at these pathways and genes differentially expressed in lung cancer subtypes versus normal tissue may yield insights into the molecular mechanisms behind lung oncogenesis. This array includes genes detected routinely in molecular analysis of lung cancer samples and discovered via high-throughput microarray profiling studies, as well as genes known to have differentially methylated promoters in lung cancer. Lung cancers tend to metastasize; therefore, the array includes genes associated with metastatic potential. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in lung cancer initiation, progression, and metastasis 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	Ager	Agr2	Akt1	Anxa5	Apba1	Apc	Bcl2	Birc5	Braf	Cadm1	Car4	Cdh1
B	Cdh13	Cdkn1a	Cdkn1c	Cdkn2a	Cdkn2b	Clic5	Col10a1	Col11a1	Cp	Csf3	Cxcl12	Cxcl13
C	Cyp1b1	Dlc1	Dlg2	Dsg3	Dusp6	Egfr	ErbB2	ErbB3	Ercc1	Fabp4	Fhit	Gpm6a
D	Grem1	Hgf	Hmmr	Hras1	Irf4	Kit	Kras	Krt14	Krt5	Lck	Mapk1	Mki67
E	Mih1	Mmp12	Mmp1a	Mmp2	Mmp9	Mthfr	Nf1	Nfkb1	Nkx2-1	Pax5	Prdm2	Plgs2
F	Rarb	Rassf1	Rassf2	Rb1	Scgb1a1	Sema3b	Sfrp1	Sfpc	Slit2	Sostdc1	Spp1	Sprr1a
G	Stat1	Stat2	Tcf21	Tert	Tgfb1	Thbs2	Tnf	Top2a	Tox3	Trp53	Vegfa	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.3383	NM_007425	Ager	Advanced glycosylation end product-specific receptor
A02	Mm.7244	NM_011783	Agr2	Anterior gradient 2 (Xenopus laevis)
A03	Mm.6645	NM_009652	Akt1	Thymoma viral proto-oncogene 1
A04	Mm.1620	NM_009673	Anxa5	Annexin A5
A05	Mm.22879	NM_177034	Apba1	Amyloid beta (A4) precursor protein binding, family A, member 1
A06	Mm.384171	NM_007462	Apc	Adenomatosis polyposis coli
A07	Mm.257460	NM_009741	Bcl2	B-cell leukemia/lymphoma 2
A08	Mm.8552	NM_009689	Birc5	Baculoviral IAP repeat-containing 5
A09	Mm.245513	NM_139294	Braf	Braf transforming gene
A10	Mm.234832	NM_018770	Cadm1	Cell adhesion molecule 1
A11	Mm.1641	NM_007607	Car4	Carbonic anhydrase 4
A12	Mm.35605	NM_009864	Cdh1	Cadherin 1
B01	Mm.334841	NM_019707	Cdh13	Cadherin 13
B02	Mm.195663	NM_007669	Cdkn1a	Cyclin-dependent kinase inhibitor 1A (P21)
B03	Mm.168789	NM_009876	Cdkn1c	Cyclin-dependent kinase inhibitor 1C (P57)
B04	Mm.4733	NM_009877	Cdkn2a	Cyclin-dependent kinase inhibitor 2A
B05	Mm.423094	NM_007670	Cdkn2b	Cyclin-dependent kinase inhibitor 2B (p15, inhibits CDK4)
B06	Mm.37666	NM_172621	Clic5	Chloride intracellular channel 5
B07	Mm.443177	NM_009925	Col10a1	Collagen, type X, alpha 1
B08	Mm.209715	NM_007729	Col11a1	Collagen, type XI, alpha 1
B09	Mm.13787	NM_007752	Cp	Ceruloplasmin
B10	Mm.1238	NM_009971	Csf3	Colony stimulating factor 3 (granulocyte)
B11	Mm.303231	NM_021704	Cxcl12	Chemokine (C-X-C motif) ligand 12
B12	Mm.10116	NM_018866	Cxcl13	Chemokine (C-X-C motif) ligand 13
C01	Mm.214016	NM_009994	Cyp1b1	Cytochrome P450, family 1, subfamily b, polypeptide 1
C02	Mm.210875	NM_015802	Dlc1	Deleted in liver cancer 1
C03	Mm.257035	NM_011807	Dlg2	Discs, large homolog 2 (Drosophila)
C04	Mm.106811	NM_030596	Dsg3	Desmoglein 3
C05	Mm.1791	NM_026268	Dusp6	Dual specificity phosphatase 6
C06	Mm.8534	NM_007912	Egfr	Epidermal growth factor receptor
C07	Mm.290822	NM_001003817	ErbB2	V-erb-b2 erythroblastic leukemia viral oncogene homolog 2, neuro/glioblastoma derived oncogene homolog (avian)
C08	Mm.373043	NM_010153	ErbB3	V-erb-b2 erythroblastic leukemia viral oncogene homolog 3 (avian)
C09	Mm.280913	NM_007948	Ercc1	Excision repair cross-complementing rodent repair deficiency, complementation group 1
C10	Mm.582	NM_024406	Fabp4	Fatty acid binding protein 4, adipocyte
C11	Mm.397619	NM_010210	Fhit	Fragile histidine triad gene
C12	Mm.241700	NM_153581	Gpm6a	Glycoprotein m6a
D01	Mm.166318	NM_011824	Grem1	Gremilin 1
D02	Mm.267078	NM_010427	Hgf	Hepatocyte growth factor
D03	Mm.116997	NM_013552	Hmmr	Hyaluronan mediated motility receptor (RHAMM)
D04	Mm.334313	NM_008284	Hras1	Harvey rat sarcoma virus oncogene 1
D05	Mm.4677	NM_013674	Irf4	Interferon regulatory factor 4
D06	Mm.247073	NM_021099	Kit	Kit oncogene
D07	Mm.383182	NM_021284	Kras	V-Ki-ras2 Kirsten rat sarcoma viral oncogene homolog

Position	UniGene	GenBank	Symbol	Description
D08	Mm.439898	NM_016958	Krt14	Keratin 14
D09	Mm.451847	NM_027011	Krt5	Keratin 5
D10	Mm.293753	NM_010693	Lck	Lymphocyte protein tyrosine kinase
D11	Mm.196581	NM_011949	Mapk1	Mitogen-activated protein kinase 1
D12	Mm.4078	NM_001081117	Mki67	Antigen identified by monoclonal antibody Ki 67
E01	Mm.196006	NM_026810	Mlh1	MutL homolog 1 (E. coli)
E02	Mm.2055	NM_008605	Mmp12	Matrix metalloproteinase 12
E03	Mm.156952	NM_032006	Mmp1a	Matrix metalloproteinase 1a (interstitial collagenase)
E04	Mm.29564	NM_008610	Mmp2	Matrix metalloproteinase 2
E05	Mm.4406	NM_013599	Mmp9	Matrix metalloproteinase 9
E06	Mm.89959	NM_010840	Mthfr	5,10-methylenetetrahydrofolate reductase
E07	Mm.255596	NM_010897	Nf1	Neurofibromatosis 1
E08	Mm.256765	NM_008689	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1, p105
E09	Mm.89972	NM_009385	Nkx2-1	NK2 homeobox 1
E10	Mm.439659	NM_008782	Pax5	Paired box gene 5
E11	Mm.332020	NM_001081355	Prdm2	PR domain containing 2, with ZNF domain
E12	Mm.292547	NM_011198	Plgs2	Prostaglandin-endoperoxide synthase 2
F01	Mm.259318	NM_011243	Rarb	Retinoic acid receptor, beta
F02	Mm.12091	NM_019713	Rassf1	Ras association (RalGDS/AF-6) domain family member 1
F03	Mm.204737	NM_175445	Rassf2	Ras association (RalGDS/AF-6) domain family member 2
F04	Mm.273862	NM_009029	Rb1	Retinoblastoma 1
F05	Mm.2258	NM_011681	Scgb1a1	Secretoglobulin, family 1A, member 1 (uteroglobin)
F06	Mm.4083	NM_009153	Sema3b	Sema domain, immunoglobulin domain (Ig), short basic domain, secreted, (semaphorin) 3B
F07	Mm.281691	NM_013834	Sfrp1	Secreted frizzled-related protein 1
F08	Mm.24040	NM_011359	Sfpc	Surfactant associated protein C
F09	Mm.289739	NM_178804	Slt2	Slit homolog 2 (Drosophila)
F10	Mm.43375	NM_025312	Sostdc1	Sclerostin domain containing 1
F11	Mm.288474	NM_009263	Spp1	Secreted phosphoprotein 1
F12	Mm.331191	NM_009264	Spr1a	Small proline-rich protein 1A
G01	Mm.277406	NM_009283	Stat1	Signal transducer and activator of transcription 1
G02	Mm.293120	NM_019963	Stat2	Signal transducer and activator of transcription 2
G03	Mm.16497	NM_011545	Tcf21	Transcription factor 21
G04	Mm.10109	NM_009354	Tert	Telomerase reverse transcriptase
G05	Mm.248380	NM_011577	Tgfb1	Transforming growth factor, beta 1
G06	Mm.26688	NM_011581	Thbs2	Thrombospondin 2
G07	Mm.1293	NM_013693	Tnf	Tumor necrosis factor
G08	Mm.4237	NM_011623	Top2a	Topoisomerase (DNA) II alpha
G09	Mm.302755	NM_172913	Tox3	TOX high mobility group box family member 3
G10	Mm.222	NM_011640	Trp53	Transformation related protein 53
G11	Mm.282184	NM_009505	Vegfa	Vascular endothelial growth factor A
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.
RT ² First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT ² 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 ² 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
RT ² 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.

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