

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

Mouse Protein Phosphatases

Cat. no. 330231 PAMM-045ZA

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 Protein Phosphatases RT² Profiler PCR Array profiles the gene expression of the 84 most important and well-studied phosphatases in the mammalian genome. By reversing the phosphorylation of key regulatory proteins mediated by protein kinases, phosphatases serve as a very important complement to kinases and attenuate activated signal transduction pathways. The gene classes on this array include both receptor and non-receptor tyrosine phosphatases, catalytic subunits of the three major protein phosphatase gene families, the dual specificity phosphatases, as well as cell cycle regulatory and other protein phosphatases. Alterations in phosphatase activity, including those caused by changes in gene expression, have been implicated in central nervous system and metabolic disorders, infectious diseases, and cancer. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of phosphatase genes 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	Acp1	Acp2	Cdc14a	Cdc14b	Cdc25a	Cdc25b	Cdc25c	Cdkn3	Dusp1	Dusp10	Dusp12	Dusp14
B	Dusp16	Dusp22	Dusp23	Dusp26	Dusp3	Dusp4	Dusp5	Dusp6	Dusp7	Dusp8	Dusp9	Ilkap
C	Pdp1	Phlpp1	Ppef1	Ppm1a	Ppm1b	Ppm1d	Ppm1f	Ppm1g	Ppp1ca	Ppp1cb	Ppp2ca	Ppp2cb
D	Ppp3ca	Ppp3cb	Ppp3cc	Ppp4c	Ppp5c	Pten	Ptp4a1	Ptp4a2	Ptp4a3	Ptp4a	Ptpn1	Ptpn11
E	Ptpn12	Ptpn13	Ptpn14	Ptpn2	Ptpn21	Ptpn22	Ptpn23	Ptpn3	Ptpn4	Ptpn5	Ptpn6	Ptpn7
F	Ptpn9	Ptpnra	Ptpnrb	Ptpnrc	Ptpnrd	Ptpnre	Ptpnrf	Ptpnrg	Ptpnrh	Ptpnri	Ptpnrk	Ptpnrm
G	Ptpn	Ptpn2	Ptpnro	Ptpnrr	Ptpnrs	Ptpnrt	Ptpnru	Ptpnrz1	Ssh1	Ssu72	Tenc1	Tpte
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.359831	NM_021330	Acp1	Acid phosphatase 1, soluble
A02	Mm.45570	NM_007387	Acp2	Acid phosphatase 2, lysosomal
A03	Mm.17647	NM_001080818	Cdc14a	CDC14 cell division cycle 14 homolog A (<i>S. cerevisiae</i>)
A04	Mm.25335	NM_172587	Cdc14b	CDC14 cell division cycle 14 homolog B (<i>S. cerevisiae</i>)
A05	Mm.307103	NM_007658	Cdc25a	Cell division cycle 25 homolog A (<i>S. pombe</i>)
A06	Mm.38444	NM_023117	Cdc25b	Cell division cycle 25 homolog B (<i>S. pombe</i>)
A07	Mm.286602	NM_009860	Cdc25c	Cell division cycle 25 homolog C (<i>S. pombe</i>)
A08	Mm.272394	NM_028222	Cdkn3	Cyclin-dependent kinase inhibitor 3
A09	Mm.239041	NM_013642	Dusp1	Dual specificity phosphatase 1
A10	Mm.404024	NM_022019	Dusp10	Dual specificity phosphatase 10
A11	Mm.34365	NM_023173	Dusp12	Dual specificity phosphatase 12
A12	Mm.240885	NM_019819	Dusp14	Dual specificity phosphatase 14
B01	Mm.3994	NM_001048054	Dusp16	Dual specificity phosphatase 16
B02	Mm.289646	NM_134068	Dusp22	Dual specificity phosphatase 22
B03	Mm.33024	NM_026725	Dusp23	Dual specificity phosphatase 23
B04	Mm.23916	NM_025869	Dusp26	Dual specificity phosphatase 26 (putative)
B05	Mm.196295	NM_028207	Dusp3	Dual specificity phosphatase 3 (vaccinia virus phosphatase VH1-related)
B06	Mm.170276	NM_176933	Dusp4	Dual specificity phosphatase 4
B07	Mm.482424	NM_001085390	Dusp5	Dual specificity phosphatase 5
B08	Mm.1791	NM_026268	Dusp6	Dual specificity phosphatase 6
B09	Mm.275584	NM_153459	Dusp7	Dual specificity phosphatase 7
B10	Mm.39725	NM_008748	Dusp8	Dual specificity phosphatase 8
B11	Mm.16479	NM_029352	Dusp9	Dual specificity phosphatase 9
B12	Mm.337240	NM_023343	Ilkap	Integrin-linked kinase-associated serine/threonine phosphatase 2C
C01	Mm.331489	NM_001033453	Pdp1	Pyruvate dehydrogenase phosphatase catalytic subunit 1
C02	Mm.24115	NM_133821	Phlpp1	PH domain and leucine rich repeat protein phosphatase 1
C03	Mm.296779	NM_011147	Ppef1	Protein phosphatase with EF hand calcium-binding domain 1
C04	Mm.261045	NM_008910	Ppm1a	Protein phosphatase 1A, magnesium dependent, alpha isoform
C05	Mm.249695	NM_011151	Ppm1b	Protein phosphatase 1B, magnesium dependent, beta isoform
C06	Mm.45609	NM_016910	Ppm1d	Protein phosphatase 1D magnesium-dependent, delta isoform
C07	Mm.230296	NM_176833	Ppm1f	Protein phosphatase 1F (PP2C domain containing)
C08	Mm.14501	NM_008014	Ppm1g	Protein phosphatase 1G (formerly 2C), magnesium-dependent, gamma isoform
C09	Mm.1970	NM_031868	Ppp1ca	Protein phosphatase 1, catalytic subunit, alpha isoform
C10	Mm.241931	NM_172707	Ppp1cb	Protein phosphatase 1, catalytic subunit, beta isoform
C11	Mm.260288	NM_019411	Ppp2ca	Protein phosphatase 2 (formerly 2A), catalytic subunit, alpha isoform
C12	Mm.288765	NM_017374	Ppp2cb	Protein phosphatase 2 (formerly 2A), catalytic subunit, beta isoform
D01	Mm.331389	NM_008913	Ppp3ca	Protein phosphatase 3, catalytic subunit, alpha isoform
D02	Mm.274432	NM_008914	Ppp3cb	Protein phosphatase 3, catalytic subunit, beta isoform
D03	Mm.439683	NM_008915	Ppp3cc	Protein phosphatase 3, catalytic subunit, gamma isoform
D04	Mm.41998	NM_019674	Ppp4c	Protein phosphatase 4, catalytic subunit
D05	Mm.3294	NM_011155	Ppp5c	Protein phosphatase 5, catalytic subunit
D06	Mm.245395	NM_008960	Pten	Phosphatase and tensin homolog
D07	Mm.374437	NM_011200	Ptp4a1	Protein tyrosine phosphatase 4a1
D08	Mm.193688	NM_008974	Ptp4a2	Protein tyrosine phosphatase 4a2
D09	Mm.390807	NM_008975	Ptp4a3	Protein tyrosine phosphatase 4a3

Position	UniGene	GenBank	Symbol	Description
D10	Mm.241205	NM_013935	Ptpla	Protein tyrosine phosphatase-like (proline instead of catalytic arginine), member a
D11	Mm.277916	NM_011201	Ptfn1	Protein tyrosine phosphatase, non-receptor type 1
D12	Mm.8681	NM_011202	Ptfn11	Protein tyrosine phosphatase, non-receptor type 11
E01	Mm.319117	NM_011203	Ptfn12	Protein tyrosine phosphatase, non-receptor type 12
E02	Mm.3414	NM_011204	Ptfn13	Protein tyrosine phosphatase, non-receptor type 13
E03	Mm.4498	NM_008976	Ptfn14	Protein tyrosine phosphatase, non-receptor type 14
E04	Mm.260433	NM_008977	Ptfn2	Protein tyrosine phosphatase, non-receptor type 2
E05	Mm.4420	NM_011877	Ptfn21	Protein tyrosine phosphatase, non-receptor type 21
E06	Mm.395	NM_008979	Ptfn22	Protein tyrosine phosphatase, non-receptor type 22 (lymphoid)
E07	Mm.335477	NM_001081043	Ptfn23	Protein tyrosine phosphatase, non-receptor type 23
E08	Mm.246552	NM_011207	Ptfn3	Protein tyrosine phosphatase, non-receptor type 3
E09	Mm.458796	NM_019933	Ptfn4	Protein tyrosine phosphatase, non-receptor type 4
E10	Mm.4654	NM_013643	Ptfn5	Protein tyrosine phosphatase, non-receptor type 5
E11	Mm.271799	NM_013545	Ptfn6	Protein tyrosine phosphatase, non-receptor type 6
E12	Mm.258388	NM_177081	Ptfn7	Protein tyrosine phosphatase, non-receptor type 7
F01	Mm.325643	NM_019651	Ptfn9	Protein tyrosine phosphatase, non-receptor type 9
F02	Mm.224246	NM_008980	Ptpra	Protein tyrosine phosphatase, receptor type, A
F03	Mm.37213	NM_029928	Ptprb	Protein tyrosine phosphatase, receptor type, B
F04	Mm.391573	NM_011210	Ptprc	Protein tyrosine phosphatase, receptor type, C
F05	Mm.184021	NM_011211	Ptprd	Protein tyrosine phosphatase, receptor type, D
F06	Mm.945	NM_011212	Ptpre	Protein tyrosine phosphatase, receptor type, E
F07	Mm.29855	NM_011213	Ptprf	Protein tyrosine phosphatase, receptor type, F
F08	Mm.431266	NM_008981	Ptprg	Protein tyrosine phosphatase, receptor type, G
F09	Mm.188925	NM_207270	Ptprh	Protein tyrosine phosphatase, receptor type, H
F10	Mm.330393	NM_008982	Ptprj	Protein tyrosine phosphatase, receptor type, J
F11	Mm.332303	NM_008983	Ptprk	Protein tyrosine phosphatase, receptor type, K
F12	Mm.311809	NM_008984	Ptprm	Protein tyrosine phosphatase, receptor type, M
G01	Mm.2902	NM_008985	Ptprn	Protein tyrosine phosphatase, receptor type, N
G02	Mm.206054	NM_011215	Ptprn2	Protein tyrosine phosphatase, receptor type, N polypeptide 2
G03	Mm.186361	NM_011216	Ptpro	Protein tyrosine phosphatase, receptor type, O
G04	Mm.336316	NM_011217	Ptprp	Protein tyrosine phosphatase, receptor type, P
G05	Mm.258771	NM_011218	Ptprs	Protein tyrosine phosphatase, receptor type, S
G06	Mm.235807	NM_021464	Ptprt	Protein tyrosine phosphatase, receptor type, T
G07	Mm.4860	NM_011214	Ptpru	Protein tyrosine phosphatase, receptor type, U
G08	Mm.41639	NM_001081306	Ptprz1	Protein tyrosine phosphatase, receptor type Z, polypeptide 1
G09	Mm.389682	NM_198109	Ssh1	Slingshot homolog 1 (Drosophila)
G10	Mm.294770	NM_026899	Ssu72	Ssu72 RNA polymerase II CTD phosphatase homolog (yeast)
G11	Mm.29389	NM_153533	Tenc1	Tensin like C1 domain-containing phosphatase
G12	Mm.450553	NM_199257	Tple	Transmembrane phosphatase with tensin homology
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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