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

Rat Protein Phosphatases

Cat. no. 330231 PARN-045ZA

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 Rat 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	Dusp13
B	Dusp14	Dusp16	Dusp22	Dusp23	Dusp26	Dusp4	Dusp5	Dusp6	Dusp7	Dusp8	Dusp9	Ilkap
C	Pdp1	Pdp2	Phlpp1	Ppef1	Ppm1a	Ppm1b	Ppm1d	Ppm1f	Ppm1g	Ppm1l	Ppp1ca	Ppp1cb
D	Ppp2ca	Ppp2cb	Ppp3ca	Ppp3cb	Ppp3cc	Ppp4c	Ppp5c	Pten	Ptp4a1	Ptp4a2	Ptp4a3	Ptpn1
E	Ptpn11	Ptpn12	Ptpn13	Ptpn14	Ptpn2	Ptpn21	Ptpn22	Ptpn23	Ptpn3	Ptpn4	Ptpn5	Ptpn6
F	Ptpn7	Ptpn9	Ptpra	Ptprb	Ptprc	Ptprd	Ptpre	Ptprf	Ptprg	Ptprh	Ptprj	Ptprk
G	Ptprm	Ptprn	Ptprn2	Ptpro	Ptprq	Ptprr	Ptprt	Ptpru	Ptprz1	Ssu72	Tenc1	Tpte
H	Actb	B2m	Hprt1	Ldha	Rplp1	RGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Rn.108187	NM_021262	Acp1	Acid phosphatase 1, soluble
A02	Rn.9816	NM_016988	Acp2	Acid phosphatase 2, lysosomal
A03	Rn.147123	NM_001134856	Cdc14a	CDC14 cell division cycle 14 homolog A (S. cerevisiae)
A04	Rn.162177	NM_001108404	Cdc14b	CDC14 cell division cycle 14 homolog B (S. cerevisiae)
A05	Rn.11390	NM_133571	Cdc25a	Cell division cycle 25 homolog A (S. pombe)
A06	Rn.11312	NM_133572	Cdc25b	Cell division cycle 25 homolog B (S. pombe)
A07	Rn.162298	NM_001107396	Cdc25c	Cell division cycle 25 homolog C (S. pombe)
A08	Rn.107220	NM_001106028	Cdkn3	Cyclin-dependent kinase inhibitor 3
A09	Rn.98260	NM_053769	Dusp1	Dual specificity phosphatase 1
A10	Rn.163239	NM_001105734	Dusp10	Dual specificity phosphatase 10
A11	Rn.52231	NM_022248	Dusp12	Dual specificity phosphatase 12
A12	Rn.137327	NM_001007006	Dusp13	Dual specificity phosphatase 13
B01	Rn.25406	NM_001079893	Dusp14	Dual specificity phosphatase 14
B02	Rn.6369	NM_001106624	Dusp16	Dual specificity phosphatase 16
B03	Rn.162221	NM_001108412	Dusp22	Dual specificity phosphatase 22
B04	Rn.198960	XM_341156	Dusp23	Dual specificity phosphatase 23
B05	Rn.22231	NM_001012352	Dusp26	Dual specificity phosphatase 26 (putative)
B06	Rn.44407	NM_022199	Dusp4	Dual specificity phosphatase 4
B07	Rn.10877	NM_133578	Dusp5	Dual specificity phosphatase 5
B08	Rn.4313	NM_053883	Dusp6	Dual specificity phosphatase 6
B09	Rn.104502	XM_238551	Dusp7	Dual specificity phosphatase 7
B10	Rn.219421	NM_001108510	Dusp8	Dual specificity phosphatase 8
B11	Rn.100548	NM_001037973	Dusp9	Dual specificity phosphatase 9
B12	Rn.6446	NM_022606	Ilkap	Integrin-linked kinase-associated serine/threonine phosphatase 2C
C01	Rn.31799	NM_019372	Pdp1	Pyruvate dehyrogenase phosphatase catalytic subunit 1
C02	Rn.220381	NM_145091	Pdp2	Pyruvate dehyrogenase phosphatase catalytic subunit 2
C03	Rn.163214	NM_021657	Phlpp1	PH domain and leucine rich repeat protein phosphatase 1
C04	Rn.103108	NM_001034935	Ppef1	Protein phosphatase, EF-hand calcium binding domain 1
C05	Rn.37403	NM_017038	Ppm1a	Protein phosphatase 1A, magnesium dependent, alpha isoform
C06	Rn.4143	NM_033096	Ppm1b	Protein phosphatase 1B, magnesium dependent, beta isoform
C07	Rn.15540	NM_001105825	Ppm1d	Protein phosphatase 1D magnesium-dependent, delta isoform
C08	Rn.91922	NM_175755	Ppm1f	Protein phosphatase 1F (PP2C domain containing)
C09	Rn.16969	NM_147209	Ppm1g	Protein phosphatase 1G (formerly 2C), magnesium-dependent, gamma isoform
C10	Rn.133275	NM_001107681	Ppm1l	Protein phosphatase 1 (formerly 2C)-like
C11	Rn.2024	NM_031527	Ppp1ca	Protein phosphatase 1, catalytic subunit, alpha isoform
C12	Rn.39034	NM_013065	Ppp1cb	Protein phosphatase 1, catalytic subunit, beta isoform
D01	Rn.1271	NM_017039	Ppp2ca	Protein phosphatase 2, catalytic subunit, alpha isoform
D02	Rn.977	NM_017040	Ppp2cb	Protein phosphatase 2, catalytic subunit, beta isoform
D03	Rn.6866	NM_017041	Ppp3ca	Protein phosphatase 3, catalytic subunit, alpha isoform
D04	Rn.11063	NM_017042	Ppp3cb	Protein phosphatase 3, catalytic subunit, beta isoform
D05	Rn.22079	NM_134367	Ppp3cc	Protein phosphatase 3, catalytic subunit, gamma isoform
D06	Rn.9173	NM_134359	Ppp4c	Protein phosphatase 4, catalytic subunit
D07	Rn.6107	NM_031729	Ppp5c	Protein phosphatase 5, catalytic subunit
D08	Rn.22158	NM_031606	Pten	Phosphatase and tensin homolog
D09	Rn.9459	NM_031579	Ptp4a1	Protein tyrosine phosphatase type IVA, member 1

Position	UniGene	GenBank	Symbol	Description
D10	Rn.167750	NM_053475	Ptp4a2	Protein tyrosine phosphatase 4a2
D11	Rn.106043	NM_001114405	Ptp4a3	Protein tyrosine phosphatase type IVA, member 3
D12	Rn.11317	NM_012637	Ptpn1	Protein tyrosine phosphatase, non-receptor type 1
E01	Rn.98209	NM_013088	Ptpn11	Protein tyrosine phosphatase, non-receptor type 11
E02	Rn.10707	NM_057115	Ptpn12	Protein tyrosine phosphatase, non-receptor type 12
E03	Rn.35546	XM_213997	Ptpn13	Protein tyrosine phosphatase, non-receptor type 13
E04	Rn.61069	NM_001107200	Ptpn14	Protein tyrosine phosphatase, non-receptor type 14
E05	Rn.33497	NM_053990	Ptpn2	Protein tyrosine phosphatase, non-receptor type 2
E06	Rn.11310	NM_133545	Ptpn21	Protein tyrosine phosphatase, non-receptor type 21
E07	Rn.22891	NM_001106460	Ptpn22	Protein tyrosine phosphatase, non-receptor type 22 (lymphoid)
E08	Rn.54442	NM_057204	Ptpn23	Protein tyrosine phosphatase, non-receptor type 23
E09	Rn.22271	XM_001055793	Ptpn3	Protein tyrosine phosphatase, non-receptor type 3
E10	Rn.41717	NM_001100479	Ptpn4	Protein tyrosine phosphatase, non-receptor type 4
E11	Rn.10618	NM_019253	Ptpn5	Protein tyrosine phosphatase, non-receptor type 5
E12	Rn.18985	NM_053908	Ptpn6	Protein tyrosine phosphatase, non-receptor type 6
F01	Rn.10160	NM_145683	Ptpn7	Protein tyrosine phosphatase, non-receptor type 7
F02	Rn.163020	NM_001013040	Ptpn9	Protein tyrosine phosphatase, non-receptor type 9
F03	Rn.18043	NM_012763	Ptpra	Protein tyrosine phosphatase, receptor type, A
F04	Rn.198784	NM_001108095	Ptprb	Protein tyrosine phosphatase, receptor type, B
F05	Rn.90166	NM_001109887	Ptprc	Protein tyrosine phosphatase, receptor type, C
F06	Rn.91202	XM_001067936	Ptprd	Protein tyrosine phosphatase, receptor type, D
F07	Rn.107819	NM_053767	Ptpre	Protein tyrosine phosphatase, receptor type, E
F08	Rn.11386	NM_019249	Ptprf	Protein tyrosine phosphatase, receptor type, F
F09	Rn.87083	NM_134356	Ptprg	Protein tyrosine phosphatase, receptor type, G
F10	Rn.10285	XM_574357	Ptprh	Protein tyrosine phosphatase, receptor type, H
F11	Rn.10278	NM_017269	Ptprj	Protein tyrosine phosphatase, receptor type, J
F12	Rn.216454	NM_001029902	Ptprk	Protein tyrosine phosphatase, receptor type, K, extracellular region
G01	Rn.205336	NM_001168632	Ptprm	Protein tyrosine phosphatase, receptor type, M
G02	Rn.11097	NM_053881	Ptprn	Protein tyrosine phosphatase, receptor type, N
G03	Rn.11044	NM_031600	Ptprn2	Protein tyrosine phosphatase, receptor type, N polypeptide 2
G04	Rn.10163	NM_017336	Ptpro	Protein tyrosine phosphatase, receptor type, O
G05	Rn.30011	NM_022925	Ptprq	Protein tyrosine phosphatase, receptor type, Q
G06	Rn.6277	NM_053594	Ptprr	Protein tyrosine phosphatase, receptor type, R
G07	Rn.198665	NM_001108603	Ptprt	Protein tyrosine phosphatase, receptor type, T
G08	Rn.35625	XM_342930	Ptpru	Protein tyrosine phosphatase, receptor type, U
G09	Rn.10088	NM_013080	Ptprz1	Protein tyrosine phosphatase, receptor-type, Z polypeptide 1
G10	Rn.103950	NM_001025657	Ssu72	SSU72 RNA polymerase II CTD phosphatase homolog (S. cerevisiae)
G11	Rn.105953	NM_001108114	Tenc1	Tensin like C1 domain containing phosphatase (tensin 2)
G12	Rn.163336	NM_001108877	Tpte	Transmembrane phosphatase with tensin homology
H01	Rn.94978	NM_031144	Actb	Actin, beta
H02	Rn.1868	NM_012512	B2m	Beta-2 microglobulin
H03	Rn.47	NM_012583	Hprt1	Hypoxanthine phosphoribosyltransferase 1
H04	Rn.107896	NM_017025	Ldha	Lactate dehydrogenase A
H05	Rn.973	NM_001007604	Rplp1	Ribosomal protein, large, P1
H06	N/A	U26919	RGDC	Rat 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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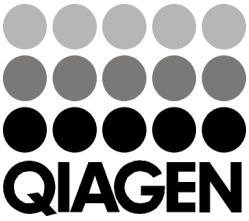

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