

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

Human Protein Phosphatases

Cat. no. 330231 PAHS-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™



Description

The Human 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	PTPLA	PTPN1	PTPN11
E	PTPN12	PTPN13	PTPN14	PTPN2	PTPN21	PTPN22	PTPN23	PTPN3	PTPN4	PTPN5	PTPN6	PTPN7
F	PTPN9	PTPRA	PTPRB	PTPRC	PTPRD	PTPRE	PTPRF	PTPRG	PTPRH	PTPRJ	PTPRK	PTPRM
G	PTPRN	PTPRN2	PTPRO	PTPRR	PTPRS	PTPRT	PTPRU	PTPRZ1	SSH1	SSU72	TENC1	TPTE
H	ACTB	B2M	GAPDH	HRPT1	RPLP0	HGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Hs.558296	NM_004300	ACP1	Acid phosphatase 1, soluble
A02	Hs.532492	NM_001610	ACP2	Acid phosphatase 2, lysosomal
A03	Hs.127411	NM_003672	CDC14A	CDC14 cell division cycle 14 homolog A (<i>S. cerevisiae</i>)
A04	Hs.40582	NM_003671	CDC14B	CDC14 cell division cycle 14 homolog B (<i>S. cerevisiae</i>)
A05	Hs.437705	NM_001789	CDC25A	Cell division cycle 25 homolog A (<i>S. pombe</i>)
A06	Hs.153752	NM_004358	CDC25B	Cell division cycle 25 homolog B (<i>S. pombe</i>)
A07	Hs.656	NM_001790	CDC25C	Cell division cycle 25 homolog C (<i>S. pombe</i>)
A08	Hs.84113	NM_005192	CDKN3	Cyclin-dependent kinase inhibitor 3
A09	Hs.171695	NM_004417	DUSP1	Dual specificity phosphatase 1
A10	Hs.497822	NM_007207	DUSP10	Dual specificity phosphatase 10
A11	Hs.416216	NM_007240	DUSP12	Dual specificity phosphatase 12
A12	Hs.91448	NM_007026	DUSP14	Dual specificity phosphatase 14
B01	Hs.536535	NM_030640	DUSP16	Dual specificity phosphatase 16
B02	Hs.29106	NM_020185	DUSP22	Dual specificity phosphatase 22
B03	Hs.425801	NM_017823	DUSP23	Dual specificity phosphatase 23
B04	Hs.8719	NM_024025	DUSP26	Dual specificity phosphatase 26 (putative)
B05	Hs.181046	NM_004090	DUSP3	Dual specificity phosphatase 3
B06	Hs.417962	NM_057158	DUSP4	Dual specificity phosphatase 4
B07	Hs.2128	NM_004419	DUSP5	Dual specificity phosphatase 5
B08	Hs.298654	NM_001946	DUSP6	Dual specificity phosphatase 6
B09	Hs.591664	NM_001947	DUSP7	Dual specificity phosphatase 7
B10	Hs.41688	NM_004420	DUSP8	Dual specificity phosphatase 8
B11	Hs.144879	NM_001395	DUSP9	Dual specificity phosphatase 9
B12	Hs.92033	NM_030768	ILKAP	Integrin-linked kinase-associated serine/threonine phosphatase
C01	Hs.22265	NM_018444	PDP1	Pyruvate dehydrogenase phosphatase catalytic subunit 1
C02	Hs.465337	NM_194449	PHLPP1	PH domain and leucine rich repeat protein phosphatase 1
C03	Hs.211589	NM_006240	PPEF1	Protein phosphatase, EF-hand calcium binding domain 1
C04	Hs.130036	NM_177952	PPM1A	Protein phosphatase, Mg ²⁺ /Mn ²⁺ dependent, 1A
C05	Hs.416769	NM_177969	PPM1B	Protein phosphatase, Mg ²⁺ /Mn ²⁺ dependent, 1B
C06	Hs.591184	NM_003620	PPM1D	Protein phosphatase, Mg ²⁺ /Mn ²⁺ dependent, 1D
C07	Hs.112728	NM_014634	PPM1F	Protein phosphatase, Mg ²⁺ /Mn ²⁺ dependent, 1F
C08	Hs.643951	NM_177983	PPM1G	Protein phosphatase, Mg ²⁺ /Mn ²⁺ dependent, 1G
C09	Hs.183994	NM_002708	PPP1CA	Protein phosphatase 1, catalytic subunit, alpha isozyme
C10	Hs.591571	NM_002709	PPP1CB	Protein phosphatase 1, catalytic subunit, beta isozyme
C11	Hs.483408	NM_002715	PPP2CA	Protein phosphatase 2, catalytic subunit, alpha isozyme
C12	Hs.491440	NM_001009552	PPP2CB	Protein phosphatase 2, catalytic subunit, beta isozyme
D01	Hs.435512	NM_000944	PPP3CA	Protein phosphatase 3, catalytic subunit, alpha isozyme
D02	Hs.500067	NM_021132	PPP3CB	Protein phosphatase 3, catalytic subunit, beta isozyme
D03	Hs.728861	NM_005605	PPP3CC	Protein phosphatase 3, catalytic subunit, gamma isozyme
D04	Hs.534338	NM_002720	PPP4C	Protein phosphatase 4, catalytic subunit
D05	Hs.654604	NM_006247	PPP5C	Protein phosphatase 5, catalytic subunit
D06	Hs.500466	NM_000314	PTEN	Phosphatase and tensin homolog
D07	Hs.227777	NM_003463	PTP4A1	Protein tyrosine phosphatase type IVA, member 1
D08	Hs.470477	NM_080391	PTP4A2	Protein tyrosine phosphatase type IVA, member 2
D09	Hs.43666	NM_007079	PTP4A3	Protein tyrosine phosphatase type IVA, member 3

Position	UniGene	GenBank	Symbol	Description
D10	Hs.114062	NM_014241	PTPLA	Protein tyrosine phosphatase-like (proline instead of catalytic arginine), member a
D11	Hs.417549	NM_002827	PTPN1	Protein tyrosine phosphatase, non-receptor type 1
D12	Hs.506852	NM_002834	PTPN11	Protein tyrosine phosphatase, non-receptor type 11
E01	Hs.61812	NM_002835	PTPN12	Protein tyrosine phosphatase, non-receptor type 12
E02	Hs.436142	NM_006264	PTPN13	Protein tyrosine phosphatase, non-receptor type 13 (APO-1/CD95 (Fas)-associated phosphatase)
E03	Hs.696573	NM_005401	PTPN14	Protein tyrosine phosphatase, non-receptor type 14
E04	Hs.654527	NM_002828	PTPN2	Protein tyrosine phosphatase, non-receptor type 2
E05	Hs.437040	NM_007039	PTPN21	Protein tyrosine phosphatase, non-receptor type 21
E06	Hs.535276	NM_012411	PTPN22	Protein tyrosine phosphatase, non-receptor type 22 (lymphoid)
E07	Hs.25524	NM_015466	PTPN23	Protein tyrosine phosphatase, non-receptor type 23
E08	Hs.436429	NM_002829	PTPN3	Protein tyrosine phosphatase, non-receptor type 3
E09	Hs.469809	NM_002830	PTPN4	Protein tyrosine phosphatase, non-receptor type 4 (megakaryocyte)
E10	Hs.79092	NM_032781	PTPN5	Protein tyrosine phosphatase, non-receptor type 5 (striatum-enriched)
E11	Hs.63489	NM_002831	PTPN6	Protein tyrosine phosphatase, non-receptor type 6
E12	Hs.402773	NM_002832	PTPN7	Protein tyrosine phosphatase, non-receptor type 7
F01	Hs.445775	NM_002833	PTPN9	Protein tyrosine phosphatase, non-receptor type 9
F02	Hs.269577	NM_002836	PTPRA	Protein tyrosine phosphatase, receptor type, A
F03	Hs.434375	NM_002837	PTPRB	Protein tyrosine phosphatase, receptor type, B
F04	Hs.654514	NM_002838	PTPRC	Protein tyrosine phosphatase, receptor type, C
F05	Hs.446083	NM_002839	PTPRD	Protein tyrosine phosphatase, receptor type, D
F06	Hs.127022	NM_006504	PTPRE	Protein tyrosine phosphatase, receptor type, E
F07	Hs.272062	NM_002840	PTPRF	Protein tyrosine phosphatase, receptor type, F
F08	Hs.654488	NM_002841	PTPRG	Protein tyrosine phosphatase, receptor type, G
F09	Hs.179770	NM_002842	PTPRH	Protein tyrosine phosphatase, receptor type, H
F10	Hs.318547	NM_002843	PTPRJ	Protein tyrosine phosphatase, receptor type, J
F11	Hs.155919	NM_002844	PTPRK	Protein tyrosine phosphatase, receptor type, K
F12	Hs.49774	NM_002845	PTPRM	Protein tyrosine phosphatase, receptor type, M
G01	Hs.89655	NM_002846	PTPRN	Protein tyrosine phosphatase, receptor type, N
G02	Hs.490789	NM_002847	PTPRN2	Protein tyrosine phosphatase, receptor type, N polypeptide 2
G03	Hs.160871	NM_002848	PTPRO	Protein tyrosine phosphatase, receptor type, O
G04	Hs.506076	NM_002849	PTPRR	Protein tyrosine phosphatase, receptor type, R
G05	Hs.728875	NM_002850	PTPRS	Protein tyrosine phosphatase, receptor type, S
G06	Hs.526879	NM_007050	PTPRT	Protein tyrosine phosphatase, receptor type, T
G07	Hs.19718	NM_005704	PTPRU	Protein tyrosine phosphatase, receptor type, U
G08	Hs.489824	NM_002851	PTPRZ1	Protein tyrosine phosphatase, receptor-type, Z polypeptide 1
G09	Hs.199763	NM_018984	SSH1	Slingshot homolog 1 (Drosophila)
G10	Hs.30026	NM_014188	SSU72	SSU72 RNA polymerase II CTD phosphatase homolog (S. cerevisiae)
G11	Hs.6147	NM_198316	TENC1	Tensin like C1 domain containing phosphatase (tensin 2)
G12	Hs.122986	NM_199261	TPTE	Transmembrane phosphatase with tensin homology
H01	Hs.520640	NM_001101	ACTB	Actin, beta
H02	Hs.534255	NM_004048	B2M	Beta-2-microglobulin
H03	Hs.592355	NM_002046	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
H04	Hs.412707	NM_000194	HPRT1	Hypoxanthine phosphoribosyltransferase 1
H05	Hs.546285	NM_001002	RPLP0	Ribosomal protein, large, P0
H06	N/A	SA_00105	HGDC	Human 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.

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.

Trademarks: QIAGEN® (QIAGEN Group); Applied Biosystems®, ViiA™, StepOnePlus™, ROX™ (Applied Biosystems Corporation or its subsidiaries); Bio-Rad®, iCycler®, iQ™, MyiQ™, Chromo4™, CFX96™, DNA Engine Opticon®, CFX384™ (Bio-Rad Laboratories, Inc.); Stratagene®, Mx3005P®, Mx3000P®, Mx4000® (Stratagene); Eppendorf®, Mastercycler® (Eppendorf AG); Roche®, LightCycler® (Roche Group); Fluidigm® BioMark™ (Fluidigm Corporation); SYBR® (Molecular Probes, Inc.).

1066029 03/2011 © 2011 QIAGEN, all rights reserved.

www.qiagen.com

Canada ■ 800-572-9613

Ireland ■ 1800 555 049

Norway ■ 800-18859

China ■ 8621-3865-3865

Italy ■ 800-787980

Singapore ■ 1800-742-4368

Denmark ■ 80-885945

Japan ■ 03-6890-7300

Spain ■ 91-630-7050

Australia ■ 1-800-243-800

Finland ■ 0800-914416

Korea (South) ■ 080-000-7145

Sweden ■ 020-790282

Austria ■ 0800/281010

France ■ 01-60-920-930

Luxembourg ■ 8002 2076

Switzerland ■ 055-254-22-11

Belgium ■ 0800-79612

Germany ■ 02103-29-12000

Mexico ■ 01-800-7742-436

UK ■ 01293-422-911

Brazil ■ 0800-557779

Hong Kong ■ 800 933 965

The Netherlands ■ 0800 0229592

USA ■ 800-426-8157



Sample & Assay Technologies