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

Mouse Pain: Neuropathic & Inflammatory

Cat. no. 330231 PAMM-162ZA

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 Mouse Pain: Neuropathic & Inflammatory RT² Profiler PCR Array profiles the expression of 84 genes involved in the transduction, maintenance, and modulation of pain responses. Noxious environmental stimuli, tissue damage, and disease all evoke pain. Since it afflicts up to 20% of the population at any given time, pain provides both a massive therapeutic target and a route to understanding the molecular mechanisms of nervous system function. While neuropathic pain often results from damage to the peripheral (PNS) or central nervous system (CNS), peripheral tissue damage and/or inflammation generally initiates inflammatory pain. Neuropathic and inflammatory pain both cause activation of damage-sensing neurons (nociceptors) that innervate the skin, muscle and viscera and terminate in the laminae of the spinal cord dorsal horn. Nociceptors conduct information to the CNS via neurotransmission and action potentials generated by ion channel and purinergic, opioid, and cannabinoid receptors leading to second order neuron activation. Synaptic transmission via glutamate, serotonin, and dopamine systems then follows. The transduction by nociceptors can be modulated by mediators of inflammation released by infiltrating immune cells and damaged neurons. Excitability of spinal neurons is also modulated by activation of resident microglia that release growth factors (such as BDNF), chemokines, and cytokines. Endogenous opioid peptides and arachidonic acid metabolites acting through G-protein coupled receptors also modulate neuronal excitability. A number of these pathways are currently being evaluated as potential pharmacological targets for analgesic development for pain management. Using real time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes associated with neuropathic and inflammatory pain 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	Ace	Adora1	Adrb2	Alox5	Bdkrb1	Bdnf	Cacna1b	Calca	Cck	Cckbr	Ccl12	Ccr2
B	Cd200	Cd4	Chrna4	Cnr1	Cnr2	Comt	Csf1	Cx3cr1	Dbh	Edn1	Ednra	Faah
C	Gch1	Gdnf	Grin1	Grin2b	Grm1	Grm5	Htr1a	Htr2a	Il10	Il18	Il1a	Il1b
D	Il2	Il6	Itgam	Itgb2	Kcnip3	Kcnj6	Kcnq2	Kcnq3	Maob	Mapk1	Mapk14	Mapk3
E	Mapk8	Ngf	Ntrk1	Oprd1	Oprk1	Oprm1	P2rx3	P2rx4	P2rx7	P2ry1	Pdyn	Penk
F	Pla2g1b	Pnoc	Prok2	Ptger1	Ptger3	Ptger4	Ptges	Ptges2	Ptges3	Ptgs1	Ptgs2	Scn10a
G	Scn11a	Scn3a	Scn9a	Slc6a2	Tac1	Tacr1	Tlr2	Tlr4	Tnf	Trpa1	Trpv1	Trpv3
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.754	NM_009598	Ace	Angiotensin I converting enzyme (peptidyl-dipeptidase A) 1
A02	Mm.298908	NM_001008533	Adora1	Adenosine A1 receptor
A03	Mm.5598	NM_007420	Adrb2	Adrenergic receptor, beta 2
A04	Mm.41072	NM_009662	Alox5	Arachidonate 5-lipoxygenase
A05	Mm.377078	NM_007539	Bdkrb1	Bradykinin receptor, beta 1
A06	Mm.1442	NM_007540	Bdnf	Brain derived neurotrophic factor
A07	Mm.4424	NM_007579	Cacna1b	Calcium channel, voltage-dependent, N type, alpha 1B subunit
A08	Mm.4361	NM_007587	Calca	Calcitonin/calcitonin-related polypeptide, alpha
A09	Mm.2619	NM_031161	Cck	Cholecystokinin
A10	Mm.44513	NM_007627	Cckbr	Cholecystokinin B receptor
A11	Mm.867	NM_011331	Ccl12	Chemokine (C-C motif) ligand 12
A12	Mm.6272	NM_009915	Ccr2	Chemokine (C-C motif) receptor 2
B01	Mm.245851	NM_010818	Cd200	Cd200 antigen
B02	Mm.2209	NM_013488	Cd4	CD4 antigen
B03	Mm.252369	NM_015730	Chrna4	Cholinergic receptor, nicotinic, alpha polypeptide 4
B04	Mm.7992	NM_007726	Cnr1	Cannabinoid receptor 1 (brain)
B05	Mm.297251	NM_009924	Cnr2	Cannabinoid receptor 2 (macrophage)
B06	Mm.100940	NM_007744	Comt	Catechol-O-methyltransferase
B07	Mm.795	NM_007778	Csf1	Colony stimulating factor 1 (macrophage)
B08	Mm.44065	NM_009987	Cx3cr1	Chemokine (C-X3-C) receptor 1
B09	Mm.167781	NM_138942	Dbh	Dopamine beta hydroxylase
B10	Mm.14543	NM_010104	Edn1	Endothelin 1
B11	Mm.283168	NM_010332	Ednra	Endothelin receptor type A
B12	Mm.256025	NM_010173	Faah	Fatty acid amide hydrolase
C01	Mm.10651	NM_008102	Gch1	GTP cyclohydrolase 1
C02	Mm.4679	NM_010275	Gdnf	Glial cell line derived neurotrophic factor
C03	Mm.278672	NM_008169	Grin1	Glutamate receptor, ionotropic, NMDA1 (zeta 1)
C04	Mm.436649	NM_008171	Grin2b	Glutamate receptor, ionotropic, NMDA2B (epsilon 2)
C05	Mm.391904	NM_016976	Grm1	Glutamate receptor, metabotropic 1
C06	Mm.235018	NM_001081414	Grm5	Glutamate receptor, metabotropic 5
C07	Mm.4716	NM_008308	Htr1a	5-hydroxytryptamine (serotonin) receptor 1A
C08	Mm.214351	NM_172812	Htr2a	5-hydroxytryptamine (serotonin) receptor 2A
C09	Mm.874	NM_010548	Il10	Interleukin 10
C10	Mm.1410	NM_008360	Il18	Interleukin 18
C11	Mm.15534	NM_010554	Il1a	Interleukin 1 alpha
C12	Mm.222830	NM_008361	Il1b	Interleukin 1 beta
D01	Mm.14190	NM_008366	Il2	Interleukin 2
D02	Mm.1019	NM_031168	Il6	Interleukin 6
D03	Mm.262106	NM_008401	Itgam	Integrin alpha M
D04	Mm.1137	NM_008404	Itgb2	Integrin beta 2
D05	Mm.315292	NM_019789	Kcnip3	Kv channel interacting protein 3, calsenilin
D06	Mm.328720	NM_010606	Kcnj6	Potassium inwardly-rectifying channel, subfamily J, member 6
D07	Mm.40615	NM_010611	Kcnq2	Potassium voltage-gated channel, subfamily Q, member 2
D08	Mm.255585	NM_152923	Kcnq3	Potassium voltage-gated channel, subfamily Q, member 3
D09	Mm.241656	NM_172778	Maob	Monoamine oxidase B

Position	UniGene	GenBank	Symbol	Description
D10	Mm.196581	NM_011949	Mapk1	Mitogen-activated protein kinase 1
D11	Mm.311337	NM_011951	Mapk14	Mitogen-activated protein kinase 14
D12	Mm.8385	NM_011952	Mapk3	Mitogen-activated protein kinase 3
E01	Mm.21495	NM_016700	Mapk8	Mitogen-activated protein kinase 8
E02	Mm.1259	NM_013609	Ngf	Nerve growth factor
E03	Mm.80682	NM_001033124	Ntrk1	Neurotrophic tyrosine kinase, receptor, type 1
E04	Mm.5243	NM_013622	Oprd1	Opioid receptor, delta 1
E05	Mm.7977	NM_011011	Oprk1	Opioid receptor, kappa 1
E06	Mm.457998	NM_001039652	Oprm1	Opioid receptor, mu 1
E07	Mm.440375	NM_145526	P2rx3	Purinergic receptor P2X, ligand-gated ion channel, 3
E08	Mm.290884	NM_011026	P2rx4	Purinergic receptor P2X, ligand-gated ion channel 4
E09	Mm.42026	NM_011027	P2rx7	Purinergic receptor P2X, ligand-gated ion channel, 7
E10	Mm.281452	NM_008772	P2ry1	Purinergic receptor P2Y, G-protein coupled 1
E11	Mm.6239	NM_018863	Pdyn	Prodynorphin
E12	Mm.475097	NM_001002927	Penk	Preproenkephalin
F01	Mm.20190	NM_011107	Pla2g1b	Phospholipase A2, group IB, pancreas
F02	Mm.16347	NM_010932	Pnoc	Prepronociceptin
F03	Mm.87365	NM_015768	Prok2	Prokineticin 2
F04	Mm.347482	NM_013641	Ptger1	Prostaglandin E receptor 1 (subtype EP1)
F05	Mm.30424	NM_011196	Ptger3	Prostaglandin E receptor 3 (subtype EP3)
F06	Mm.18509	NM_008965	Ptger4	Prostaglandin E receptor 4 (subtype EP4)
F07	Mm.28768	NM_022415	Ptges	Prostaglandin E synthase
F08	Mm.28048	NM_133783	Ptges2	Prostaglandin E synthase 2
F09	Mm.305816	NM_019766	Ptges3	Prostaglandin E synthase 3 (cytosolic)
F10	Mm.275434	NM_008969	Ptgs1	Prostaglandin-endoperoxide synthase 1
F11	Mm.292547	NM_011198	Ptgs2	Prostaglandin-endoperoxide synthase 2
F12	Mm.247042	NM_009134	Scn10a	Sodium channel, voltage-gated, type X, alpha
G01	Mm.89981	NM_011887	Scn11a	Sodium channel, voltage-gated, type XI, alpha
G02	Mm.330256	NM_018732	Scn3a	Sodium channel, voltage-gated, type III, alpha
G03	Mm.440889	NM_018852	Scn9a	Sodium channel, voltage-gated, type IX, alpha
G04	Mm.57040	NM_009209	Slc6a2	Solute carrier family 6 (neurotransmitter transporter, noradrenalin), member 2
G05	Mm.1440	NM_009311	Tac1	Tachykinin 1
G06	Mm.8055	NM_009313	Tacr1	Tachykinin receptor 1
G07	Mm.87596	NM_011905	Tlr2	Toll-like receptor 2
G08	Mm.38049	NM_021297	Tlr4	Toll-like receptor 4
G09	Mm.1293	NM_013693	Tnf	Tumor necrosis factor
G10	Mm.186329	NM_177781	Trpa1	Transient receptor potential cation channel, subfamily A, member 1
G11	Mm.447485	NM_001001445	Trpv1	Transient receptor potential cation channel, subfamily V, member 1
G12	Mm.347652	NM_145099	Trpv3	Transient receptor potential cation channel, subfamily V, member 3
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.
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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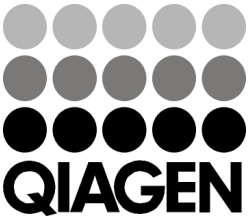

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