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

Rat Neuronal Ion Channels

Cat. no. 330231 PARN-036ZA

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 Neuronal Ion Channels RT² Profiler PCR Array was developed to profile expression of a panel of 84 genes encoding neuroscience-related ion channels and transporters. The genes represented on the array are listed below, grouped according to their functional and structural features. Included are calcium channels, potassium channels, sodium channels, chloride channels, and transporters. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to the neuronal ion channels and transporters 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	Accn1	Accn2	Accn3	Best1	Cacna1a	Cacna1b	Cacna1c	Cacna1d	Cacna1g	Cacna1i	Cacnb1	Cacnb2
B	Cacnb3	Cacng2	Cacng4	Clcn2	Clcn3	Clcn7	Hcn1	Hcn2	Kcna1	Kcna2	Kcna5	Kcna6
C	Kcnab1	Kcnab2	Kcnab3	Kcnb1	Kcnb2	Kcnc1	Kcnc2	Kcnd2	Kcnd3	Kcnh1	Kcnh2	Kcnh3
D	Kcnh6	Kcnh7	Kcnj1	Kcnj11	Kcnj12	Kcnj13	Kcnj14	Kcnj15	Kcnj16	Kcnj2	Kcnj3	Kcnj4
E	Kcnj5	Kcnj6	Kcnj9	Kcnk1	Kcnma1	Kcnmb4	Kcnn1	Kcnn2	Kcnn3	Kcnq1	Kcnq2	Kcnq3
F	Kcns1	Ryr3	Scn10a	Scn11a	Scn1a	Scn1b	Scn2a1	Scn2b	Scn3a	Scn8a	Scn9a	Slc12a5
G	Trpa1	Trpc1	Trpc3	Trpc6	Trpm1	Trpm2	Trpm6	Trpm8	Trpv1	Trpv2	Trpv3	Trpv4
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.37523	NM_012892	Accn1	Amiloride-sensitive cation channel 1, neuronal
A02	Rn.37385	NM_024154	Accn2	Amiloride-sensitive cation channel 2, neuronal
A03	Rn.24225	NM_173135	Accn3	Amiloride-sensitive cation channel 3
A04	Rn.136565	NM_001011940	Best1	Bestrophin 1
A05	Rn.87769	NM_012918	Cacna1a	Calcium channel, voltage-dependent, P/Q type, alpha 1A subunit
A06	Rn.85880	NM_147141	Cacna1b	Calcium channel, voltage-dependent, N type, alpha 1B subunit
A07	Rn.9827	NM_012517	Cacna1c	Calcium channel, voltage-dependent, L type, alpha 1C subunit
A08	Rn.89671	NM_017298	Cacna1d	Calcium channel, voltage-dependent, L type, alpha 1D subunit
A09	Rn.86960	NM_031601	Cacna1g	Calcium channel, voltage-dependent, T type, alpha 1G subunit
A10	Rn.48680	NM_020084	Cacna1i	Calcium channel, voltage-dependent, T type, alpha 1I subunit
A11	Rn.9417	NM_017346	Cacnb1	Calcium channel, voltage-dependent, beta 1 subunit
A12	Rn.10739	NM_053851	Cacnb2	Calcium channel, voltage-dependent, beta 2 subunit
B01	Rn.2808	NM_012828	Cacnb3	Calcium channel, voltage-dependent, beta 3 subunit
B02	Rn.72939	NM_053351	Cacng2	Calcium channel, voltage-dependent, gamma subunit 2
B03	Rn.162211	NM_080692	Cacng4	Calcium channel, voltage-dependent, gamma subunit 4
B04	Rn.11073	NM_017137	Clcn2	Chloride channel 2
B05	Rn.4175	NM_053363	Clcn3	Chloride channel 3
B06	Rn.10338	NM_031568	Clcn7	Chloride channel 7
B07	Rn.21408	NM_053375	Hcn1	Hyperpolarization-activated cyclic nucleotide-gated potassium channel 1
B08	Rn.162907	NM_053684	Hcn2	Hyperpolarization activated cyclic nucleotide-gated potassium channel 2
B09	Rn.9769	NM_173095	Kcna1	Potassium voltage-gated channel, shaker-related subfamily, member 1
B10	Rn.10298	NM_012970	Kcna2	Potassium voltage-gated channel, shaker-related subfamily, member 2
B11	Rn.162789	NM_012972	Kcna5	Potassium voltage-gated channel, shaker-related subfamily, member 5
B12	Rn.162791	NM_023954	Kcna6	Potassium voltage gated channel, shaker related subfamily, member 6
C01	Rn.32090	NM_017303	Kcnab1	Potassium voltage-gated channel, shaker-related subfamily, beta member 1
C02	Rn.10757	NM_017304	Kcnab2	Potassium voltage-gated channel, shaker-related subfamily, beta member 2
C03	Rn.11260	NM_031652	Kcnab3	Potassium voltage-gated channel, shaker-related subfamily, beta member 3
C04	Rn.26724	NM_013186	Kcnb1	Potassium voltage gated channel, Shab-related subfamily, member 1
C05	Rn.32101	NM_054000	Kcnb2	Potassium voltage gated channel, Shab-related subfamily, member 2
C06	Rn.33095	NM_012856	Kcnc1	Potassium voltage gated channel, Shaw-related subfamily, member 1
C07	Rn.9733	NM_139217	Kcnc2	Potassium voltage gated channel, Shaw-related subfamily, member 2
C08	Rn.87841	NM_031730	Kcnd2	Potassium voltage-gated channel, Shal-related subfamily, member 2
C09	Rn.10540	NM_031739	Kcnd3	Potassium voltage-gated channel, Shal-related subfamily, member 3
C10	Rn.11071	NM_031742	Kcnh1	Potassium voltage-gated channel, subfamily H (eag-related), member 1
C11	Rn.10970	NM_053949	Kcnh2	Potassium voltage-gated channel, subfamily H (eag-related), member 2
C12	Rn.144567	NM_017108	Kcnh3	Potassium voltage-gated channel, subfamily H (eag-related), member 3
D01	Rn.10875	NM_053937	Kcnh6	Potassium voltage-gated channel, subfamily H (eag-related), member 6
D02	Rn.10874	NM_131912	Kcnh7	Potassium voltage-gated channel, subfamily H (eag-related), member 7
D03	Rn.22609	NM_017023	Kcnj1	Potassium inwardly-rectifying channel, subfamily J, member 1
D04	Rn.3985	NM_031358	Kcnj11	Potassium inwardly rectifying channel, subfamily J, member 11
D05	Rn.10406	NM_053981	Kcnj12	Potassium inwardly-rectifying channel, subfamily J, member 12
D06	Rn.14516	NM_053608	Kcnj13	Potassium inwardly-rectifying channel, subfamily J, member 13
D07	Rn.154434	NM_170718	Kcnj14	Potassium inwardly-rectifying channel, subfamily J, member 14
D08	Rn.81018	NM_133321	Kcnj15	Potassium inwardly-rectifying channel, subfamily J, member 15
D09	Rn.1989	NM_053314	Kcnj16	Potassium inwardly-rectifying channel, subfamily J, member 16

Position	UniGene	GenBank	Symbol	Description
D10	Rn.44415	NM_017296	Kcnj2	Potassium inwardly-rectifying channel, subfamily J, member 2
D11	Rn.9809	NM_031610	Kcnj3	Potassium inwardly-rectifying channel, subfamily J, member 3
D12	Rn.10197	NM_053870	Kcnj4	Potassium inwardly-rectifying channel, subfamily J, member 4
E01	Rn.10047	NM_017297	Kcnj5	Potassium inwardly-rectifying channel, subfamily J, member 5
E02	Rn.10185	NM_013192	Kcnj6	Potassium inwardly-rectifying channel, subfamily J, member 6
E03	Rn.10274	NM_053834	Kcnj9	Potassium inwardly-rectifying channel, subfamily J, member 9
E04	Rn.15693	NM_021688	Kcnk1	Potassium channel, subfamily K, member 1
E05	Rn.30616	NM_031828	Kcnma1	Potassium large conductance calcium-activated channel, subfamily M, alpha member 1
E06	Rn.162953	NM_023960	Kcnmb4	Potassium large conductance calcium-activated channel, subfamily M, beta member 4
E07	Rn.44422	NM_019313	Kcnn1	Potassium intermediate/small conductance calcium-activated channel, subfamily N, member 1
E08	Rn.44421	NM_019314	Kcnn2	Potassium intermediate/small conductance calcium-activated channel, subfamily N, member 2
E09	Rn.10840	NM_019315	Kcnn3	Potassium intermediate/small conductance calcium-activated channel, subfamily N, member 3
E10	Rn.9779	NM_032073	Kcnq1	Potassium voltage-gated channel, KQT-like subfamily, member 1
E11	Rn.33317	NM_133322	Kcnq2	Potassium voltage-gated channel, KQT-like subfamily, member 2
E12	Rn.205060	NM_031597	Kcnq3	Potassium voltage-gated channel, KQT-like subfamily, member 3
F01	Rn.30012	NM_053954	Kcns1	Potassium voltage-gated channel, delayed-rectifier, subfamily S, member 1
F02	Rn.20282	XM_342491	Ryr3	Ryanodine receptor 3
F03	Rn.10246	NM_017247	Scn10a	Sodium channel, voltage-gated, type X, alpha subunit
F04	Rn.30023	NM_019265	Scn11a	Sodium channel, voltage-gated, type XI, alpha
F05	Rn.32079	NM_030875	Scn1a	Sodium channel, voltage-gated, type I, alpha
F06	Rn.4958	NM_017288	Scn1b	Sodium channel, voltage-gated, type I, beta
F07	Rn.89192	NM_012647	Scn2a1	Sodium channel, voltage-gated, type II, alpha 1
F08	Rn.88636	NM_012877	Scn2b	Sodium channel, voltage-gated, type II, beta
F09	Rn.87394	NM_013119	Scn3a	Sodium channel, voltage-gated, type III, alpha
F10	Rn.91216	NM_019266	Scn8a	Sodium channel, voltage gated, type VIII, alpha subunit
F11	Rn.88082	NM_133289	Scn9a	Sodium channel, voltage-gated, type IX, alpha
F12	Rn.10513	NM_134363	Slc12a5	Solute carrier family 12 (potassium-chloride transporter), member 5
G01	Rn.105247	NM_207608	Trpa1	Transient receptor potential cation channel, subfamily A, member 1
G02	Rn.88592	NM_053558	Trpc1	Transient receptor potential cation channel, subfamily C, member 1
G03	Rn.45385	NM_021771	Trpc3	Transient receptor potential cation channel, subfamily C, member 3
G04	Rn.105986	NM_053559	Trpc6	Transient receptor potential cation channel, subfamily C, member 6
G05	Rn.211311	NM_001037733	Trpm1	Transient receptor potential cation channel, subfamily M, member 1
G06	Rn.214495	NM_001011559	Trpm2	Transient receptor potential cation channel, subfamily M, member 2
G07	Rn.104760	XM_219747	Trpm6	Transient receptor potential cation channel, subfamily M, member 6
G08	Rn.81225	NM_134371	Trpm8	Transient receptor potential cation channel, subfamily M, member 8
G09	Rn.3073	NM_031982	Trpv1	Transient receptor potential cation channel, subfamily V, member 1
G10	Rn.206528	NM_017207	Trpv2	Transient receptor potential cation channel, subfamily V, member 2
G11	Rn.163151	NM_001025757	Trpv3	Transient receptor potential cation channel, subfamily V, member 3
G12	Rn.64508	NM_023970	Trpv4	Transient receptor potential cation channel, subfamily V, member 4
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.

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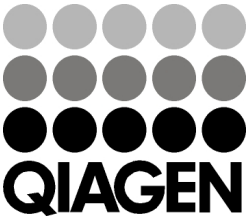

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