

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

Rat MAP Kinase Signaling Pathway

Cat. no. 330231 PARN-061ZA

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 Rat MAP Kinase Signaling Pathway RT² Profiler PCR Array profiles the expression of 84 genes related to the MAP kinase (MAPK) signaling pathway. Members of the MKKK, MKK, and MAPK families are represented on this array. Transcription factors and genes whose expression is induced by MAP kinase signaling are included as well. Raf regulating proteins and MEKK1 interacting proteins are found on this array along with cell cycle proteins regulated by the Erk1/2 pathway. Genes related to scaffolding and anchoring are also included. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to the MAPK signaling pathway 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	Araf	Ahf2	Ccna1	Ccna2	Ccnb1	Ccnb2	Ccnd1	Ccnd2	Ccnd3	Ccne1	Cdc42	Cdk2
B	Cdk4	Cdk6	Cdkn1a	Cdkn1b	Cdkn1c	Cdkn2a	Cdkn2b	Cdkn2c	Cdkn2d	Chuk	Col1a1	Creb1
C	Crebbp	Dlk1	E2f1	Egfr	Egr1	Ets1	Ets2	Fos	Grb2	Hras	Hspa5	Hspb1
D	Jun	Kcnh8	Kcnn1	Kras	Ksr1	Map2k1	Map2k1ip1	Map2k2	Map2k3	Map2k4	Map2k5	Map2k6
E	Map2k7	Map3k1	Map3k2	Map3k3	Map3k4	Map4k1	Mapk1	Mapk10	Mapk11	Mapk12	Mapk13	Mapk14
F	Mapk3	Mapk6	Mapk7	Mapk8	Mapk8ip1	Mapk8ip2	Mapk8ip3	Mapk9	Mapkapk2	Mapkapk5	Max	Met2c
G	Mknk1	Mos	Myc	Nfatc4	Nras	Pak1	Rac1	Raf1	Rb1	Sfn	Smad4	Tp53
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.1714	NM_022532	Araf	V-raf murine sarcoma 3611 viral oncogene homolog
A02	Rn.9825	NM_031018	Ahf2	Activating transcription factor 2
A03	Rn.102823	NM_001011949	Ccna1	Cyclin A1
A04	Rn.13094	NM_053702	Ccna2	Cyclin A2
A05	Rn.9232	NM_171991	Ccnb1	Cyclin B1
A06	Rn.6743	NM_001009470	Ccnb2	Cyclin B2
A07	Rn.22279	NM_171992	Ccnd1	Cyclin D1
A08	Rn.96083	NM_022267	Ccnd2	Cyclin D2
A09	Rn.3483	NM_012766	Ccnd3	Cyclin D3
A10	Rn.15455	NM_001100821	Ccne1	Cyclin E1
A11	Rn.60067	NM_171994	Cdc42	Cell division cycle 42 (GTP binding protein)
A12	Rn.104460	NM_199501	Cdk2	Cyclin dependent kinase 2
B01	Rn.6115	NM_053593	Cdk4	Cyclin-dependent kinase 4
B02	Rn.162731	XM_342638	Cdk6	Cyclin-dependent kinase 6
B03	Rn.10089	NM_080782	Cdkn1a	Cyclin-dependent kinase inhibitor 1A
B04	Rn.29897	NM_031762	Cdkn1b	Cyclin-dependent kinase inhibitor 1B
B05	Rn.162507	NM_182735	Cdkn1c	Cyclin-dependent kinase inhibitor 1C
B06	Rn.48717	NM_031550	Cdkn2a	Cyclin-dependent kinase inhibitor 2A
B07	Rn.105626	NM_130812	Cdkn2b	Cyclin-dependent kinase inhibitor 2B (p15, inhibits CDK4)
B08	Rn.63865	NM_131902	Cdkn2c	Cyclin-dependent kinase inhibitor 2C (p18, inhibits CDK4)
B09	Rn.185816	NM_001009719	Cdkn2d	Similar to cyclin-dependent kinase inhibitor 2D
B10	Rn.23019	NM_001107588	Chuk	Conserved helix-loop-helix ubiquitous kinase
B11	Rn.2953	NM_053304	Col1a1	Collagen, type I, alpha 1
B12	Rn.90061	NM_031017	Creb1	CAMP responsive element binding protein 1
C01	Rn.108128	NM_133381	Crebbp	CREB binding protein
C02	Rn.14547	NM_053744	Dlk1	Delta-like 1 homolog (Drosophila)
C03	Rn.72471	NM_001100778	E2f1	E2F transcription factor 1
C04	Rn.37227	NM_031507	Egfr	Epidermal growth factor receptor
C05	Rn.9096	NM_012551	Egr1	Early growth response 1
C06	Rn.88756	NM_012555	Ets1	V-ets erythroblastosis virus E26 oncogene homolog 1 (avian)
C07	Rn.164554	NM_001107107	Ets2	V-ets erythroblastosis virus E26 oncogene homolog 2 (avian)
C08	Rn.103750	NM_022197	Fos	FBJ osteosarcoma oncogene
C09	Rn.3360	NM_030846	Grb2	Growth factor receptor bound protein 2
C10	Rn.102180	NM_001098241	Hras	Harvey rat sarcoma virus oncogene
C11	Rn.11088	NM_013083	Hspa5	Heat shock protein 5
C12	Rn.3841	NM_031970	Hspb1	Heat shock protein 1
D01	Rn.93714	NM_021835	Jun	Jun oncogene
D02	Rn.30029	NM_145095	Kcnh8	Potassium voltage-gated channel, subfamily H (eag-related), member 8
D03	Rn.44422	NM_019313	Kcnn1	Potassium intermediate/small conductance calcium-activated channel, subfamily N, member 1
D04	Rn.24554	NM_031515	Kras	V-Ki-ras2 Kirsten rat sarcoma viral oncogene homolog
D05	Rn.179021	NM_001108284	Ksr1	Kinase suppressor of ras 1
D06	Rn.5850	NM_031643	Map2k1	Mitogen activated protein kinase kinase 1
D07	Rn.1123	NM_001008375	Map2k1ip1	Mitogen-activated protein kinase kinase 1 interacting protein 1
D08	Rn.82693	NM_133283	Map2k2	Mitogen activated protein kinase kinase 2

Position	UniGene	GenBank	Symbol	Description
D09	Rn.100064	NM_001100674	Map2k3	Mitogen activated protein kinase kinase 3
D10	Rn.198875	NM_001030023	Map2k4	Mitogen activated protein kinase kinase 4
D11	Rn.11054	NM_017246	Map2k5	Mitogen activated protein kinase kinase 5
D12	Rn.17256	NM_053703	Map2k6	Mitogen-activated protein kinase kinase 6
E01	Rn.162081	NM_001025425	Map2k7	Mitogen activated protein kinase kinase 7
E02	Rn.11081	NM_053887	Map3k1	Mitogen activated protein kinase kinase kinase 1
E03	Rn.213212	NM_138503	Map3k2	Mitogen activated protein kinase kinase kinase 2
E04	Rn.72680	NM_001107058	Map3k3	Mitogen activated protein kinase kinase kinase 3
E05	Rn.66100	NM_001107456	Map3k4	Mitogen activated protein kinase kinase kinase 4
E06	Rn.137063	NM_001106243	Map4k1	Mitogen activated protein kinase kinase kinase kinase 1
E07	Rn.34914	NM_053842	Mapk1	Mitogen activated protein kinase 1
E08	Rn.9911	NM_012806	Mapk10	Mitogen activated protein kinase 10
E09	Rn.45869	NM_001109532	Mapk11	Mitogen-activated protein kinase 11
E10	Rn.162968	NM_021746	Mapk12	Mitogen-activated protein kinase 12
E11	Rn.207195	NM_019231	Mapk13	Mitogen activated protein kinase 13
E12	Rn.88085	NM_031020	Mapk14	Mitogen activated protein kinase 14
F01	Rn.2592	NM_017347	Mapk3	Mitogen activated protein kinase 3
F02	Rn.88457	NM_031622	Mapk6	Mitogen-activated protein kinase 6
F03	Rn.221942	NM_001191547	Mapk7	Mitogen-activated protein kinase 7
F04	Rn.4090	XM_341399	Mapk8	Mitogen-activated protein kinase 8
F05	Rn.44266	NM_053777	Mapk8ip1	Mitogen-activated protein kinase 8 interacting protein 1
F06	Rn.91464	XM_235565	Mapk8ip2	Mitogen-activated protein kinase 8 interacting protein 2
F07	Rn.16158	NM_001100673	Mapk8ip3	Mitogen-activated protein kinase 8 interacting protein 3
F08	Rn.9910	NM_017322	Mapk9	Mitogen-activated protein kinase 9
F09	Rn.6276	NM_178102	Mapkapk2	Mitogen-activated protein kinase-activated protein kinase 2
F10	Rn.17463	NM_001025761	Mapkapk5	Mitogen-activated protein kinase-activated protein kinase 5
F11	Rn.4210	NM_022210	Max	MYC associated factor X
F12	Rn.2477	XM_574821	Mef2c	Myocyte enhancer factor 2C
G01	Rn.7910	NM_001044267	Mknk1	MAP kinase-interacting serine/threonine kinase 1
G02	Rn.10341	NM_020102	Mos	Maloney sarcoma oncogene
G03	Rn.12072	NM_012603	Myc	Myelocytomatosis oncogene
G04	Rn.23727	NM_001107264	Nfatc4	Nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 4
G05	Rn.217722	NM_080766	Nras	Neuroblastoma ras oncogene
G06	Rn.9149	NM_017198	Pak1	P21 protein (Cdc42/Rac)-activated kinase 1
G07	Rn.29157	NM_134366	Rac1	Ras-related C3 botulinum toxin substrate 1
G08	Rn.33262	NM_012639	Raf1	V-raf-leukemia viral oncogene 1
G09	Rn.55115	NM_017045	Rb1	Retinoblastoma 1
G10	Rn.145079	XM_232745	Sfn	Stratifin
G11	Rn.9774	NM_019275	Smad4	SMAD family member 4
G12	Rn.54443	NM_030989	Tp53	Tumor protein p53
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.
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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