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

Rat NFkB Signaling Targets

Cat. no. 330231 PARN-225ZA

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 NFκB Signaling Targets RT² Profiler PCR Array profiles the expression of 84 key genes responsive to NFκB signal transduction. The NFκB family of transcription factors regulates multiple cellular processes including inflammation, immunity, and stress responses. The IκB family of inhibitors sequesters these transcription factors in the cytosol. A variety of ligands such as inflammatory cytokines, growth factors, and antigens from pathogens, activate the NFκB pathway, stimulating IκB protein phosphorylation and subsequent degradation. Newly released NFκB transcription factors form active complexes and translocate into the nucleus to induce expression of their target genes. Dysregulation of this signal transduction pathway has been associated with inflammatory or autoimmune diseases. Hundreds of NFκB target genes have been identified using experimental techniques such as expression studies and chromatin immunoprecipitation (ChIP) as well as bioinformatic analyses of predicted transcription factor binding sites. This array includes NFκB transcription factors and highly relevant target genes identified by multiple studies. Results obtained with this array can be used to analyze activation or inhibition of NFκB signaling. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in NFκB-related cellular processes 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	Adm	Agt	Akt1	Aldh3a2	Bcl2a1d	Bcl2l1	Birc2	Birc3	C3	C4b	Ccl11	Ccl12
B	Ccl22	Ccl5	Ccnd1	Ccr5	Cd40	Cd74	Cd80	Cd83	Cdkn1a	Cfb	Csf1	Csf2
C	Csf2rb	Csf3	Cxcl1	Cxcl10	Cxcl3	Cxcl9	Egfr	Egr2	F3	F8	Fas	Faslg
D	Gadd45b	Icam1	Ifnb1	Ifng	Il12b	Il15	Il1a	Il1b	Il1r2	Il1rn	Il2	Il2ra
E	Il4	Il6	Ins2	Irf1	Lta	Ltb	Map2k6	Mitf	Mmp9	Myc	Myd88	Ncoa3
F	Nfkb1	Nfkb2	Nfkbia	Nqo1	Nr4a2	Pdgfb	Plau	Ptgs2	Rel	Rela	Sele	Selp
G	Snap25	Sod2	Stat1	Stat3	Stat5b	Tnf	Tnfrsf1b	Tnfsf10	Tp53	Traf2	Vcam1	Xiap
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.10232	NM_012715	Adm	Adrenomedullin
A02	Rn.6319	NM_134432	Agt	Angiotensinogen (serpin peptidase inhibitor, clade A, member 8)
A03	Rn.11422	NM_033230	Akt1	V-akt murine thymoma viral oncogene homolog 1
A04	Rn.9113	NM_031731	Aldh3a2	Aldehyde dehydrogenase 3 family, member A2
A05	Rn.19770	NM_133416	Bcl2a1d	B-cell leukemia/lymphoma 2 related protein A1d
A06	Rn.10323	NM_031535	Bcl2l1	Bcl2-like 1
A07	Rn.205955	NM_021752	Birc2	Baculoviral IAP repeat-containing 2
A08	Rn.64578	NM_023987	Birc3	Baculoviral IAP repeat-containing 3
A09	Rn.11378	NM_016994	C3	Complement component 3
A10	Rn.81052	NM_031504	C4b	Complement component 4B (Chido blood group)
A11	Rn.10632	NM_019205	Ccl11	Chemokine (C-C motif) ligand 11
A12	Rn.137780	NM_001105822	Ccl12	Chemokine (C-C motif) ligand 12
B01	Rn.48727	NM_057203	Ccl22	Chemokine (C-C motif) ligand 22
B02	Rn.8019	NM_031116	Ccl5	Chemokine (C-C motif) ligand 5
B03	Rn.22279	NM_171992	Ccnd1	Cyclin D1
B04	Rn.10736	NM_053960	Ccr5	Chemokine (C-C motif) receptor 5
B05	Rn.25180	NM_134360	Cd40	CD40 molecule, TNF receptor superfamily member 5
B06	Rn.33804	NM_013069	Cd74	Cd74 molecule, major histocompatibility complex, class II invariant chain
B07	Rn.10138	NM_012926	Cd80	Cd80 molecule
B08	Rn.20096	NM_001108410	Cd83	CD83 molecule
B09	Rn.10089	NM_080782	Cdkn1a	Cyclin-dependent kinase inhibitor 1A
B10	Rn.109148	NM_212466	Cfb	Complement factor B
B11	Rn.83632	NM_023981	Csf1	Colony stimulating factor 1 (macrophage)
B12	Rn.44285	XM_340799	Csf2	Colony stimulating factor 2 (granulocyte-macrophage)
C01	Rn.42930	NM_133555	Csf2rb	Colony stimulating factor 2 receptor, beta, low-affinity (granulocyte-macrophage)
C02	Rn.53973	NM_017104	Csf3	Colony stimulating factor 3 (granulocyte)
C03	Rn.10907	NM_030845	Cxcl1	Chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha)
C04	Rn.10584	NM_139089	Cxcl10	Chemokine (C-X-C motif) ligand 10
C05	Rn.10525	NM_138522	Cxcl3	Chemokine (C-X-C motif) ligand 3
C06	Rn.7391	NM_145672	Cxcl9	Chemokine (C-X-C motif) ligand 9
C07	Rn.37227	NM_031507	Egfr	Epidermal growth factor receptor
C08	Rn.89235	NM_053633	Egr2	Early growth response 2
C09	Rn.9980	NM_013057	F3	Coagulation factor III (thromboplastin, tissue factor)
C10	Rn.95452	NM_183331	F8	Coagulation factor VIII, procoagulant component
C11	Rn.162521	NM_139194	Fas	Fas (TNF receptor superfamily, member 6)
C12	Rn.9725	NM_012908	Faslg	Fas ligand (TNF superfamily, member 6)
D01	Rn.35886	NM_001008321	Gadd45b	Growth arrest and DNA-damage-inducible, beta
D02	Rn.12	NM_012967	Icam1	Intercellular adhesion molecule 1
D03	Rn.138105	NM_019127	Ifnb1	Interferon beta 1, fibroblast
D04	Rn.10795	NM_138880	Ifng	Interferon gamma
D05	Rn.48686	NM_022611	Il12b	Interleukin 12b
D06	Rn.2490	NM_013129	Il15	Interleukin 15
D07	Rn.12300	NM_017019	Il1a	Interleukin 1 alpha
D08	Rn.9869	NM_031512	Il1b	Interleukin 1 beta
D09	Rn.10758	NM_053953	Il1r2	Interleukin 1 receptor, type II

Position	UniGene	GenBank	Symbol	Description
D10	Rn.162640	NM_022194	Il1rn	Interleukin 1 receptor antagonist
D11	Rn.9871	NM_053836	Il2	Interleukin 2
D12	Rn.9872	NM_013163	Il2ra	Interleukin 2 receptor, alpha
E01	Rn.108255	NM_201270	Il4	Interleukin 4
E02	Rn.9873	NM_012589	Il6	Interleukin 6
E03	Rn.989	NM_019130	Ins2	Insulin 2
E04	Rn.6396	NM_012591	Irf1	Interferon regulatory factor 1
E05	Rn.160577	NM_080769	Lta	Lymphotoxin alpha (TNF superfamily, member 1)
E06	Rn.203016	NM_212507	Ltb	Lymphotoxin beta (TNF superfamily, member 3)
E07	Rn.17256	NM_053703	Map2k6	Mitogen-activated protein kinase kinase 6
E08	Rn.207359	NM_001191089	Mitf	Microphthalmia-associated transcription factor
E09	Rn.10209	NM_031055	Mmp9	Matrix metallopeptidase 9
E10	Rn.12072	NM_012603	Myc	Myelocytomatosis oncogene
E11	Rn.37341	NM_198130	Myd88	Myeloid differentiation primary response gene 88
E12	Rn.20691	XM_215947	Ncoa3	Nuclear receptor coactivator 3
F01	Rn.2411	XM_342346	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
F02	Rn.204814	NM_001008349	Nfkb2	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 2, p49/p100
F03	Rn.12550	NM_001105720	Nfkbia	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha
F04	Rn.11234	NM_017000	Nqo1	NAD(P)H dehydrogenase, quinone 1
F05	Rn.88129	NM_019328	Nr4a2	Nuclear receptor subfamily 4, group A, member 2
F06	Rn.198230	NM_031524	Pdgfb	Platelet-derived growth factor beta polypeptide (simian sarcoma viral (v-sis) oncogene homolog)
F07	Rn.6064	NM_013085	Plau	Plasminogen activator, urokinase
F08	Rn.44369	NM_017232	Ptgs2	Prostaglandin-endoperoxide synthase 2
F09	Rn.106948	XM_223688	Rel	V-rel reticuloendotheliosis viral oncogene homolog (avian)
F10	Rn.19480	NM_199267	Rela	V-rel reticuloendotheliosis viral oncogene homolog A (avian)
F11	Rn.10359	NM_138879	Sele	Selectin E
F12	Rn.10012	NM_013114	Selp	Selectin P
G01	Rn.107689	NM_030991	Snap25	Synaptosomal-associated protein 25
G02	Rn.10488	NM_017051	Sod2	Superoxide dismutase 2, mitochondrial
G03	Rn.33229	NM_032612	Stat1	Signal transducer and activator of transcription 1
G04	Rn.10247	NM_012747	Stat3	Signal transducer and activator of transcription 3
G05	Rn.54486	NM_022380	Stat5b	Signal transducer and activator of transcription 5B
G06	Rn.2275	NM_012675	Tnf	Tumor necrosis factor (TNF superfamily, member 2)
G07	Rn.83633	NM_130426	Tnfrsf1b	Tumor necrosis factor receptor superfamily, member 1b
G08	Rn.83627	NM_145681	Tnfsf10	Tumor necrosis factor (ligand) superfamily, member 10
G09	Rn.54443	NM_030989	Tp53	Tumor protein p53
G10	Rn.105232	NM_001107815	Traf2	Tnf receptor-associated factor 2
G11	Rn.11267	NM_012889	Vcam1	Vascular cell adhesion molecule 1
G12	Rn.91239	NM_022231	Xiap	X-linked inhibitor of apoptosis
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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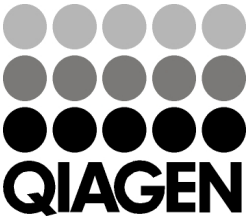

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