

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

Rat T Cell Anergy & Immune Tolerance

Cat. no. 330231 PARN-074ZA

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 T-cell Anergy and Immune Tolerance RT² Profiler PCR Array profiles the expression of 84 key genes involved in T-cell anergy and immune tolerance. T-cells' functional unresponsiveness, termed anergy, is a cell-intrinsic mechanism that contributes to peripheral self-tolerance. This array contains T-cell and B-cell regulators, cytokines and receptors, TNF superfamily members and their receptors, and transcriptional factors. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes involved in T-cell anergy and immune tolerance 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	Btla	Cblb	Ccl3	Ccr4	Cd27	Cd28	Cd3e	Cd40	Cd40lg	Cd70	Cdk2	Cdk4
B	Cma1	Csf1	Csf2	Ctla4	Dgka	Dgkz	Egr2	Egr3	Fas	Faslg	Fos	Foxp1
C	Foxp3	Gata3	Gzmc	Gzmf	Gzmk	Gzmm	Hdac9	Icam1	Icos	Ido1	Ifng	Il10
D	Il10ra	Il13	Il15	Il17a	Il1a	Il2	Il2ra	Il2rb	Il4	Il5	Il6	Il7r
E	Ing4	Irak3	Irf4	Itch	Itpa1	Jak1	Jak3	Jun	Lat	Lep	Lgals3	Lta
F	Mei2a	Nfatc2	Nfatc3	Nfkb1	Nhlh2	Notch1	Pdcd1	Prf1	Prkcg	Ptger2	Ptgs2	Sell
G	Stat3	Stat6	Tbx21	Tgfb1	Tgfb2	Tnfrsf10b	Tnfrsf14	Tnfrsf4	Tnfrsf8	Tnfrsf9	Tnfrsf10	Tnfrsf14
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.124474	NM_213630	Btla	B and T lymphocyte associated
A02	Rn.21799	NM_133601	Cblb	Cas-Br-M (murine) ecotropic retroviral transforming sequence b
A03	Rn.10139	NM_013025	Ccl3	Chemokine (C-C motif) ligand 3
A04	Rn.81076	NM_133532	Ccr4	Chemokine (C-C motif) receptor 4
A05	Rn.134200	NM_001024335	Cd27	CD27 molecule
A06	Rn.10327	NM_013121	Cd28	Cd28 molecule
A07	Rn.96221	NM_001108140	Cd3e	CD3 molecule, epsilon
A08	Rn.25180	NM_134360	Cd40	CD40 molecule, TNF receptor superfamily member 5
A09	Rn.44218	NM_053353	Cd40lg	CD40 ligand
A10	Rn.103013	NM_001106878	Cd70	Cd70 molecule
A11	Rn.104460	NM_199501	Cdk2	Cyclin dependent kinase 2
A12	Rn.6115	NM_053593	Cdk4	Cyclin-dependent kinase 4
B01	Rn.10182	NM_013092	Cma1	Chymase 1, mast cell
B02	Rn.83632	NM_023981	Csf1	Colony stimulating factor 1 (macrophage)
B03	Rn.44285	XM_340799	Csf2	Colony stimulating factor 2 (granulocyte-macrophage)
B04	Rn.10259	NM_031674	Ctla4	Cytotoxic T-lymphocyte-associated protein 4
B05	Rn.1840	NM_080787	Dgka	Diacylglycerol kinase, alpha
B06	Rn.11208	NM_031143	Dgkz	Diacylglycerol kinase zeta
B07	Rn.89235	NM_053633	Egr2	Early growth response 2
B08	Rn.44371	NM_017086	Egr3	Early growth response 3
B09	Rn.162521	NM_139194	Fas	Fas (TNF receptor superfamily, member 6)
B10	Rn.9725	NM_012908	Faslg	Fas ligand (TNF superfamily, member 6)
B11	Rn.103750	NM_022197	Fos	FBJ osteosarcoma oncogene
B12	Rn.33321	NM_001034131	Foxp1	Forkhead box P1
C01	Rn.177272	NM_001108250	Foxp3	Forkhead box P3
C02	Rn.92350	NM_133293	Gata3	GATA binding protein 3
C03	Rn.88335	NM_134332	Gzmc	Granzyme C
C04	Rn.10534	NM_153466	Gzmf	Granzyme F
C05	Rn.11190	NM_017119	Gzmk	Granzyme K
C06	Rn.9838	NM_057183	Gzmm	Granzyme M (lymphocyte met-ase 1)
C07	Rn.198197	XM_234063	Hdac9	Histone deacetylase 9
C08	Rn.12	NM_012967	Icam1	Intercellular adhesion molecule 1
C09	Rn.168816	NM_022610	Icos	Inducible T-cell co-stimulator
C10	Rn.64513	NM_023973	Ido1	Indoleamine 2,3-dioxygenase 1
C11	Rn.10795	NM_138880	Ifng	Interferon gamma
C12	Rn.9868	NM_012854	Il10	Interleukin 10
D01	Rn.64632	NM_057193	Il10ra	Interleukin 10 receptor, alpha
D02	Rn.9921	NM_053828	Il13	Interleukin 13
D03	Rn.2490	NM_013129	Il15	Interleukin 15
D04	Rn.218513	NM_001106897	Il17a	Interleukin 17A
D05	Rn.12300	NM_017019	Il1a	Interleukin 1 alpha
D06	Rn.9871	NM_053836	Il2	Interleukin 2
D07	Rn.9872	NM_013163	Il2ra	Interleukin 2 receptor, alpha
D08	Rn.5832	NM_013195	Il2rb	Interleukin 2 receptor, beta
D09	Rn.108255	NM_201270	Il4	Interleukin 4

Position	UniGene	GenBank	Symbol	Description
D10	Rn.44227	NM_021834	Il5	Interleukin 5
D11	Rn.9873	NM_012589	Il6	Interleukin 6
D12	Rn.6633	NM_001106418	Il7r	Interleukin 7 receptor
E01	Rn.48967	NM_001079887	Ing4	Inhibitor of growth family, member 4
E02	Rn.147737	NM_001108101	Irak3	Interleukin-1 receptor-associated kinase 3
E03	Rn.82114	NM_001106108	Irf4	Interferon regulatory factor 4
E04	Rn.20718	NM_001005887	Itch	Itchy E3 ubiquitin protein ligase homolog (mouse)
E05	Rn.91044	NM_030994	Itga1	Integrin, alpha 1
E06	Rn.90191	NM_053466	Jak1	Janus kinase 1
E07	Rn.11159	NM_012855	Jak3	Janus kinase 3
E08	Rn.93714	NM_021835	Jun	Jun oncogene
E09	Rn.9773	NM_030853	Lat	Linker for activation of T cells
E10	Rn.44444	NM_013076	Lep	Leptin
E11	Rn.764	NM_031832	Lgals3	Lectin, galactoside-binding, soluble, 3
E12	Rn.160577	NM_080769	Lta	Lymphotoxin alpha (TNF superfamily, member 1)
F01	Rn.162435	NM_001014035	Mef2a	Myocyte enhancer factor 2a
F02	Rn.214090	NM_001107805	Nfai2	Nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 2
F03	Rn.217507	NM_001108447	Nfai3	Nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 3
F04	Rn.2411	XM_342346	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
F05	Rn.126884	NM_001106457	Nhlh2	Nescient helix loop helix 2
F06	Rn.25046	NM_001105721	Notch1	Notch homolog 1, translocation-associated (Drosophila)
F07	Rn.105023	NM_001106927	Pdcd1	Programmed cell death 1
F08	Rn.11206	NM_017330	Prf1	Perforin 1 (pore forming protein)
F09	Rn.9747	NM_012628	Prkcg	Protein kinase C, gamma
F10	Rn.10264	NM_031088	Ptger2	Prostaglandin E receptor 2 (subtype EP2)
F11	Rn.44369	NM_017232	Ptgs2	Prostaglandin-endoperoxide synthase 2
F12	Rn.10461	NM_019177	Sell	Selectin L
G01	Rn.10247	NM_012747	Stat3	Signal transducer and activator of transcription 3
G02	Rn.6880	NM_001044250	Stat6	Signal transducer and activator of transcription 6
G03	Rn.144930	NM_001107043	Tbx21	T-box 21
G04	Rn.40136	NM_021578	Tgfb1	Transforming growth factor, beta 1
G05	Rn.9954	NM_031132	Tgfb2	Transforming growth factor, beta receptor II
G06	Rn.105558	NM_001108873	Tnfrsf10b	Tumor necrosis factor receptor superfamily, member 10b
G07	Rn.14734	NM_001015034	Tnfrsf14	Tumor necrosis factor receptor superfamily, member 14 (herpesvirus entry mediator)
G08	Rn.48883	NM_013049	Tnfrsf4	Tumor necrosis factor receptor superfamily, member 4
G09	Rn.11322	NM_019135	Tnfrsf8	Tumor necrosis factor receptor superfamily, member 8
G10	Rn.22307	NM_001025773	Tnfrsf9	Tumor necrosis factor receptor superfamily, member 9
G11	Rn.83627	NM_145681	Tnfsf10	Tumor necrosis factor (ligand) superfamily, member 10
G12	N/A	XM_236794	Tnfsf14	Tumor necrosis factor (ligand) superfamily, member 14
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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