

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

Rat Allergy & Asthma

Cat. no. 330231 PARN-067ZA

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™



Sample & Assay Technologies

Description

The Rat Allergy & Asthma RT² Profiler PCR Array profiles the expression of 84 key genes central to allergic responses. CD4⁺ T cells differentiate into multiple subtypes during immune responses. An overrepresentation of the T helper 2 (Th2) cell subtype and the IgE antibody isotype commonly characterizes allergic inflammation, and both the cell and the molecule play central roles in allergic disease mechanisms. Additional cell types also mediate the Th2 and IgE-driven allergic response, including eosinophils, mast cells, natural killer (NK) cells, and alternatively-activated macrophages. Once activated, these cells release cytokines and chemokines, promoting inflammation and potentially tissue remodeling. Many allergy researchers focus on the interaction, activation and dysregulation of these different cell types. Common allergic diseases include atopic dermatitis and food allergies. Allergy is also a major cause of asthma, leading to airway hyperresponsiveness (AHR) and chronic inflammation. This array includes cytokines and other genes important for the activation and the cellular responses of Th2 cells, mast cells, eosinophils, NK cells, and alternatively-activated macrophages, as well as genes specific for allergic asthma. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in allergic diseases 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	Adam33	Adrb2	Alox5	Areg	Arg1	Bcl6	Ccl11	Ccl12	Ccl17	Ccl22	Ccl24	Ccl4
B	Ccl5	Ccr3	Ccr4	Ccr8	Cd40lg	Chi3l1	Chia	Clca1	Cma1	Cpa3	Crlf2	Csf2
C	Csf3r	Cysltr1	Ear11	Epx	Ets1	Fcer1a	Foxp3	Gata3	Gpr44	Icos	Ifng	Ifngr2
D	Il10	Il12a	Il12b	Il13	Il13ra1	Il13ra2	Il17a	Il17rb	Il18	Il1rl1	Il21	Il25
E	Il2ra	Il3	Il33	Il3ra	Il4	Il4ra	Il5	Il5ra	Il6	Il9	Ilga4	Kit
F	Kitlg	Lib4r	Maf	Mmp9	Mrc1	Ms4a2	Pdcd1	Pmch	Postn	Pparg	Prg2	Rnase17
G	Rnase2	Rorc	Satb1	Spi1	Stat4	Stat5a	Stat6	Tbx21	Tgfb1	Tnfrsf4	Tnfrsf4	Tpsb2
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.66916	NM_001107776	Adam33	ADAM metalloproteinase domain 33
A02	Rn.10206	NM_012492	Adrb2	Adrenergic, beta-2-, receptor, surface
A03	Rn.9662	NM_012822	Alox5	Arachidonate 5-lipoxygenase
A04	Rn.10568	NM_017123	Areg	Amphiregulin
A05	Rn.9857	NM_017134	Arg1	Arginase, liver
A06	Rn.20571	NM_001107084	Bcl6	B-cell CLL/lymphoma 6
A07	Rn.10632	NM_019205	Ccl11	Chemokine (C-C motif) ligand 11
A08	Rn.137780	NM_001105822	Ccl12	Chemokine (C-C motif) ligand 12
A09	Rn.46679	NM_057151	Ccl17	Chemokine (C-C motif) ligand 17
A10	Rn.48727	NM_057203	Ccl22	Chemokine (C-C motif) ligand 22
A11	Rn.138822	NM_001013045	Ccl24	Chemokine (C-C motif) ligand 24
A12	Rn.37880	NM_053858	Ccl4	Chemokine (C-C motif) ligand 4
B01	Rn.8019	NM_031116	Ccl5	Chemokine (C-C motif) ligand 5
B02	Rn.9890	NM_053958	Ccr3	Chemokine (C-C motif) receptor 3
B03	Rn.81076	NM_133532	Ccr4	Chemokine (C-C motif) receptor 4
B04	N/A	XM_236704	Ccr8	Chemokine (C-C motif) receptor 8
B05	Rn.44218	NM_053353	Cd40lg	CD40 ligand
B06	Rn.68940	NM_053560	Chi3l1	Chitinase 3-like 1
B07	Rn.43692	NM_207586	Chia	Chitinase, acidic
B08	Rn.66961	NM_001107449	Clca1	Chloride channel accessory 1
B09	Rn.10182	NM_013092	Cma1	Chymase 1, mast cell
B10	Rn.10700	NM_019300	Cpa3	Carboxypeptidase A3, mast cell
B11	Rn.177948	NM_134465	Crlf2	Cytokine receptor-like factor 2
B12	Rn.44285	XM_340799	Csf2	Colony stimulating factor 2 (granulocyte-macrophage)
C01	Rn.134664	NM_001106685	Csf3r	Colony stimulating factor 3 receptor (granulocyte)
C02	Rn.74253	NM_053641	Cysltr1	Cysteinyl leukotriene receptor 1
C03	Rn.10626	NM_138902	Ear11	Eosinophil-associated, ribonuclease A family, member 11
C04	Rn.17695	NM_001107037	Epx	Eosinophil peroxidase
C05	Rn.88756	NM_012555	Ets1	V-ets erythroblastosis virus E26 oncogene homolog 1 (avian)
C06	Rn.9677	NM_012724	Fcer1a	Fc fragment of IgE, high affinity I, receptor for; alpha polypeptide
C07	Rn.177272	NM_001108250	Foxp3	Forkhead box P3
C08	Rn.92350	NM_133293	Gata3	GATA binding protein 3
C09	Rn.198542	NM_001012070	Gpr44	G protein-coupled receptor 44
C10	Rn.168816	NM_022610	Icos	Inducible T-cell co-stimulator
C11	Rn.10795	NM_138880	Ifng	Interferon gamma
C12	Rn.23305	NM_001108313	Ifngr2	Interferon gamma receptor 2
D01	Rn.9868	NM_012854	Il10	Interleukin 10
D02	Rn.207199	NM_053390	Il12a	Interleukin 12a
D03	Rn.48686	NM_022611	Il12b	Interleukin 12b
D04	Rn.9921	NM_053828	Il13	Interleukin 13
D05	Rn.81210	NM_145789	Il13ra1	Interleukin 13 receptor, alpha 1
D06	Rn.162308	NM_133538	Il13ra2	Interleukin 13 receptor, alpha 2
D07	Rn.218513	NM_001106897	Il17a	Interleukin 17A
D08	Rn.150863	NM_001107290	Il17rb	Interleukin 17 receptor B
D09	Rn.11118	NM_019165	Il18	Interleukin 18

Position	UniGene	GenBank	Symbol	Description
D10	Rn.10072	NM_013037	Il1rl1	Interleukin 1 receptor-like 1
D11	Rn.214949	NM_001108943	Il21	Interleukin 21
D12	Rn.141273	XM_577423	Il25	Interleukin 25
E01	Rn.9872	NM_013163	Il2ra	Interleukin 2 receptor, alpha
E02	Rn.10652	NM_031513	Il3	Interleukin 3
E03	Rn.106849	NM_001014166	Il33	Interleukin 33
E04	Rn.144673	NM_139260	Il3ra	Interleukin 3 receptor, alpha
E05	Rn.108255	NM_201270	Il4	Interleukin 4
E06	Rn.10471	NM_133380	Il4ra	Interleukin 4 receptor, alpha
E07	Rn.44227	NM_021834	Il5	Interleukin 5
E08	Rn.67068	NM_053645	Il5ra	Interleukin 5 receptor, alpha
E09	Rn.9873	NM_012589	Il6	Interleukin 6
E10	Rn.92374	NM_001105747	Il9	Interleukin 9
E11	Rn.12704	NM_001107737	Itga4	Integrin, alpha 4
E12	Rn.54004	NM_022264	Kit	V-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog
F01	Rn.44216	NM_021843	Kitlg	KIT ligand
F02	Rn.41003	NM_021656	Ltb4r	Leukotriene B4 receptor
F03	Rn.10726	NM_019318	Maf	V-maf musculoaponeurotic fibrosarcoma oncogene homolog (avian)
F04	Rn.10209	NM_031055	Mmp9	Matrix metalloproteinase 9
F05	Rn.9197	NM_001106123	Mrc1	Mannose receptor, C type 1
F06	Rn.10922	NM_012845	Ms4a2	Membrane-spanning 4-domains, subfamily A, member 2 (Fc fragment of IgE, high affinity 1, receptor for; beta polypeptide)
F07	Rn.105023	NM_001106927	Pdcd1	Programmed cell death 1
F08	Rn.9675	NM_012625	Pmch	Pro-melanin-concentrating hormone
F09	Rn.30516	NM_001108550	Postn	Periostin, osteoblast specific factor
F10	Rn.23443	NM_013124	Pparg	Peroxisome proliferator-activated receptor gamma
F11	Rn.10674	NM_031619	Prg2	Proteoglycan 2, bone marrow
F12	Rn.142436	NM_001012232	Rnase17	Ribonuclease 17
G01	Rn.87496	NM_001007015	Rnase2	Ribonuclease, RNase A family, 2 (liver, eosinophil-derived neurotoxin)
G02	Rn.21421	XM_347322	Rorc	RAR-related orphan receptor C
G03	Rn.21462	NM_001012129	Satb1	SATB homeobox 1
G04	Rn.212982	NM_001005892	Spi1	Spleen focus forming virus (SFFV) proviral integration oncogene spi1
G05	Rn.137580	NM_001012226	Stat4	Signal transducer and activator of transcription 4
G06	Rn.154399	NM_017064	Stat5a	Signal transducer and activator of transcription 5A
G07	Rn.6880	NM_001044250	Stat6	Signal transducer and activator of transcription 6
G08	Rn.144930	NM_001107043	Tbx21	T-box 21
G09	Rn.40136	NM_021578	Tgfb1	Transforming growth factor, beta 1
G10	Rn.48883	NM_013049	Tnfrsf4	Tumor necrosis factor receptor superfamily, member 4
G11	Rn.30043	NM_053552	Tnfrsf4	Tumor necrosis factor (ligand) superfamily, member 4
G12	Rn.10183	NM_019180	Tpsb2	Tryptase beta 2
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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