

RT² Profiler PCR Array (Rotor-Gene[®] Format)

Rat Inflammatory Cytokines & Receptors

Cat. no. 330231 PARN-011ZR

For pathway expression analysis

Format	For use with the following real-time cyclers
RT ² Profiler PCR Array, Format R	Rotor-Gene Q, other Rotor-Gene cyclers

Description

The Rat Inflammatory Cytokines & Receptors RT² Profiler PCR Array profiles the expression of 84 key genes mediating the inflammatory response. Acute inflammation occurs in response to cell damage due to infection or injury. During this process, cellular and plasma derived factors encourage extravasation, the recruitment of circulating immune cells into the affected tissue. These immune cells in turn up-regulate the expression of inflammatory cytokines that recruit additional immune cells to mount an immune response to any invading organisms and to further promote and eventually resolve the inflammatory response. Chronic inflammation, or expression of these cytokines and receptors at low levels over long periods of time, promotes various pathological conditions including allergies and asthma, cardiovascular system disorders (atherosclerosis), central nervous system disorders (Alzheimer's disease), fibrosis, and rheumatoid arthritis. This array contains genes involved in mediating immune cascade reactions during inflammation. The chemokines, cytokines, and interleukins involved in the inflammatory response are represented as well as their receptors. Profiling the expression of these inflammatory cytokine and receptor genes helps determine the state of and the mechanisms behind inflammation in your experimental model system. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to inflammation with this array.

For further details, consult the *RT² Profiler PCR Array Handbook*.

Shipping and storage

RT² Profiler PCR Arrays in the Rotor-Gene format are shipped at ambient temperature, on dry ice, or blue ice packs depending on destination and accompanying products.

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.



Sample & Assay Technologies

Array layout

The 96 real-time assays in the Rotor-Gene format are located in wells 1–96 of the Rotor-Disc™ (plate A1–A12=Rotor-Disc 1–12, plate B1–B12=Rotor-Disc 13–24, etc.). To maintain data analysis compatibility, wells 97–100 do not contain real-time assays but will contain master mix to account for weight balance.

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Rn.3192	NM_053757	Aimp1	Aminoacyl tRNA synthetase complex-interacting multifunctional protein 1
A02	Rn.90931	NM_017178	Bmp2	Bone morphogenetic protein 2
A03	Rn.10632	NM_019205	Ccl11	Chemokine (C-C motif) ligand 11
A04	Rn.137780	NM_001105822	Ccl12	Chemokine (C-C motif) ligand 12
A05	Rn.46679	NM_057151	Ccl17	Chemokine (C-C motif) ligand 17
A06	Rn.12445	NM_001108661	Ccl19	Chemokine (C-C motif) ligand 19
A07	Rn.4772	NM_031530	Ccl2	Chemokine (C-C motif) ligand 2
A08	Rn.10722	NM_019233	Ccl20	Chemokine (C-C motif) ligand 20
A09	Rn.48727	NM_057203	Ccl22	Chemokine (C-C motif) ligand 22
A10	Rn.138822	NM_001013045	Ccl24	Chemokine (C-C motif) ligand 24
A11	Rn.10139	NM_013025	Cd3	Chemokine (C-C motif) ligand 3
A12	Rn.37880	NM_053858	Cd4	Chemokine (C-C motif) ligand 4
B01	Rn.8019	NM_031116	Cd5	Chemokine (C-C motif) ligand 5
B02	Rn.7857	NM_001004202	Cd6	Chemokine (C-C motif) ligand 6
B03	Rn.26815	NM_001007612	Cd7	Chemokine (C-C motif) ligand 7
B04	Rn.145427	NM_001012357	Cd9	Chemokine (C-C motif) ligand 9
B05	Rn.34673	NM_020542	Ccr1	Chemokine (C-C motif) receptor 1
B06	Rn.49607	NM_001108836	Ccr10	Chemokine (C-C motif) receptor 10
B07	Rn.211983	NM_021866	Ccr2	Chemokine (C-C motif) receptor 2
B08	Rn.9890	NM_053958	Ccr3	Chemokine (C-C motif) receptor 3
B09	Rn.81076	NM_133532	Ccr4	Chemokine (C-C motif) receptor 4
B10	Rn.10736	NM_053960	Ccr5	Chemokine (C-C motif) receptor 5
B11	Rn.161767	NM_001013145	Ccr6	Chemokine (C-C motif) receptor 6
B12	N/A	XM_236704	Ccr8	Chemokine (C-C motif) receptor 8
C01	Rn.44218	NM_053353	Cd40lg	CD40 ligand
C02	Rn.83632	NM_023981	Csf1	Colony stimulating factor 1 (macrophage)
C03	Rn.44285	XM_340799	Csf2	Colony stimulating factor 2 (granulocyte-macrophage)
C04	Rn.53973	NM_017104	Csf3	Colony stimulating factor 3 (granulocyte)
C05	Rn.107266	NM_134455	Cx3cl1	Chemokine (C-X3-C motif) ligand 1
C06	Rn.10482	NM_133534	Cx3cr1	Chemokine (C-X3-C motif) receptor 1
C07	Rn.10907	NM_030845	Cxcl1	Chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha)
C08	Rn.10584	NM_139089	Cxcl10	Chemokine (C-X-C motif) ligand 10
C09	Rn.13664	NM_182952	Cxcl11	Chemokine (C-X-C motif) ligand 11
C10	Rn.54439	NM_022177	Cxcl12	Chemokine (C-X-C motif) ligand 12 (stromal cell-derived factor 1)
C11	Rn.10230	NM_053647	Cxcl2	Chemokine (C-X-C motif) ligand 2
C12	Rn.44449	NM_022214	Cxcl5	Chemokine (C-X-C motif) ligand 5
D01	Rn.7391	NM_145672	Cxcl9	Chemokine (C-X-C motif) ligand 9
D02	Rn.90347	NM_017183	Cxcr2	Chemokine (C-X-C motif) receptor 2
D03	Rn.24787	NM_053415	Cxcr3	Chemokine (C-X-C motif) receptor 3
D04	Rn.127121	NM_053303	Cxcr5	Chemokine (C-X-C motif) receptor 5
D05	Rn.9725	NM_012908	Faslg	Fas ligand (TNF superfamily, member 6)
D06	Rn.10795	NM_138880	Ifng	Interferon gamma
D07	Rn.64632	NM_057193	Il10ra	Interleukin 10 receptor, alpha
D08	Rn.198483	NM_133519	Il11	Interleukin 11
D09	Rn.9921	NM_053828	Il13	Interleukin 13
D10	Rn.2490	NM_013129	Il15	Interleukin 15
D11	Rn.104665	NM_001105749	Il16	Interleukin 16
D12	Rn.218513	NM_001106897	Il17a	Interleukin 17A
E01	Rn.50003	NM_053789	Il17b	Interleukin 17B
E02	Rn.34022	NM_001015011	Il17f	Interleukin 17F
E03	Rn.12300	NM_017019	Il1a	Interleukin 1 alpha
E04	Rn.9869	NM_031512	Il1b	Interleukin 1 beta
E05	Rn.9758	NM_013123	Il1r1	Interleukin 1 receptor, type I
E06	Rn.162640	NM_022194	Il1rn	Interleukin 1 receptor antagonist
E07	Rn.214949	NM_001108943	Il21	Interleukin 21
E08	N/A	XM_344962	Il27	Interleukin 27
E09	Rn.5832	NM_013195	Il2rb	Interleukin 2 receptor, beta

Position	UniGene	GenBank	Symbol	Description
E10	Rn.14508	NM_080889	Il2rg	Interleukin 2 receptor, gamma
E11	Rn.10652	NM_031513	Il3	Interleukin 3
E12	Rn.106849	NM_001014166	Il33	Interleukin 33
F01	Rn.108255	NM_201270	Il4	Interleukin 4
F02	Rn.44227	NM_021834	Il5	Interleukin 5
F03	Rn.67068	NM_053645	Il5ra	Interleukin 5 receptor, alpha
F04	Rn.1716	NM_017020	Il6r	Interleukin 6 receptor
F05	Rn.12138	NM_001008725	Il6st	Interleukin 6 signal transducer
F06	Rn.10793	NM_013110	Il7	Interleukin 7
F07	Rn.138115	NM_019310	Il8ra	Interleukin 8 receptor, alpha
F08	Rn.160577	NM_080769	Lta	Lymphotoxin alpha (TNF superfamily, member 1)
F09	Rn.203016	NM_212507	Ltb	Lymphotoxin beta (TNF superfamily, member 3)
F10	Rn.2661	NM_031051	Mif	Macrophage migration inhibitory factor
F11	Rn.203508	NM_177928	Nampt	Nicotinamide phosphoribosyltransferase
F12	Rn.127158	NM_001006961	Osm	Oncostatin M
G01	Rn.6800	NM_001007729	Pf4	Platelet factor 4
G02	Rn.145200	XM_345342	RGD156190_5_predicted	Complement component 5
G03	Rn.8871	NM_012881	Spp1	Secreted phosphoprotein 1
G04	Rn.2275	NM_012675	Tnf	Tumor necrosis factor (TNF superfamily, member 2)
G05	Rn.202973	NM_012870	Tnfrsf11b	Tumor necrosis factor receptor superfamily, member 11b
G06	Rn.83627	NM_145681	Tnfsf10	Tumor necrosis factor (ligand) superfamily, member 10
G07	Rn.64517	NM_057149	Tnfsf11	Tumor necrosis factor (ligand) superfamily, member 11
G08	Rn.19955	NM_001009623	Tnfsf13	Tumor necrosis factor (ligand) superfamily, member 13
G09	Rn.219918	NM_001109112	Tnfsf13b	Tumor necrosis factor (ligand) superfamily, member 13b
G10	N/A	XM_236794	Tnfsf14	Tumor necrosis factor (ligand) superfamily, member 14
G11	Rn.30043	NM_053552	Tnfsf4	Tumor necrosis factor (ligand) superfamily, member 4
G12	Rn.1923	NM_031836	Vegfa	Vascular endothelial growth factor A
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 ROX [™] FAST Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the Rotor-Gene Q and other Rotor-Gene cyclers	330620

* 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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