

# RT<sup>2</sup> Profiler™ PCR Array:

## Rat Chemokines & Receptors

**Catalog Number**

PARN-022A

PARN-022C

PARN-022D

PARN-022E

PARN-022F

PARN-022G

**For Real-Time Instruments:**

ABI Standard Blocks; Bio-Rad iCycler, MyiQ, and (MJ Research) Chromo 4; and Stratagene Mx3005p, Mx3000p

ABI 7500 and 7900HT FAST 96-Well Blocks, ABI StepOnePlus

Bio-Rad (MJ Research) Opticon and Opticon 2, Stratagene Mx4000

ABI 7900HT 384-Well Block

Roche LightCycler 480 96-well Block

Roche LightCycler 480 384-well Block

**Description**

The Rat Chemokines and Receptors RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 genes that encode chemokines and their receptors. The array contains members of the C-C and C-X-C motif subfamilies of small inducible cytokines and their receptors as well as other related genes. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to the immune system with this array.

**Functional Gene Groupings**

**Chemokine (C-C motif) Ligands:** Ccl11, Ccl12, Ccl17, Ccl19, Ccl2, Ccl20, Ccl3, Ccl4, Ccl5, Ccl6, Ccl7, Ccl9.

**Chemokine (C-X-C motif) Ligands:** Cxcl1, Cxcl10, Cxcl11, Cxcl2, Cxcl4, Cxcl5, Cxcl7, Cxcl9, LOC498335 (Cxcl13).

**Chemokine (C-C motif) Receptors:** Ccr1, Ccr11, Ccr2, Ccr3, Ccr4, Ccr5, Ccr6, Ccr7, Ccr8, Ccr9, Ccr12.

**Chemokine (C-X-C motif) Receptors:** Blr1, Cxcr3, Cxcr4.

**Other Chemokines and Related Genes:** Agtrl1, Bdnf, Bmp10, Bmp15, Bmp6, C3, C5 (Hc), Ccbp2, Cklfs1, Cmtm3 (Cklfs3), Cklfs5, Cmk1r1, Cmkor1, Csf1, Csf2, Cx3cl1, Cx3cr1, Ecgf1, Epo, Gdf5, Gpr2, Gpr77, Hif1a, Il13, Il16, Il18, Il1a, Il4, Il8ra, Il8rb, Inha, Inhbb, Lif, Ltbr4, Mmp2, Mmp7, Myd88, Nfkb1, Rgs3, Sdf2, Slit2, Tapbp, Tcpl0b, Tlr2, Tlr4, Tnf, Tnfrsf1a, Trem1, Xcl1.

**Storage Conditions**

Please check the kit components immediately after you receive this package. We are only responsible for missing items reported within two (2) business days of receipt.

**Storage Conditions:** PCR Arrays are shipped at ambient temperature. Keep plates at -20 °C for long-term storage.

**NOTE:** Be sure that you have the correct PCR Array format for your instrument before starting the experiment.

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## **References**

1. Sallusto F, Mackay CR, Lanzavecchia A (2000) The Role Of Chemokine Receptors In Primary, Effector, and Memory Immune Responses. *Annu. Rev. Immunol* **18**: 593-620.
2. Rossi D, Zlotnik A (2000) The Biology Of Chemokines And Their Receptors. *Annu. Rev. Immunol* **18**: 217-242.
3. Zlotnik A, Yoshie O (2000) Chemokines: A New Classification System And Their Role In Immunity. *Immunity* **12**: 121-127.
4. Krishna Vaddi, Margaret Keller, Robert C. Newton, editors. (1997) *The Chemokine Facts Book*. Academic Press.
5. James J Campbell and Eugene C Butcher (2000) Chemokines In Tissue-Specific And Microenvironment-Specific Lymphocyte Homing. *Current Opinion in Immunology* **12**: 336-341.

## Product Specification Sheet

### **Array Layout:** Rat Chemokines and Receptors RT<sup>2</sup> Profiler™ PCR Array

	1	2	3	4	5	6	7	8	9	10	11	12
A	Agtr1	Bdnf	Blr1	Bmp10	Bmp15	Bmp6	C3	C5	Ccbp2	Ccl11	Ccl12	Ccl17
B	Ccl19	Ccl2	Ccl20	Ccl3	Ccl4	Ccl5	Ccl6	Ccl7	Ccl9	Ccr1	Ccr11	Ccr2
C	Ccr3	Ccr4	Ccr5	Ccr6	Ccr7	Ccr8	Ccr9	Ccr12	Cklfs1	Cklfs5	Cmklr1	Cmkor1
D	Cmtm3	Csf1	Csf2	Cx3cl1	Cx3cr1	Cxcl1	Cxcl10	Cxcl11	Cxcl2	Cxcl4	Cxcl5	Cxcl7
E	Cxcl9	Cxcr3	Cxcr4	Ecgf1	Epo	Gdf5	Gpr2	Gpr77	Hif1a	Il13	Il16	Il18
F	Il1a	Il4	Il8ra	Il8rb	Inha	Inhbb	Lif	LOC498335	Ltb4r2	Mmp2	Mmp7	Myd88
G	Nfkb1	Rgs3	Sdf2	Slit2	Tapbp	Tcp10b	Tlr2	Tlr4	Tnf	Tnfrsf1a	Trem1	Xcl1
H	Rplp1	Hprt	Rpl13a	Ldha	Actb	RGDC	RTC	RTC	RTC	PPC	PPC	PPC

### **Gene Table**

Position	UniGene	GenBank	Symbol	Description
A01	Rn.7965	NM_031349	Agtr1	Angiotensin receptor-like 1
A02	Rn.11266	NM_012513	Bdnf	Brain derived neurotrophic factor
A03	Rn.127121	NM_053303	Blr1	Burkitt lymphoma receptor 1
A04	Rn.118010	NM_001031824	Bmp10	Bone morphogenetic protein 10
A05	Rn.42867	NM_021670	Bmp15	Bone morphogenetic protein 15
A06	Rn.40476	NM_013107	Bmp6	Bone morphogenetic protein 6
A07	Rn.11378	NM_016994	C3	Complement component 3
A08	Rn.21259	XM_342421	C5	Similar to Complement C5 precursor (Hemolytic complement) (predicted)
A09	Rn.10771	NM_078621	Ccbp2	Chemokine binding protein 2
A10	Rn.10632	NM_019205	Ccl11	Chemokine (C-C motif) ligand 11
A11	Rn.137780	XM_213425	Ccl12_predicted	Chemokine (C-C motif) ligand 12 (predicted)
A12	Rn.46679	NM_057151	Ccl17	Chemokine (C-C motif) ligand 17
B01	Rn.12445	XM_342824	Ccl19	Chemokine (C-C motif) ligand 19 (predicted)
B02	Rn.4772	NM_031530	Ccl2	Chemokine (C-C motif) ligand 2
B03	Rn.10722	NM_019233	Ccl20	Chemokine (C-C motif) ligand 20
B04	Rn.10139	NM_013025	Ccl3	Chemokine (C-C motif) ligand 3
B05	Rn.37880	NM_053858	Ccl4	Chemokine (C-C motif) ligand 4
B06	Rn.8019	NM_031116	Ccl5	Chemokine (C-C motif) ligand 5
B07	Rn.7857	NM_001004202	Ccl6	Chemokine (C-C motif) ligand 6
B08	Rn.26815	NM_001007612	Ccl7	Chemokine (C-C motif) ligand 7
B09	Rn.145427	NM_001012357	Ccl9	Chemokine (C-C motif) ligand 9
B10	Rn.34673	NM_020542	Ccr1	Chemokine (C-C motif) receptor 1
B11	N/A	XM_236742	Ccr11_predicted	Chemokine (C-C motif) receptor 1-like 1 (predicted)
B12	Rn.149076	NM_021866	Ccr2	Chemokine (C-C motif) receptor 2
C01	Rn.9890	NM_053958	Ccr3	Chemokine (C-C motif) receptor 3
C02	Rn.81076	NM_133532	Ccr4	Chemokine (C-C motif) receptor 4
C03	Rn.10736	NM_053960	Ccr5	Chemokine (C-C motif) receptor 5
C04	Rn.161767	NM_001013145	Ccr6	Chemokine (C-C motif) receptor 6
C05	Rn.16815	NM_199489	Ccr7	Chemokine (C-C motif) receptor 7
C06	N/A	XM_236704	Ccr8_predicted	Chemokine (C-C motif) receptor 8 (predicted)
C07	Rn.91140	NM_172329	Ccr9	Chemokine (C-C motif) receptor 9
C08	Rn.67232	XM_236658	Ccr12_predicted	Chemokine (C-C motif) receptor-like 2 (predicted)
C09	Rn.163394	NM_001013142	Cklfs1	Chemokine-like factor super family 1
C10	Rn.100853	XM_214187	Cklfs5_predicted	Chemokine-like factor super family 5 (predicted)
C11	Rn.44465	NM_022218	Cmklr1	Chemokine-like receptor 1
C12	Rn.12959	NM_053352	Cmkor1	Chemokine orphan receptor 1
D01	Rn.15332	XM_226200	Cmtm3_predicted	CKLF-like MARVEL transmembrane domain containing 3 (predicted)
D02	Rn.83632	NM_023981	Csf1	Colony stimulating factor 1 (macrophage)
D03	Rn.44285	XM_340799	Csf2	Colony stimulating factor 2 (granulocyte-macrophage)

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Position	UniGene	GenBank	Symbol	Description
D04	Rn.107266	NM_134455	Cx3cl1	Chemokine (C-X3-C motif) ligand 1
D05	Rn.10482	NM_133534	Cx3cr1	Chemokine (C-X3-C) receptor 1
D06	Rn.10907	NM_030845	Cxcl1	Chemokine (C-X-C motif) ligand 1
D07	Rn.10584	NM_139089	Cxcl10	Chemokine (C-X-C motif) ligand 10
D08	Rn.13664	NM_182952	Cxcl11	Chemokine (C-X-C motif) ligand 11
D09	Rn.10230	NM_053647	Cxcl2	Chemokine (C-X-C motif) ligand 2
D10	Rn.6800	NM_001007729	Cxcl4	Chemokine (C-X-C motif) ligand 4
D11	Rn.44449	NM_022214	Cxcl5	Chemokine (C-X-C motif) ligand 5
D12	Rn.67082	NM_153721	Cxcl7	Chemokine (C-X-C motif) ligand 7
E01	Rn.7391	NM_145672	Cxcl9	Chemokine (C-X-C motif) ligand 9
E02	Rn.24787	NM_053415	Cxcr3	Chemokine (C-X-C motif) receptor 3
E03	Rn.44431	NM_022205	Cxcr4	Chemokine (C-X-C motif) receptor 4
E04	Rn.202370	NM_001012122	Ecgf1	Endothelial cell growth factor 1 (platelet-derived)
E05	Rn.11365	NM_017001	Epo	Erythropoietin
E06	Rn.127822	XM_001066344	Gdf5	Growth differentiation factor 5
E07	Rn.49607	XM_343968	Gpr2_predicted	G protein-coupled receptor 2 (predicted)
E08	Rn.127117	NM_001003710	Gpr77	G protein-coupled receptor 77
E09	Rn.10852	NM_024359	Hif1a	Hypoxia inducible factor 1, alpha subunit
E10	Rn.9921	NM_053828	Il13	Interleukin 13
E11	Rn.104665	XM_218851	Il16	Interleukin 16 (mapped)
E12	Rn.11118	NM_019165	Il18	Interleukin 18
F01	Rn.12300	NM_017019	Il1a	Interleukin 1 alpha
F02	Rn.108255	NM_201270	Il4	Interleukin 4
F03	Rn.138115	NM_019310	Il8ra	Interleukin 8 receptor, alpha
F04	Rn.90347	NM_017183	Il8rb	Interleukin 8 receptor, beta
F05	Rn.8831	NM_012590	Inha	Inhibin alpha
F06	Rn.35074	XM_344130	Inhbb	Inhibin beta-B
F07	Rn.44379	NM_022196	Lif	Leukemia inhibitory factor
F08	Rn.6917	NM_001017496	LOC498335	Similar to Small inducible cytokine B13 precursor (CXCL13) (B lymphocyte chemoattractant) (CXC chemokine BLC)
F09	Rn.74251	NM_053640	Ltb4r2	Leukotriene B4 receptor 2
F10	Rn.6422	NM_031054	Mmp2	Matrix metalloproteinase 2
F11	Rn.10282	NM_012864	Mmp7	Matrix metalloproteinase 7
F12	Rn.37341	NM_198130	Myd88	Myeloid differentiation primary response gene 88
G01	Rn.2411	XM_342346	Nfkb1	Nuclear factor of kappa light chain gene enhancer in B-cells 1, p105
G02	Rn.53900	NM_019340	Rgs3	Regulator of G-protein signalling 3
G03	Rn.3965	XM_213377	Sdf2_predicted	Stromal cell derived factor 2 (predicted)
G04	Rn.146652	XM_346464	Slit2	Slit homolog 2 (Drosophila)
G05	Rn.51023	NM_033098	Tapbp	TAP binding protein
G06	Rn.70181	XM_217868	Tcp10b_predicted	T-complex protein 10b (predicted)
G07	Rn.46387	NM_198769	Tlr2	Toll-like receptor 2
G08	Rn.14534	NM_019178	Tlr4	Toll-like receptor 4
G09	Rn.2275	NM_012675	Tnf	Tumor necrosis factor (TNF superfamily, member 2)
G10	Rn.11119	NM_013091	Tnfrsf1a	Tumor necrosis factor receptor superfamily, member 1a
G11	Rn.86337	XM_217336	Trem1_predicted	Triggering receptor expressed on myeloid cells 1 (predicted)
G12	Rn.90962	NM_134361	Xcl1	Chemokine (C motif) ligand 1
H01	Rn.973	NM_001007604	Rplp1	Ribosomal protein, large, P1
H02	Rn.47	NM_012583	Hprt	Hypoxanthine guanine phosphoribosyl transferase
H03	Rn.92211	NM_173340	Rpl13a	Ribosomal protein L13A
H04	Rn.107896	NM_017025	Ldha	Lactate dehydrogenase A
H05	Rn.94978	NM_031144	Actb	Actin, beta
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