

# RT<sup>2</sup> Profiler™ PCR Array:

## Human Chemokines and Receptors

**Catalog Number**

PAHS-022A

PAHS-022C

PAHS-022D

PAHS-022E

PAHS-022F

PAHS-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 Human 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:** CCL1, CCL11, CCL13, CCL15, CCL16, CCL17, CCL18, CCL19, CCL2, CCL3, CCL4, CCL5, CCL7, CCL8.

**Chemokine (C-X-C motif) Ligands:** CXCL1, CXCL10, CXCL11, CXCL12, CXCL13, CXCL2, CXCL3, CXCL5, CXCL6, CXCL9.

**Chemokine (C-C motif) Receptors:** CCR1, CCR2, CCR3, CCR4, CCR5, CCR6, CCR7, CCR8, CCR10, CCRL1, CCRL2.

**Chemokine (C-X-C motif) Receptors:** BLR1, CXCR3, CXCR4, CXCR6, CYFIP2.

**Other Chemokines and Related Genes:** AGTRL1, BDNF, C5, C5AR1 (GPR77), CCBP2, CKLF, CMTM1, CMTM2, CMTM3, CMTM4, CMKLR1, CSF3, CX3CL1, CX3CR1, ECGF1, GDF5, GPR31, GPR77, GPR81, HIF1A, IL13, IL16, IL18, IL1A, IL4, IL8, IL8RA, LTB4R, MMP2, MMP7, MYD88, NFKB1, SCYE1, SDF2, SLIT2, TCP10, TLR2, TLR4, TNF, TNFRSF1A, TNFSF14, TREM1, VHL, XCL1, XCR1.

**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.

## **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: Human Chemokines and Receptors PCR Array

	1	2	3	4	5	6	7	8	9	10	11	12
A	AGTRL1	BDNF	BLR1	C5	C5AR1	CCBP2	CCL1	CCL11	CCL13	CCL15	CCL16	CCL17
B	CCL18	CCL19	CCL2	CCL3	CCL4	CCL5	CCL7	CCL8	CCR1	CCR10	CCR2	CCR3
C	CCR4	CCR5	CCR6	CCR7	CCR8	CCRL1	CCRL2	CKLF	CMTM1	CMTM2	CMTM3	CMTM4
D	CMKLR1	CSF3	CX3CL1	CX3CR1	CXCL1	CXCL10	CXCL11	CXCL12	CXCL13	CXCL2	CXCL3	CXCL5
E	CXCL6	CXCL9	CXCR3	CXCR4	CXCR6	CYFIP2	ECGF1	GDF5	GPR31	GPR81	HIF1A	IL13
F	IL16	IL18	IL1A	IL4	IL8	IL8RA	LTB4R	MMP2	MMP7	MYD88	NFKB1	SCYE1
G	SDF2	SLIT2	TCP10	TLR2	TLR4	TNF	TNFRSF1A	TNFSF14	TREM1	VHL	XCL1	XCR1
H	B2M	HPRT1	RPL13A	GAPDH	ACTB	HGDC	RTC	RTC	RTC	PPC	PPC	PPC

### Gene Table

Position	UniGene	GenBank	Symbol	Description
A01	Hs.438311	NM_005161	AGTRL1	Angiotensin II receptor-like 1
A02	Hs.502182	NM_001709	BDNF	Brain-derived neurotrophic factor
A03	Hs.113916	NM_001716	BLR1	Burkitt lymphoma receptor 1, GTP binding protein (chemokine (C-X-C motif) receptor 5)
A04	Hs.494997	NM_001735	C5	Complement component 5
A05	Hs.2161	NM_001736	C5AR1	Complement component 5a receptor 1
A06	Hs.185692	NM_001296	CCBP2	Chemokine binding protein 2
A07	Hs.72918	NM_002981	CCL1	Chemokine (C-C motif) ligand 1
A08	Hs.54460	NM_002986	CCL11	Chemokine (C-C motif) ligand 11
A09	Hs.414629	NM_005408	CCL13	Chemokine (C-C motif) ligand 13
A10	Hs.272493	NM_004167	CCL15	Chemokine (C-C motif) ligand 15
A11	Hs.10458	NM_004590	CCL16	Chemokine (C-C motif) ligand 16
A12	Hs.546294	NM_002987	CCL17	Chemokine (C-C motif) ligand 17
B01	Hs.143961	NM_002988	CCL18	Chemokine (C-C motif) ligand 18 (pulmonary and activation-regulated)
B02	Hs.50002	NM_006274	CCL19	Chemokine (C-C motif) ligand 19
B03	Hs.303649	NM_002982	CCL2	Chemokine (C-C motif) ligand 2
B04	Hs.514107	NM_002983	CCL3	Chemokine (C-C motif) ligand 3
B05	Hs.75703	NM_002984	CCL4	Chemokine (C-C motif) ligand 4
B06	Hs.514821	NM_002985	CCL5	Chemokine (C-C motif) ligand 5
B07	Hs.251526	NM_006273	CCL7	Chemokine (C-C motif) ligand 7
B08	Hs.652137	NM_005623	CCL8	Chemokine (C-C motif) ligand 8
B09	Hs.301921	NM_001295	CCR1	Chemokine (C-C motif) receptor 1
B10	Hs.645382	NM_016602	CCR10	Chemokine (C-C motif) receptor 10
B11	Hs.644637	NM_000648	CCR2	Chemokine (C-C motif) receptor 2
B12	Hs.506190	NM_001837	CCR3	Chemokine (C-C motif) receptor 3
C01	Hs.184926	NM_005508	CCR4	Chemokine (C-C motif) receptor 4
C02	Hs.450802	NM_000579	CCR5	Chemokine (C-C motif) receptor 5
C03	Hs.46468	NM_004367	CCR6	Chemokine (C-C motif) receptor 6
C04	Hs.370036	NM_001838	CCR7	Chemokine (C-C motif) receptor 7
C05	Hs.113222	NM_005201	CCR8	Chemokine (C-C motif) receptor 8
C06	Hs.310512	NM_016557	CCRL1	Chemokine (C-C motif) receptor-like 1
C07	Hs.535713	NM_003965	CCRL2	Chemokine (C-C motif) receptor-like 2
C08	Hs.15159	NM_181641	CKLF	Chemokine-like factor
C09	Hs.549232	NM_181269	CMTM1	CKLF-like MARVEL transmembrane domain containing 1
C10	Hs.195685	NM_144673	CMTM2	CKLF-like MARVEL transmembrane domain containing 2
C11	Hs.298198	NM_144601	CMTM3	CKLF-like MARVEL transmembrane domain containing 3
C12	Hs.643961	NM_178818	CMTM4	CKLF-like MARVEL transmembrane domain containing 4
D01	Hs.506659	NM_004072	CMKLR1	CHEMOKINE-LIKE RECEPTOR 1
D02	Hs.2233	NM_000759	CSF3	Colony stimulating factor 3 (granulocyte)
D03	Hs.531668	NM_002996	CX3CL1	Chemokine (C-X3-C motif) ligand 1
D04	Hs.78913	NM_001337	CX3CR1	Chemokine (C-X3-C motif) receptor 1
D05	Hs.789	NM_001511	CXCL1	Chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha)
D06	Hs.632586	NM_001565	CXCL10	Chemokine (C-X-C motif) ligand 10

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Position	UniGene	GenBank	Symbol	Description
D07	Hs.632592	NM_005409	CXCL11	Chemokine (C-X-C motif) ligand 11
D08	Hs.522891	NM_000609	CXCL12	Chemokine (C-X-C motif) ligand 12 (stromal cell-derived factor 1)
D09	Hs.100431	NM_006419	CXCL13	Chemokine (C-X-C motif) ligand 13 (B-cell chemoattractant)
D10	Hs.590921	NM_002089	CXCL2	Chemokine (C-X-C motif) ligand 2
D11	Hs.89690	NM_002090	CXCL3	Chemokine (C-X-C motif) ligand 3
D12	Hs.89714	NM_002994	CXCL5	Chemokine (C-X-C motif) ligand 5
E01	Hs.164021	NM_002993	CXCL6	Chemokine (C-X-C motif) ligand 6 (granulocyte chemotactic protein 2)
E02	Hs.77367	NM_002416	CXCL9	Chemokine (C-X-C motif) ligand 9
E03	Hs.198252	NM_001504	CXCR3	Chemokine (C-X-C motif) receptor 3
E04	Hs.593413	NM_003467	CXCR4	Chemokine (C-X-C motif) receptor 4
E05	Hs.34526	NM_006564	CXCR6	Chemokine (C-X-C motif) receptor 6
E06	Hs.519702	NM_014376	CYFIP2	Cytoplasmic FMR1 interacting protein 2
E07	Hs.592212	NM_001953	ECGF1	Endothelial cell growth factor 1 (platelet-derived)
E08	Hs.1573	NM_000557	GDF5	Growth differentiation factor 5 (cartilage-derived morphogenetic protein-1)
E09	Hs.248124	NM_005299	GPR31	G protein-coupled receptor 31
E10	Hs.524811	NM_032554	GPR81	G protein-coupled receptor 81
E11	Hs.509554	NM_001530	HIF1A	Hypoxia-inducible factor 1, alpha subunit (basic helix-loop-helix transcription factor)
E12	Hs.845	NM_002188	IL13	Interleukin 13
F01	Hs.459095	NM_004513	IL16	Interleukin 16 (lymphocyte chemoattractant factor)
F02	Hs.83077	NM_001562	IL18	Interleukin 18 (interferon-gamma-inducing factor)
F03	Hs.1722	NM_000575	IL1A	Interleukin 1, alpha
F04	Hs.73917	NM_000589	IL4	Interleukin 4
F05	Hs.624	NM_000584	IL8	Interleukin 8
F06	Hs.194778	NM_000634	IL8RA	Interleukin 8 receptor, alpha
F07	Hs.642695	NM_181657	LTB4R	Leukotriene B4 receptor
F08	Hs.513617	NM_004530	MMP2	Matrix metalloproteinase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV collagenase)
F09	Hs.2256	NM_002423	MMP7	Matrix metalloproteinase 7 (matrilysin, uterine)
F10	Hs.82116	NM_002468	MYD88	Myeloid differentiation primary response gene (88)
F11	Hs.431926	NM_003998	NFKB1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1 (p105)
F12	Hs.591680	NM_004757	SCYE1	Small inducible cytokine subfamily E, member 1 (endothelial monocyte-activating)
G01	Hs.514036	NM_006923	SDF2	Stromal cell-derived factor 2
G02	Hs.652111	NM_004787	SLIT2	Slit homolog 2 (Drosophila)
G03	Hs.351	NM_004610	TCP10	T-complex 10 (mouse)
G04	Hs.519033	NM_003264	TLR2	Toll-like receptor 2
G05	Hs.174312	NM_138554	TLR4	Toll-like receptor 4
G06	Hs.241570	NM_000594	TNF	Tumor necrosis factor (TNF superfamily, member 2)
G07	Hs.279594	NM_001065	TNFRSF1A	Tumor necrosis factor receptor superfamily, member 1A
G08	Hs.129708	NM_003807	TNFSF14	Tumor necrosis factor (ligand) superfamily, member 14
G09	Hs.283022	NM_018643	TREM1	Triggering receptor expressed on myeloid cells 1
G10	Hs.421597	NM_000551	VHL	Von Hippel-Lindau tumor suppressor
G11	Hs.546295	NM_002995	XCL1	Chemokine (C motif) ligand 1
G12	Hs.248116	NM_005283	XCR1	Chemokine (C motif) receptor 1
H01	Hs.534255	NM_004048	B2M	Beta-2-microglobulin
H02	Hs.412707	NM_000194	HPRT1	Hypoxanthine phosphoribosyltransferase 1 (Lesch-Nyhan syndrome)
H03	Hs.546356	NM_012423	RPL13A	Ribosomal protein L13a
H04	Hs.544577	NM_002046	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
H05	Hs.520640	NM_001101	ACTB	Actin, beta
H06	N/A	SA_00105	HGDC	Human 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