

RT² Profiler™ PCR Array:

Rat Common Cytokines

Catalog Number

PARN-021A

PARN-021C

PARN-021D

PARN-021E

PARN-021F

PARN-021G

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 Blocks

Roche LightCycler 480 384-well Blocks

Description

The Rat Common Cytokines RT² Profiler PCR Array profiles the expression of 84 important cytokine genes. This array includes interferons and interleukins as well as the bone morphogenetic proteins (BMP) and members of the TGF- β family. Also represented are colony-stimulating factors and various growth factors (fibroblast, insulin-like, platelet-derived, transforming, and vascular endothelial). Tumor necrosis factors are included as well as other cytokine-related genes. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to cytokines with this array.

Functional Gene Groupings**Interferons:** Ifna1, Ifna2, Ifna4, Ifnb1, Ifng, LOC690891 (Ifna5).**Interleukins:** Il10, Il11, Il12a, Il12b, Il13, Il15, Il16, Il17b, Il17f, Il18, Il19, Il1a, Il1b, Il1f10, Il1f5, Il1f6, Il1f8, Il1m, Il2, Il21, Il24, Il3, Il4, Il5, Il6, Il7, Il9, LOC301289 (Il17), LOC681112 (Il20), RGD1561292 (Il22), RGD1561420 (Il27), RGD1563019 (Il1f9).**Bone Morphogenic Proteins (BMPs) and TGF- β Family:** Bmp1, Bmp10, Bmp2, Bmp3, Bmp4, Bmp5, Bmp6, Bmp7, Gdf1, Gdf10, Gdf11, Gdf15, Gdf5, Gdf8, Gdf9, Inha, Inhba, LOC306312 (Gdf2), RGD1564178_predicted (Gdf3).**TNF Superfamily:** LOC301132 (Tnfsf7), RGD1561519 (Tnfsf13b), Lta, Ltb, Tnf, Tnfrsf11b, Tnfsf10, Tnfsf11, Tnfsf12, Tnfsf13, Tnfsf15, Tnfsf18, Tnfsf4, Cd40lg (Tnfsf5), Faslg (Tnfsf6), Tnfsf9.**Other Growth Factors/Cytokines:** Csf1, Csf2, Ctf1, Ctf2, Fgf10, Lif, LOC691899 (Fbs1), Mif, Scgb3a1, Scye1.**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. Callard R, Gearing A (1998). *The Cytokine Facts Book*, Academic Press.
2. Oppenheim JJ, Feldmann M (2000) *Cytokine References*.
3. Richard A, Kaempfer R (2000). *Cytokines Revisited at Hilton Head Cytokine and Growth Factor Reviews 11*: 255-266.
4. Peter J. Delves and Ivan M. Roitt (1998) *Encyclopedia of Immunology*, 2nd Edition, Academic Press.
5. Jacqueline Parkin and Byrony Cohen (2001) An overview of the immune system, *The Lancet* **357**: 1777-89.
6. Angus Thomson (1998) *Cytokine Handbook*, 3rd edition, Academic Press.
7. Anthony Mire-Sluis and Robin Thorpe (1998) *Cytokines*, Academic Press.

Product Specification Sheet

Array Layout: Rat Common Cytokines RT² Profiler™ PCR Array

	1	2	3	4	5	6	7	8	9	10	11	12
A	Bmp1	Bmp10	Bmp2	Bmp3	Bmp4	Bmp5	Bmp6	Bmp7	Csf1	Csf2	Ctf1	Ctf2
B	Fgf10	Gdf1	Gdf10	Gdf11	Gdf15	Gdf5	Gdf8	Gdf9	Ifna1	Ifna2	Ifna4	Ifnb1
C	Ifng	Il10	Il11	Il12a	Il12b	Il13	Il15	Il16	Il17b	Il17f	Il18	Il19
D	Il1a	Il1b	Il1f10	Il1f5	Il1f6	Il1f8	Il1rn	Il2	Il21	Il24	Il3	Il4
E	Il5	Il6	Il7	Il9	Inha	Inhba	Lif	LOC301132	LOC301289	LOC306312	RGD1561519	LOC681112
F	LOC690891	LOC691899	Lta	Ltb	Mif	Nodal	RGD1561292	RGD1561420	RGD1563019	RGD1564178	Scgb3a1	Scye1
G	Tnf	Tnfsf11b	Tnfsf10	Tnfsf11	Tnfsf12	Tnfsf13	Tnfsf15	Tnfsf18	Tnfsf4	Cd40lg	Faslg	Tnfsf9
H	Rplp1	Hprt	Rpl13a	Ldha	Actb	RGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene Table

Position	UniGene	GenBank	Symbol	Description
A01	Rn.9305	XM_573814	Bmp1	Bone morphogenetic protein 1
A02	Rn.118010	NM_001031824	Bmp10	Bone morphogenetic protein 10
A03	Rn.90931	NM_017178	Bmp2	Bone morphogenetic protein 2
A04	Rn.53974	NM_017105	Bmp3	Bone morphogenetic protein 3
A05	Rn.10318	NM_012827	Bmp4	Bone morphogenetic protein 4
A06	Rn.162990	XM_236415	Bmp5_predicted	Bone morphogenetic protein 5 (predicted)
A07	Rn.40476	NM_013107	Bmp6	Bone morphogenetic protein 6
A08	Rn.18030	XM_342591	Bmp7	Bone morphogenetic protein 7
A09	Rn.83632	NM_023981	Csf1	Colony stimulating factor 1 (macrophage)
A10	Rn.44285	XM_340799	Csf2	Colony stimulating factor 2 (granulocyte-macrophage)
A11	Rn.10253	NM_017129	Ctf1	Cardiotrophin 1
A12	Rn.160600	XM_219355	Ctf2_predicted	Cardiotrophin 2 (predicted)
B01	Rn.44439	NM_012951	Fgf10	Fibroblast growth factor 10
B02	Rn.202347	XM_224733	Gdf1_predicted	Growth differentiation factor 1 (predicted)
B03	Rn.8707	NM_024375	Gdf10	Growth differentiation factor 10
B04	Rn.51292	XM_343148	Gdf11	Growth differentiation factor 11
B05	Rn.44228	NM_019216	Gdf15	Growth differentiation factor 15
B06	Rn.127822	XM_001066344	Gdf5	Growth differentiation factor 5
B07	Rn.44460	NM_019151	Gdf8	Growth differentiation factor 8
B08	Rn.42874	NM_021672	Gdf9	Growth differentiation factor 9
B09	Rn.196548	NM_001014786	Ifna1	Interferon-alpha 1
B10	N/A	XM_233152	Ifna2_predicted	Interferon alpha family, gene 2 (predicted)
B11	N/A	XM_233145	Ifna4_predicted	Interferon, alpha 4 (predicted)
B12	Rn.138105	NM_019127	Ifnb1	Interferon beta 1, fibroblast
C01	Rn.10795	NM_138880	Ifng	Interferon gamma
C02	Rn.9868	NM_012854	Il10	Interleukin 10
C03	Rn.198483	NM_133519	Il11	Interleukin 11
C04	Rn.48723	NM_053390	Il12a	Interleukin 12a
C05	Rn.48686	NM_022611	Il12b	Interleukin 12b
C06	Rn.9921	NM_053828	Il13	Interleukin 13
C07	Rn.2490	NM_013129	Il15	Interleukin 15
C08	Rn.104665	XM_218851	Il16	Interleukin 16 (mapped)
C09	Rn.50003	XM_341621	Il17b	Interleukin 17B
C10	Rn.34022	NM_001015011	Il17f	Interleukin 17F
C11	Rn.11118	NM_019165	Il18	Interleukin 18
C12	N/A	XM_344138	Il19_predicted	Interleukin 19 (predicted)
D01	Rn.12300	NM_017019	Il1a	Interleukin 1 alpha
D02	Rn.9869	NM_031512	Il1b	Interleukin 1 beta
D03	Rn.84164	XM_342378	Il1f10_predicted	Interleukin 1 family, member 10 (predicted)

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Position	UniGene	GenBank	Symbol	Description
D04	Rn.63170	XM_231101	Il1f5_predicted	Interleukin 1 family, member 5 (delta) (predicted)
D05	N/A	XM_231099	Il1f6_predicted	Interleukin 1 family, member 6 (predicted)
D06	Rn.137499	XM_342377	Il1f8_predicted	Interleukin 1 family, member 8 (predicted)
D07	Rn.162640	NM_022194	Il1rn	Interleukin 1 receptor antagonist
D08	Rn.9871	NM_053836	Il2	Interleukin 2
D09	N/A	XM_345201	Il21_predicted	Interleukin 21 (predicted)
D10	Rn.48710	NM_133311	Il24	Interleukin 24
D11	Rn.10652	NM_031513	Il3	Interleukin 3
D12	Rn.108255	NM_201270	Il4	Interleukin 4
E01	Rn.44227	NM_021834	Il5	Interleukin 5
E02	Rn.9873	NM_012589	Il6	Interleukin 6
E03	Rn.10793	NM_013110	Il7	Interleukin 7
E04	Rn.92374	XM_341487	Il9	Interleukin 9
E05	Rn.8831	NM_012590	Inha	Inhibin alpha
E06	Rn.9874	NM_017128	Inhba	Inhibin beta-A
E07	Rn.44379	NM_022196	Lif	Leukemia inhibitory factor
E08	Rn.103013	XM_217320	LOC301132	Similar to Tumor necrosis factor ligand superfamily member 7 (CD27 ligand) (CD27-L) (CD70 antigen)
E09	N/A	XM_236985	LOC301289	Similar to Interleukin-17 precursor (IL-17) (Cytotoxic T lymphocyte-associated antigen 8) (CTLA-8)
E10	Rn.144148	XM_224680	LOC306312	Similar to RNA polymerase II transcription factor SIII subunit A2 (Elongin A2) (EloA2) (Transcription elongation factor B polypeptide 3B)
E11	Rn.19123	XM_573949	RGD1561519_predicted	Similar to NZB B-cell activating factor (predicted)
E12	N/A	XM_001060362	LOC681112	Similar to interleukin 20
F01	N/A	XM_001076043	LOC690891	Similar to alpha-interferon
F02	Rn.201735	XM_001080034	LOC691899	Similar to Probable fibrosin-1 long transcript protein
F03	Rn.160577	NM_080769	Lta	Lymphotoxin A
F04	Rn.16681	NM_212507	Ltb	Lymphotoxin B
F05	Rn.2661	NM_031051	Mif	Macrophage migration inhibitory factor
F06	N/A	XM_228285	Nodal_predicted	Nodal homolog (mouse) (predicted)
F07	Rn.195879	XM_576228	RGD1561292_predicted	Similar to TIF alpha protein (predicted)
F08	N/A	XM_344962	RGD1561420_predicted	Similar to IL-27 p28 subunit (predicted)
F09	Rn.152030	XM_575079	RGD1563019_predicted	Similar to IL-1F9 (predicted)
F10	Rn.202592	XM_575661	RGD1564178_predicted	Similar to growth/differentiation factor GDF-3 precursor - mouse (predicted)
F11	Rn.30648	NM_001013180	Scgb3a1	Secretoglobulin, family 3A, member 1
F12	Rn.3192	NM_053757	Scye1	Small inducible cytokine subfamily E, member 1
G01	Rn.2275	NM_012675	Tnf	Tumor necrosis factor (TNF superfamily, member 2)
G02	Rn.9792	NM_012870	Tnfrsf11b	Tumor necrosis factor receptor superfamily, member 11b (osteoprotegerin)
G03	Rn.83627	NM_145681	Tnfsf10	Tumor necrosis factor (ligand) superfamily, member 10
G04	Rn.64517	NM_057149	Tnfsf11	Tumor necrosis factor (ligand) superfamily, member 11
G05	Rn.3211	NM_001001513	Tnfsf12	Tumor necrosis factor ligand superfamily member 12
G06	Rn.19955	NM_001009623	Tnfsf13	Tumor necrosis factor (ligand) superfamily, member 13
G07	Rn.84873	NM_145765	Tnfsf15	Tumor necrosis factor (ligand) superfamily, member 15
G08	N/A	XM_344166	Tnfsf18_predicted	Tumor necrosis factor (ligand) superfamily, member 18 (predicted)
G09	Rn.30043	NM_053552	Tnfsf4	Tumor necrosis factor (ligand) superfamily, member 4
G10	Rn.44218	NM_053353	Cd40lg	CD40 ligand
G11	Rn.9725	NM_012908	Faslg	Fas ligand (TNF superfamily, member 6)
G12	Rn.185237	NM_181384	Tnfsf9	Tumor necrosis factor (ligand) superfamily, member 9
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