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

Mouse IL6/STAT3 Signaling Pathway

Cat. no. 330231 PAMM-160ZA

For pathway expression analysis

Format	For use with the following real-time cyclers
RT² 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
RT² Profiler PCR Array, Format C	Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)
RT² Profiler PCR Array, Format D	Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000®
RT² Profiler PCR Array, Format E	Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™
RT² Profiler PCR Array, Format F	Roche® LightCycler® 480 (96-well block)
RT² Profiler PCR Array, Format G	Roche LightCycler 480 (384-well block)
RT² Profiler PCR Array, Format H	Fluidigm® BioMark™

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Description

The Mouse IL6/STAT3 Signaling Pathway RT² Profiler PCR Array profiles the expression of 84 key genes involved in the activation and downstream effects of IL6/STAT3 signaling. Interleukin-6, an inflammatory cytokine, is one of many STAT3 activators. IL6 signals through its receptor, IL6R/IL6ST (GP130), activating Janus kinases, which in turn phosphorylate and activate STATs (signal transducer and activator of transcription), including STAT3. The IL6/STAT3 pathway activates inflammatory responses during biological processes such as infection and oncogenesis. STAT3 target genes overlap significantly with targets from the NFκB signaling pathway, another key pathway promoting the inflammatory response. STAT3 signaling is often up-regulated during carcinogenesis, especially during the interaction of tumor cells and immune cells within the tumor microenvironment. This up-regulation involves biological processes such as differentiation and proliferation as well as angiogenesis and apoptosis. This array includes activators, downstream mediators, and target genes for IL6/STAT3 signaling, including cytokines and genes involved in NFκB signaling. The results of this array can yield new insights into the effects of IL6/STAT3 dysregulation. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in IL6/STAT3 signaling 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	Akt1	Bax	Bcl2	Ccl12	Ccl3	Ccl4	Ccl5	Cd4	Cd40	Cd40lg	Cd80	Cdc25a
B	Cdkn1a	Cebpd	Csf1	Csf2	Csf3	Csf3r	Cxcl10	Cxcl12	Cxcr4	Egfr	Fas	Fasl
C	Hgf	Ikbkb	Il10	Il11	Il12a	Il13	Il15	Il17a	Il18	Il18r1	Il1a	Il1b
D	Il1r1	Il2	Il21	Il22	Il23a	Il24	Il2ra	Il3	Il4	Il5	Il6	Il6ra
E	Il6st	Il7	Il9	Jak2	Jak3	Lif	Lifr	Lta	Map2k1	Mapk1	Mapk14	Mapk3
F	Mapk8	Met	Mtor	Myc	Nfkb1	Nfkbia	Osm	Osmr	Pias3	Pim1	Rac1	Rela
G	Socs1	Socs3	Src	Stat3	Tlr4	Tnf	Tnfrsf10b	Tnfrsf1a	Tnfrsf1b	Tnfsf10	Tnfsf11	Tyk2
H	Actb	B2m	Gapdh	Gusb	Hsp90ab1	MGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Mm.6645	NM_009652	Akt1	Thymoma viral proto-oncogene 1
A02	Mm.19904	NM_007527	Bax	Bcl2-associated X protein
A03	Mm.257460	NM_009741	Bcl2	B-cell leukemia/lymphoma 2
A04	Mm.867	NM_011331	Ccl12	Chemokine (C-C motif) ligand 12
A05	Mm.1282	NM_011337	Ccl3	Chemokine (C-C motif) ligand 3
A06	Mm.244263	NM_013652	Ccl4	Chemokine (C-C motif) ligand 4
A07	Mm.284248	NM_013653	Ccl5	Chemokine (C-C motif) ligand 5
A08	Mm.2209	NM_013488	Cd4	CD4 antigen
A09	Mm.271833	NM_011611	Cd40	CD40 antigen
A10	Mm.4861	NM_011616	Cd40lg	CD40 ligand
A11	Mm.89474	NM_009855	Cd80	CD80 antigen
A12	Mm.307103	NM_007658	Cdc25a	Cell division cycle 25 homolog A (S. pombe)
B01	Mm.195663	NM_007669	Cdkn1a	Cyclin-dependent kinase inhibitor 1A (P21)
B02	Mm.347407	NM_007679	Cebpd	CCAAT/enhancer binding protein (C/EBP), delta
B03	Mm.795	NM_007778	Csf1	Colony stimulating factor 1 (macrophage)
B04	Mm.4922	NM_009969	Csf2	Colony stimulating factor 2 (granulocyte-macrophage)
B05	Mm.1238	NM_009971	Csf3	Colony stimulating factor 3 (granulocyte)
B06	Mm.271701	NM_007782	Csf3r	Colony stimulating factor 3 receptor (granulocyte)
B07	Mm.877	NM_021274	Cxcl10	Chemokine (C-X-C motif) ligand 10
B08	Mm.303231	NM_021704	Cxcl12	Chemokine (C-X-C motif) ligand 12
B09	Mm.1401	NM_009911	Cxcr4	Chemokine (C-X-C motif) receptor 4
B10	Mm.8534	NM_007912	Egfr	Epidermal growth factor receptor
B11	Mm.1626	NM_007987	Fas	Fas (TNF receptor superfamily member 6)
B12	Mm.3355	NM_010177	Fasl	Fas ligand (TNF superfamily, member 6)
C01	Mm.267078	NM_010427	Hgf	Hepatocyte growth factor
C02	Mm.277886	NM_010546	Ikbkb	Inhibitor of kappaB kinase beta
C03	Mm.874	NM_010548	Il10	Interleukin 10
C04	Mm.35814	NM_008350	Il11	Interleukin 11
C05	Mm.103783	NM_008351	Il12a	Interleukin 12A
C06	Mm.1284	NM_008355	Il13	Interleukin 13
C07	Mm.4392	NM_008357	Il15	Interleukin 15
C08	Mm.5419	NM_010552	Il17a	Interleukin 17A
C09	Mm.1410	NM_008360	Il18	Interleukin 18
C10	Mm.253664	NM_008365	Il18r1	Interleukin 18 receptor 1
C11	Mm.15534	NM_010554	Il1a	Interleukin 1 alpha
C12	Mm.222830	NM_008361	Il1b	Interleukin 1 beta
D01	Mm.896	NM_008362	Il1r1	Interleukin 1 receptor, type I
D02	Mm.14190	NM_008366	Il2	Interleukin 2
D03	Mm.157689	NM_021782	Il21	Interleukin 21
D04	Mm.103585	NM_016971	Il22	Interleukin 22
D05	Mm.125482	NM_031252	Il23a	Interleukin 23, alpha subunit p19
D06	Mm.196691	NM_053095	Il24	Interleukin 24
D07	Mm.915	NM_008367	Il2ra	Interleukin 2 receptor, alpha chain
D08	Mm.983	NM_010556	Il3	Interleukin 3
D09	Mm.276360	NM_021283	Il4	Interleukin 4

Position	UniGene	GenBank	Symbol	Description
D10	Mm.4461	NM_010558	Il5	Interleukin 5
D11	Mm.1019	NM_031168	Il6	Interleukin 6
D12	Mm.2856	NM_010559	Il6ra	Interleukin 6 receptor, alpha
E01	Mm.4364	NM_010560	Il6st	Interleukin 6 signal transducer
E02	Mm.3825	NM_008371	Il7	Interleukin 7
E03	Mm.3006	NM_008373	Il9	Interleukin 9
E04	Mm.275839	NM_008413	Jak2	Janus kinase 2
E05	Mm.249645	NM_010589	Jak3	Janus kinase 3
E06	Mm.4964	NM_008501	Lif	Leukemia inhibitory factor
E07	Mm.149720	NM_013584	Lifr	Leukemia inhibitory factor receptor
E08	Mm.87787	NM_010735	Lta	Lymphotoxin A
E09	Mm.248907	NM_008927	Map2k1	Mitogen-activated protein kinase kinase 1
E10	Mm.196581	NM_011949	Mapk1	Mitogen-activated protein kinase 1
E11	Mm.311337	NM_011951	Mapk14	Mitogen-activated protein kinase 14
E12	Mm.8385	NM_011952	Mapk3	Mitogen-activated protein kinase 3
F01	Mm.21495	NM_016700	Mapk8	Mitogen-activated protein kinase 8
F02	Mm.86844	NM_008591	Met	Met proto-oncogene
F03	Mm.21158	NM_020009	Mtor	Mechanistic target of rapamycin (serine/threonine kinase)
F04	Mm.2444	NM_010849	Myc	Myelocytomatosis oncogene
F05	Mm.256765	NM_008689	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1, p105
F06	Mm.170515	NM_010907	Nfkbia	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha
F07	Mm.131422	NM_001013365	Osm	Oncostatin M
F08	Mm.10760	NM_011019	Osmr	Oncostatin M receptor
F09	Mm.1635	NM_146135	Pias3	Protein inhibitor of activated STAT 3
F10	Mm.405293	NM_008842	Pim1	Proviral integration site 1
F11	Mm.292510	NM_009007	Rac1	RAS-related C3 botulinum substrate 1
F12	Mm.249966	NM_009045	Rela	V-rel reticuloendotheliosis viral oncogene homolog A (avian)
G01	Mm.130	NM_009896	Socs1	Suppressor of cytokine signaling 1
G02	Mm.3468	NM_007707	Socs3	Suppressor of cytokine signaling 3
G03	Mm.22845	NM_009271	Src	Rous sarcoma oncogene
G04	Mm.249934	NM_011486	Stat3	Signal transducer and activator of transcription 3
G05	Mm.38049	NM_021297	Tlr4	Toll-like receptor 4
G06	Mm.1293	NM_013693	Tnf	Tumor necrosis factor
G07	Mm.193430	NM_020275	Tnfrsf10b	Tumor necrosis factor receptor superfamily, member 10b
G08	Mm.1258	NM_011609	Tnfrsf1a	Tumor necrosis factor receptor superfamily, member 1a
G09	Mm.235328	NM_011610	Tnfrsf1b	Tumor necrosis factor receptor superfamily, member 1b
G10	Mm.1062	NM_009425	Tnfsf10	Tumor necrosis factor (ligand) superfamily, member 10
G11	Mm.249221	NM_011613	Tnfsf11	Tumor necrosis factor (ligand) superfamily, member 11
G12	Mm.20249	NM_018793	Tyk2	Tyrosine kinase 2
H01	Mm.328431	NM_007393	Actb	Actin, beta
H02	Mm.163	NM_009735	B2m	Beta-2 microglobulin
H03	Mm.343110	NM_008084	Gapdh	Glyceraldehyde-3-phosphate dehydrogenase
H04	Mm.3317	NM_010368	Gusb	Glucuronidase, beta
H05	Mm.2180	NM_008302	Hsp90ab1	Heat shock protein 90 alpha (cytosolic), class B member 1
H06	N/A	SA_00106	MGDC	Mouse 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.
RT² First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT² 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
RT² 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
RT² 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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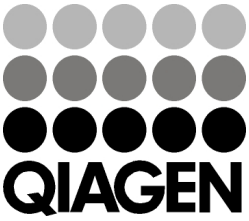

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