

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

Rat IL6/STAT3 Signaling Pathway

Cat. no. 330231 PARN-160ZR

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 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 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.



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.11422	NM_033230	Akt1	V-akt murine thymoma viral oncogene homolog 1
A02	Rn.10668	NM_017059	Bax	Bcl2-associated X protein
A03	Rn.9996	NM_016993	Bcl2	B-cell CLL/lymphoma 2
A04	Rn.137780	NM_001105822	Ccl12	Chemokine (C-C motif) ligand 12
A05	Rn.10139	NM_013025	Ccl3	Chemokine (C-C motif) ligand 3
A06	Rn.37880	NM_053858	Ccl4	Chemokine (C-C motif) ligand 4
A07	Rn.8019	NM_031116	Ccl5	Chemokine (C-C motif) ligand 5
A08	Rn.10748	NM_012705	Cd4	Cd4 molecule
A09	Rn.25180	NM_134360	Cd40	CD40 molecule, TNF receptor superfamily member 5
A10	Rn.44218	NM_053353	Cd40lg	CD40 ligand
A11	Rn.10138	NM_012926	Cd80	Cd80 molecule
A12	Rn.11390	NM_133571	Cdc25a	Cell division cycle 25 homolog A (<i>S. pombe</i>)
B01	Rn.10089	NM_080782	Cdkn1a	Cyclin-dependent kinase inhibitor 1A
B02	Rn.202620	NM_013154	Cebpd	CCAAT/enhancer binding protein (C/EBP), delta
B03	Rn.83632	NM_023981	Csf1	Colony stimulating factor 1 (macrophage)
B04	Rn.44285	XM_340799	Csf2	Colony stimulating factor 2 (granulocyte-macrophage)
B05	Rn.53973	NM_017104	Csf3	Colony stimulating factor 3 (granulocyte)
B06	Rn.134664	NM_001106685	Csf3r	Colony stimulating factor 3 receptor (granulocyte)
B07	Rn.10584	NM_139089	Cxcl10	Chemokine (C-X-C motif) ligand 10
B08	Rn.54439	NM_022177	Cxcl12	Chemokine (C-X-C motif) ligand 12 (stromal cell-derived factor 1)
B09	Rn.10525	NM_138522	Cxcl3	Chemokine (C-X-C motif) ligand 3
B10	Rn.44431	NM_022205	Cxcr4	Chemokine (C-X-C motif) receptor 4
B11	Rn.37227	NM_031507	Egfr	Epidermal growth factor receptor
B12	Rn.162521	NM_139194	Fas	Fas (TNF receptor superfamily, member 6)
C01	Rn.9725	NM_012908	Faslg	Fas ligand (TNF superfamily, member 6)
C02	Rn.10468	NM_017017	Hgf	Hepatocyte growth factor
C03	Rn.19222	NM_053355	Ikbkb	Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta
C04	Rn.9868	NM_012854	Il10	Interleukin 10
C05	Rn.198483	NM_133519	Il11	Interleukin 11
C06	Rn.207199	NM_053390	Il12a	Interleukin 12a
C07	Rn.9921	NM_053828	Il13	Interleukin 13
C08	Rn.2490	NM_013129	Il15	Interleukin 15
C09	Rn.11118	NM_019165	Il18	Interleukin 18
C10	Rn.149181	NM_001106905	Il18r1	Interleukin 18 receptor 1
C11	Rn.12300	NM_017019	Il1a	Interleukin 1 alpha
C12	Rn.9869	NM_031512	Il1b	Interleukin 1 beta
D01	Rn.9758	NM_013123	Il1r1	Interleukin 1 receptor, type I
D02	Rn.9871	NM_053836	Il2	Interleukin 2
D03	Rn.222008	NM_001143881	Il20	Interleukin 20
D04	Rn.214949	NM_001108943	Il21	Interleukin 21
D05	Rn.195879	XM_576228	Il22	Interleukin 22
D06	Rn.81073	NM_130410	Il23a	Interleukin 23, alpha subunit p19
D07	Rn.48710	NM_133311	Il24	Interleukin 24
D08	Rn.9872	NM_013163	Il2ra	Interleukin 2 receptor, alpha
D09	Rn.10652	NM_031513	Il3	Interleukin 3
D10	Rn.108255	NM_201270	Il4	Interleukin 4
D11	Rn.44227	NM_021834	Il5	Interleukin 5
D12	Rn.9873	NM_012589	Il6	Interleukin 6
E01	Rn.12138	NM_001008725	Il6st	Interleukin 6 signal transducer
E02	Rn.10793	NM_013110	Il7	Interleukin 7
E03	Rn.92374	NM_001105747	Il9	Interleukin 9
E04	Rn.18909	NM_031514	Jak2	Janus kinase 2
E05	Rn.11159	NM_012855	Jak3	Janus kinase 3
E06	Rn.44379	NM_022196	Lif	Leukemia inhibitory factor
E07	Rn.14529	NM_031048	Lifr	Leukemia inhibitory factor receptor alpha
E08	Rn.160577	NM_080769	Lta	Lymphotoxin alpha (TNF superfamily, member 1)
E09	Rn.5850	NM_031643	Map2k1	Mitogen activated protein kinase kinase 1

Position	UniGene	GenBank	Symbol	Description
E10	Rn.34914	NM_053842	Mapk1	Mitogen activated protein kinase 1
E11	Rn.88085	NM_031020	Mapk14	Mitogen activated protein kinase 14
E12	Rn.2592	NM_017347	Mapk3	Mitogen activated protein kinase 3
F01	Rn.4090	XM_341399	Mapk8	Mitogen-activated protein kinase 8
F02	Rn.10617	NM_031517	Met	Met proto-oncogene
F03	Rn.11008	NM_019906	Mtor	Mechanistic target of rapamycin (serine/threonine kinase)
F04	Rn.12072	NM_012603	Myc	Myelocytomatosis oncogene
F05	Rn.2411	XM_342346	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
F06	Rn.12550	NM_001105720	Nfkbia	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha
F07	Rn.127158	NM_001006961	Osm	Oncostatin M
F08	Rn.92110	NM_001005384	Osmr	Oncostatin M receptor
F09	Rn.14548	NM_031784	Pias3	Protein inhibitor of activated STAT, 3
F10	Rn.34888	NM_017034	Pim1	Pim-1 oncogene
F11	Rn.29157	NM_134366	Rac1	Ras-related C3 botulinum toxin substrate 1
F12	Rn.19480	NM_199267	Rela	V-rel reticuloendotheliosis viral oncogene homolog A (avian)
G01	Rn.82754	NM_145879	Socs1	Suppressor of cytokine signaling 1
G02	Rn.127801	NM_053565	Socs3	Suppressor of cytokine signaling 3
G03	Rn.112600	NM_031977	Src	V-src sarcoma (Schmidt-Ruppin A-2) viral oncogene homolog (avian)
G04	Rn.10247	NM_012747	Stat3	Signal transducer and activator of transcription 3
G05	Rn.14534	NM_019178	Tlr4	Toll-like receptor 4
G06	Rn.2275	NM_012675	Tnf	Tumor necrosis factor (TNF superfamily, member 2)
G07	Rn.105558	NM_001108873	Tnfrsf10b	Tumor necrosis factor receptor superfamily, member 10b
G08	Rn.11119	NM_013091	Tnfrsf1a	Tumor necrosis factor receptor superfamily, member 1a
G09	Rn.83633	NM_130426	Tnfrsf1b	Tumor necrosis factor receptor superfamily, member 1b
G10	Rn.83627	NM_145681	Tnfsf10	Tumor necrosis factor (ligand) superfamily, member 10
G11	Rn.64517	NM_057149	Tnfsf11	Tumor necrosis factor (ligand) superfamily, member 11
G12	Rn.140313	XM_233741	Tyk2	Tyrosine kinase 2
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.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.

Trademarks: QIAGEN[®], Rotor-Gene[®], Rotor-Disc[™] (QIAGEN Group); ROX[™] (Applied Biosystems Corporation or its subsidiaries); SYBR[®] (Molecular Probes, Inc.).

1067688 03/2011 © 2011 QIAGEN, all rights reserved.

www.qiagen.com

Canada ■ 800-572-9613

China ■ 8621-3865-3865

Denmark ■ 80-885945

Finland ■ 0800-914416

France ■ 01-60-920-930

Germany ■ 02103-29-12000

Hong Kong ■ 800 933 965

Ireland ■ 1800 555 049

Italy ■ 800-787980

Japan ■ 03-6890-7300

Korea (South) ■ 080-000-7145

Luxembourg ■ 8002 2076

Mexico ■ 01-800-7742-436

The Netherlands ■ 0800 0229592

Norway ■ 800-18859

Singapore ■ 1800-742-4368

Spain ■ 91-630-7050

Sweden ■ 020-790282

Switzerland ■ 055-254-22-11

UK ■ 01293-422-911

USA ■ 800-426-8157

Australia ■ 1-800-243-800

Austria ■ 0800/281010

Belgium ■ 0800-79612

Brazil ■ 0800-557779



Sample & Assay Technologies