

# RT<sup>2</sup> Profiler PCR Array (96-Well Format and 384-Well [4 x 96] Format)

## Human JAK / STAT Signaling Pathway

Cat. no. 330231 PAHS-039ZA

For pathway expression analysis

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



## Description

The Human JAK / STAT Signaling Pathway RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 genes related to Jak- and Stat-mediated signaling. The array represents all known Jak and Stat family members, the receptors that activate them, nuclear co-factors and co-activators associated with the Stat proteins, Stat-inducible genes, and negative regulators of the pathway. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to the Jak / Stat Signaling Pathway with this array.

For further details, consult the *RT<sup>2</sup> Profiler PCR Array Handbook*.

## Shipping and storage

RT<sup>2</sup> 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. RT<sup>2</sup> Profiler PCR Arrays in format H are shipped on dry ice or blue ice packs.

For long term storage, keep plates at  $-20^{\circ}\text{C}$ .

**Note:** Ensure that you have the correct RT<sup>2</sup> Profiler PCR Array format for your real-time cycler (see table above).

**Note:** Open the package and store the products appropriately immediately on receipt.

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## Array layout (96-well)

For 384-well 4 x 96 PCR arrays, genes are present in a staggered format. Refer to the *RT<sup>2</sup> Profiler PCR Array Handbook* for layout.

	1	2	3	4	5	6	7	8	9	10	11	12
A	A2M	AKT1	BCL2L1	CCND1	CDKN1A	CEBPB	CEBPD	CRK	CRP	CSF1R	CXCL9	EGFR
B	EPOR	F2	F2R	FAS	FCER2	FCGR1A	GATA3	GHR	GRB2	HMGA1	IFNAR1	IFNG
C	IFNGR1	IL10RA	IL20	IL2RA	IL2RG	IL4	IL4R	IL6ST	INSR	IRF1	IRF9	ISG15
D	JAK1	JAK2	JAK3	JUN	JUNB	LRG1	MCL1	MPL	MYC	NFKB1	NOS2	NR3C1
E	OAS1	OSM	PDGFRA	PIAS1	PIAS2	PRL	PRLR	PTPN1	PTPN11	PTPRC	SH2B1	SMAD1
F	SMAD2	SMAD3	SMAD4	SMAD5	SOC3	SOC3	SOC3	SOC3	SOC3	SP1	SP1	SRC
G	STAM	STAT1	STAT2	STAT3	STAT4	STAT5A	STAT5B	STAT6	STUB1	TYK2	USF1	YY1
H	ACTB	B2M	GAPDH	HPRT1	RPLP0	HGDC	RTC	RTC	RTC	PPC	PPC	PPC

## Gene table: RT<sup>2</sup> Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Hs.212838	NM_000014	A2M	Alpha-2-macroglobulin
A02	Hs.525622	NM_005163	AKT1	V-akt murine thymoma viral oncogene homolog 1
A03	Hs.516966	NM_138578	BCL2L1	BCL2-like 1
A04	Hs.523852	NM_053056	CCND1	Cyclin D1
A05	Hs.370771	NM_000389	CDKN1A	Cyclin-dependent kinase inhibitor 1A (p21, Cip1)
A06	Hs.517106	NM_005194	CEBPB	CCAAT/enhancer binding protein (C/EBP), beta
A07	Hs.440829	NM_005195	CEBPD	CCAAT/enhancer binding protein (C/EBP), delta
A08	Hs.638121	NM_016823	CRK	V-crk sarcoma virus CT10 oncogene homolog (avian)
A09	Hs.709456	NM_000567	CRP	C-reactive protein, pentraxin-related
A10	Hs.654394	NM_005211	CSF1R	Colony stimulating factor 1 receptor
A11	Hs.77367	NM_002416	CXCL9	Chemokine (C-X-C motif) ligand 9
A12	Hs.488293	NM_005228	EGFR	Epidermal growth factor receptor
B01	Hs.631624	NM_000121	EPOR	Erythropoietin receptor
B02	Hs.655207	NM_000506	F2	Coagulation factor II (thrombin)
B03	Hs.482562	NM_001992	F2R	Coagulation factor II (thrombin) receptor
B04	Hs.244139	NM_000043	FAS	Fas (TNF receptor superfamily, member 6)
B05	Hs.465778	NM_002002	FCER2	Fc fragment of IgE, low affinity II, receptor for (CD23)
B06	Hs.77424	NM_000566	FCGR1A	Fc fragment of IgG, high affinity Ia, receptor (CD64)
B07	Hs.524134	NM_002051	GATA3	GATA binding protein 3
B08	Hs.125180	NM_000163	GHR	Growth hormone receptor
B09	Hs.444356	NM_002086	GRB2	Growth factor receptor-bound protein 2
B10	Hs.518805	NM_002131	HMGA1	High mobility group AT-hook 1
B11	Hs.529400	NM_000629	IFNAR1	Interferon (alpha, beta and omega) receptor 1
B12	Hs.856	NM_000619	IFNG	Interferon, gamma
C01	Hs.520414	NM_000416	IFNGR1	Interferon gamma receptor 1
C02	Hs.504035	NM_001558	IL10RA	Interleukin 10 receptor, alpha
C03	Hs.272373	NM_018724	IL20	Interleukin 20
C04	Hs.231367	NM_000417	IL2RA	Interleukin 2 receptor, alpha
C05	Hs.84	NM_000206	IL2RG	Interleukin 2 receptor, gamma
C06	Hs.73917	NM_000589	IL4	Interleukin 4
C07	Hs.513457	NM_000418	IL4R	Interleukin 4 receptor
C08	Hs.532082	NM_002184	IL6ST	Interleukin 6 signal transducer (gp130, oncostatin M receptor)
C09	Hs.465744	NM_000208	INSR	Insulin receptor
C10	Hs.436061	NM_002198	IRF1	Interferon regulatory factor 1
C11	Hs.1706	NM_006084	IRF9	Interferon regulatory factor 9
C12	Hs.458485	NM_005101	ISG15	ISG15 ubiquitin-like modifier
D01	Hs.207538	NM_002227	JAK1	Janus kinase 1
D02	Hs.656213	NM_004972	JAK2	Janus kinase 2
D03	Hs.515247	NM_000215	JAK3	Janus kinase 3
D04	Hs.714791	NM_002228	JUN	Jun proto-oncogene
D05	Hs.25292	NM_002229	JUNB	Jun B proto-oncogene
D06	Hs.655559	NM_052972	LRG1	Leucine-rich alpha-2-glycoprotein 1
D07	Hs.632486	NM_021960	MCL1	Myeloid cell leukemia sequence 1 (BCL2-related)
D08	Hs.82906	NM_005373	MPL	Myeloproliferative leukemia virus oncogene
D09	Hs.202453	NM_002467	MYC	V-myc myelocytomatosis viral oncogene homolog (avian)

Position	UniGene	GenBank	Symbol	Description
D10	Hs.654408	NM_003998	NFKB1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
D11	Hs.709191	NM_000625	NOS2	Nitric oxide synthase 2, inducible
D12	Hs.122926	NM_000176	NR3C1	Nuclear receptor subfamily 3, group C, member 1 (glucocorticoid receptor)
E01	Hs.524760	NM_002534	OAS1	2'-5'-oligoadenylate synthetase 1, 40/46kDa
E02	Hs.248156	NM_020530	OSM	Oncostatin M
E03	Hs.74615	NM_006206	PDGFRA	Platelet-derived growth factor receptor, alpha polypeptide
E04	Hs.162458	NM_016166	PIAS1	Protein inhibitor of activated STAT, 1
E05	Hs.658013	NM_004671	PIAS2	Protein inhibitor of activated STAT, 2
E06	Hs.1905	NM_000948	PRL	Prolactin
E07	Hs.368587	NM_000949	PRLR	Prolactin receptor
E08	Hs.417549	NM_002827	PTPN1	Protein tyrosine phosphatase, non-receptor type 1
E09	Hs.506852	NM_002834	PTPN11	Protein tyrosine phosphatase, non-receptor type 11
E10	Hs.654514	NM_002838	PTPRC	Protein tyrosine phosphatase, receptor type, C
E11	Hs.15744	NM_015503	SH2B1	SH2B adaptor protein 1
E12	Hs.604588	NM_005900	SMAD1	SMAD family member 1
F01	Hs.12253	NM_005901	SMAD2	SMAD family member 2
F02	Hs.714621	NM_005902	SMAD3	SMAD family member 3
F03	Hs.75862	NM_005359	SMAD4	SMAD family member 4
F04	Hs.167700	NM_005903	SMAD5	SMAD family member 5
F05	Hs.50640	NM_003745	SOCS1	Suppressor of cytokine signaling 1
F06	Hs.485572	NM_003877	SOCS2	Suppressor of cytokine signaling 2
F07	Hs.527973	NM_003955	SOCS3	Suppressor of cytokine signaling 3
F08	Hs.708344	NM_080867	SOCS4	Suppressor of cytokine signaling 4
F09	Hs.468426	NM_144949	SOCS5	Suppressor of cytokine signaling 5
F10	Hs.620754	NM_138473	SP1	Sp1 transcription factor
F11	Hs.502511	NM_003120	SPI1	Spleen focus forming virus (SFFV) proviral integration oncogene spi1
F12	Hs.195659	NM_005417	SRC	V-src sarcoma (Schmidt-Ruppin A-2) viral oncogene homolog (avian)
G01	Hs.441498	NM_003473	STAM	Signal transducing adaptor molecule (SH3 domain and ITAM motif) 1
G02	Hs.642990	NM_007315	STAT1	Signal transducer and activator of transcription 1, 91kDa
G03	Hs.530595	NM_005419	STAT2	Signal transducer and activator of transcription 2, 113kDa
G04	Hs.463059	NM_003150	STAT3	Signal transducer and activator of transcription 3 (acute-phase response factor)
G05	Hs.80642	NM_003151	STAT4	Signal transducer and activator of transcription 4
G06	Hs.437058	NM_003152	STAT5A	Signal transducer and activator of transcription 5A
G07	Hs.595276	NM_012448	STAT5B	Signal transducer and activator of transcription 5B
G08	Hs.524518	NM_003153	STAT6	Signal transducer and activator of transcription 6, interleukin-4 induced
G09	Hs.592081	NM_005861	STUB1	STIP1 homology and U-box containing protein 1, E3 ubiquitin protein ligase
G10	Hs.75516	NM_003331	TYK2	Tyrosine kinase 2
G11	Hs.414880	NM_007122	USF1	Upstream transcription factor 1
G12	Hs.388927	NM_003403	YY1	YY1 transcription factor
H01	Hs.520640	NM_001101	ACTB	Actin, beta
H02	Hs.534255	NM_004048	B2M	Beta-2-microglobulin
H03	Hs.592355	NM_002046	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
H04	Hs.412707	NM_000194	HPRT1	Hypoxanthine phosphoribosyltransferase 1
H05	Hs.546285	NM_001002	RPLP0	Ribosomal protein, large, P0
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

## Related products

For optimal performance, RT<sup>2</sup> Profiler PCR Arrays should be used together with the RT<sup>2</sup> First Strand Kit for cDNA synthesis and RT<sup>2</sup> SYBR<sup>®</sup> Green qPCR Mastermixes for PCR.

Product	Contents	Cat. no.
RT <sup>2</sup> First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT <sup>2</sup> 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
RT <sup>2</sup> 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
RT <sup>2</sup> 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.

RT<sup>2</sup> 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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