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

Human Phagocytosis

Cat. no. 330231 PAHS-173ZA

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 Human Phagocytosis RT^2 Profiler PCR Array profiles the expression of 84 genes involved in phagocytosis – the process by which macrophages, dendritic cells, and other myeloid phagocytes internalize diverse particulate targets. In some cases, the innate immune cells take up and destroy pathogenic bacteria, apoptotic cells, and other large particles. In other cases, the peptide antigens from these particles are preserved for presentation in association with major histocompatibility complex (MHC) class I or class II molecules to stimulate antigen-specific T cells which destroy them. The molecular and cellular events that underlie the binding of targets to a phagocyte and their engulfment into phagosomes and processing in the phagosome have been extensively studied. The process of phagocytosis, in either case, provides information to myeloid phagocytes about the nature of the targets being engulfed and helps to tailor immune responses. The genes profiled with this array include receptors involved in phagocytosis, recognition and engulfment of particulate target, phagosome maturation, and signal transduction, as well as cytokines and chemokines to characterize the phagocytic process in a model system. A set of controls present on each array enables data analysis using the ΔΔCT method of relative quantification and assessment of reverse transcription performance, genomic DNA contamination, and PCR performance. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in phagocytosis with this array.

For further details, consult the *RT^2 Profiler PCR Array Handbook*.

Shipping and storage

RT^2 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^2 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 RT^2 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 *RT²Profiler PCR Array Handbook* for layout.

	1	2	3	4	5	6	7	8	9	10	11	12
A	ADIPOQ	AGER	ANXA1	AXL	C3	CALR	CD14	CD36	CD44	CD47	CEACAM3	CLEC7A
B	CLIC4	CNN2	COLEC12	CR1	CRK	CRP	CSF1	CSF2	CSK	CYP2S1	DOCK1	DOCK2
C	ELMO1	FAS	FCER1G	FCGR1A	FCGR2A	FCGR2B	FYN	GULP1	IFNG	IL1RL1	ITGAM	ITGAV
D	ITGB2	LYN	MAPK14	MARCO	MBL2	MCOLN3	MERTK	MFGE8	MIF	MSN	MYD88	NOD1
E	PECAM1	PIP5K1A	PLA2G4A	PLA2G5	PLD1	PLD2	PRKCE	PROS1	PTEN	RAB5A	RAB7A	RAC1
F	RAC2	RALA	RALB	RAPGEF3	RHOA	SCARB1	SERPINE1	SFTPD	SIGLEC1	SIGLEC11	SIRPB1	STAB2
G	STX18	SYK	TGM2	TICAM1	TLR3	TLR9	TNF	TNFSF11	VAMP7	VAV1	WAS	WNT5A
H	ACTB	B2M	GAPDH	HPRT1	RPLP0	HGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Hs.80485	NM_004797	ADIPOQ	Adiponectin, C1Q and collagen domain containing
A02	Hs.534342	NM_001136	AGER	Advanced glycosylation end product-specific receptor
A03	Hs.494173	NM_000700	ANXA1	Annexin A1
A04	Hs.590970	NM_001699	AXL	AXL receptor tyrosine kinase
A05	Hs.529053	NM_000064	C3	Complement component 3
A06	Hs.515162	NM_004343	CALR	Calreticulin
A07	Hs.163867	NM_000591	CD14	CD14 molecule
A08	Hs.120949	NM_000072	CD36	CD36 molecule (thrombospondin receptor)
A09	Hs.502328	NM_000610	CD44	CD44 molecule (Indian blood group)
A10	Hs.446414	NM_001777	CD47	CD47 molecule
A11	Hs.11	NM_001815	CEACAM3	Carcinoembryonic antigen-related cell adhesion molecule 3
A12	Hs.143929	NM_022570	CLEC7A	C-type lectin domain family 7, member A
B01	Hs.440544	NM_013943	CLIC4	Chloride intracellular channel 4
B02	Hs.651512	NM_004368	CNN2	Calponin 2
B03	Hs.464422	NM_130386	COLEC12	Collectin sub-family member 12
B04	Hs.334019	NM_000573	CR1	Complement component (3b/4b) receptor 1 (Knops blood group)
B05	Hs.461896	NM_016823	CRK	V-crk sarcoma virus CT10 oncogene homolog (avian)
B06	Hs.709456	NM_000567	CRP	C-reactive protein, pentraxin-related
B07	Hs.173894	NM_000757	CSF1	Colony stimulating factor 1 (macrophage)
B08	Hs.1349	NM_000758	CSF2	Colony stimulating factor 2 (granulocyte-macrophage)
B09	Hs.77793	NM_004383	CSK	C-src tyrosine kinase
B10	Hs.98370	NM_030622	CYP2S1	Cytochrome P450, family 2, subfamily S, polypeptide 1
B11	Hs.159195	NM_001380	DOCK1	Dedicator of cytokinesis 1
B12	Hs.586174	NM_004946	DOCK2	Dedicator of cytokinesis 2
C01	Hs.656638	NM_130442	ELMO1	Engulfment and cell motility 1
C02	Hs.667309	NM_000043	FAS	Fas (TNF receptor superfamily, member 6)
C03	Hs.433300	NM_004106	FCER1G	Fc fragment of IgE, high affinity I, receptor for; gamma polypeptide
C04	Hs.77424	NM_000566	FCGR1A	Fc fragment of IgG, high affinity Ia, receptor (CD64)
C05	Hs.352642	NM_021642	FCGR2A	Fc fragment of IgG, low affinity IIa, receptor (CD32)
C06	Hs.654395	NM_004001	FCGR2B	Fc fragment of IgG, low affinity IIb, receptor (CD32)
C07	Hs.390567	NM_002037	FYN	FYN oncogene related to SRC, FGR, YES
C08	Hs.470887	NM_016315	GULP1	GULP, engulfment adaptor PTB domain containing 1
C09	Hs.856	NM_000619	IFNG	Interferon, gamma
C10	Hs.66	NM_016232	IL1RL1	Interleukin 1 receptor-like 1
C11	Hs.172631	NM_000632	ITGAM	Integrin, alpha M (complement component 3 receptor 3 subunit)
C12	Hs.436873	NM_002210	ITGAV	Integrin, alpha V (vitronectin receptor, alpha polypeptide, antigen CD51)
D01	Hs.375957	NM_000211	ITGB2	Integrin, beta 2 (complement component 3 receptor 3 and 4 subunit)
D02	Hs.491767	NM_002350	LYN	V-yes-1 Yamaguchi sarcoma viral related oncogene homolog
D03	Hs.485233	NM_001315	MAPK14	Mitogen-activated protein kinase 14
D04	Hs.67726	NM_006770	MARCO	Macrophage receptor with collagenous structure
D05	Hs.499674	NM_000242	MBL2	Mannose-binding lectin (protein C) 2, soluble
D06	Hs.535239	NM_018298	MCOLN3	Mucolipin 3
D07	Hs.306178	NM_006343	MERTK	C-mer proto-oncogene tyrosine kinase
D08	Hs.3745	NM_005928	MFGE8	Milk fat globule-EGF factor 8 protein
D09	Hs.407995	NM_002415	MIF	Macrophage migration inhibitory factor (glycosylation-inhibiting factor)

Position	UniGene	GenBank	Symbol	Description
D10	Hs.713679	NM_002444	MSN	Moesin
D11	Hs.82116	NM_002468	MYD88	Myeloid differentiation primary response gene (88)
D12	Hs.738731	NM_006092	NOD1	Nucleotide-binding oligomerization domain containing 1
E01	Hs.514412	NM_000442	PECAM1	Platelet/endothelial cell adhesion molecule
E02	Hs.655131	NM_003557	PIP5K1A	Phosphatidylinositol-4-phosphate 5-kinase, type I, alpha
E03	Hs.497200	NM_024420	PLA2G4A	Phospholipase A2, group IVA (cytosolic, calcium-dependent)
E04	Hs.319438	NM_000929	PLA2G5	Phospholipase A2, group V
E05	Hs.732969	NM_002662	PLD1	Phospholipase D1, phosphatidylcholine-specific
E06	Hs.104519	NM_002663	PLD2	Phospholipase D2
E07	Hs.580351	NM_005400	PRKCE	Protein kinase C, epsilon
E08	Hs.64016	NM_000313	PROS1	Protein S (alpha)
E09	Hs.729457	NM_000314	PTEN	Phosphatase and tensin homolog
E10	Hs.475663	NM_004162	RAB5A	RAB5A, member RAS oncogene family
E11	Hs.684374	NM_004637	RAB7A	RAB7A, member RAS oncogene family
E12	Hs.413812	NM_006908	RAC1	Ras-related C3 botulinum toxin substrate 1 (rho family, small GTP binding protein Rac1)
F01	Hs.517601	NM_002872	RAC2	Ras-related C3 botulinum toxin substrate 2 (rho family, small GTP binding protein Rac2)
F02	Hs.6906	NM_005402	RALA	V-ral simian leukemia viral oncogene homolog A (ras related)
F03	Hs.469820	NM_002881	RALB	V-ral simian leukemia viral oncogene homolog B (ras related; GTP binding protein)
F04	Hs.8578	NM_006105	RAPGEF3	Rap guanine nucleotide exchange factor (GEF) 3
F05	Hs.247077	NM_001664	RHOA	Ras homolog gene family, member A
F06	Hs.731377	NM_005505	SCARB1	Scavenger receptor class B, member 1
F07	Hs.414795	NM_000602	SERPINE1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1
F08	Hs.253495	NM_003019	SFTPD	Surfactant protein D
F09	Hs.31869	NM_023068	SIGLEC1	Sialic acid binding Ig-like lectin 1, sialoadhesin
F10	Hs.661852	NM_052884	SIGLEC11	Sialic acid binding Ig-like lectin 11
F11	Hs.664861	NM_006065	SIRPB1	Signal-regulatory protein beta 1
F12	Hs.408249	NM_017564	STAB2	Stabilin 2
G01	Hs.584913	NM_016930	STX18	Syntaxin 18
G02	Hs.371720	NM_003177	SYK	Spleen tyrosine kinase
G03	Hs.517033	NM_004613	TGM2	Transglutaminase 2 (C polypeptide, protein-glutamine-gamma-glutamyltransferase)
G04	Hs.29344	NM_182919	TICAM1	Toll-like receptor adaptor molecule 1
G05	Hs.657724	NM_003265	TLR3	Toll-like receptor 3
G06	Hs.87968	NM_017442	TLR9	Toll-like receptor 9
G07	Hs.241570	NM_000594	TNF	Tumor necrosis factor
G08	Hs.333791	NM_003701	TNFSF11	Tumor necrosis factor (ligand) superfamily, member 11
G09	Hs.24167	NM_005638	VAMP7	Vesicle-associated membrane protein 7
G10	Hs.116237	NM_005428	VAV1	Vav 1 guanine nucleotide exchange factor
G11	Hs.2157	NM_000377	WAS	Wiskott-Aldrich syndrome (eczema-thrombocytopenia)
G12	Hs.643085	NM_003392	WNT5A	Wingless-type MMTV integration site family, member 5A
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, 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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