RT² Profiler PCR Array (Rotor-Gene® Format) Human Phagocytosis

Cat. no. 330231 PAHS-173ZR

For pathway expression analysis

Format	For use with the following real-time cyclers
RT ² Profiler PCR Array,	Rotor-Gene Q, other Rotor-Gene cyclers
Format R	

Description

The Human Phagocytosis RT2 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 $\Delta\Delta$ CT 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 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	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)	
C02	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 Ilb, 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	
C10	Hs.172631	NM 000632	ITGAM	<u> </u>	
C12		NM 002210	ITGAV	Integrin, alpha M (complement component 3 receptor 3 subunit)	
D01	Hs.436873 Hs.375957	NM_002210	ITGAV	Integrin, alpha V (vitronectin receptor, alpha polypeptide, antigen CD5	
D01	Hs.491767	NM 002350	LYN	Integrin, beta 2 (complement component 3 receptor 3 and 4 subunit)	
D02	Hs.485233	NM 001315	MAPK14	V-yes-1 Yamaguchi sarcoma viral related oncogene homolog	
D03	Hs.485233 Hs.67726	NM_001315 NM_006770	MARCO	Mitogen-activated protein kinase 14	
D04 D05	Hs.67/26 Hs.499674	NM_006770 NM_000242	MBL2	Macrophage receptor with collagenous structure	
D05		_		Mannose-binding lectin (protein C) 2, soluble	
D06	Hs.535239	NM_018298	MCOLN3 MERTK	Mucolipin 3	
D07	Hs.306178	NM_006343	MEKIK MFGE8	C-mer proto-oncogene tyrosine kinase	
	Hs.3745	NM_005928		Milk fat globule-EGF factor 8 protein	
D09	Hs.407995	NM_002415	MIF	Macrophage migration inhibitory factor (glycosylation-inhibiting factor)	
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	

Position	UniGene	GenBank	Symbol	Description	
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)	
				V-ral simian leukemia viral oncogene homolog B (ras related; GTP binding	
F03	Hs.469820	NM_002881	RALB	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	NIM 000402	SERPINE1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type	
FU/	HS.414/95	NM_000602	SERPINET	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	NIM 004/12	TGM2	Transglutaminase 2 (C polypeptide,	
G03	HS.51/033	NM_004613	1GM2	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, PO	
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.
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.

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