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

Human Protease Activated Receptor Signaling

Cat. no. 330231 PAHS-159ZA

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 Protease-Activated Receptor Signaling RT² Profiler PCR Array profiles the expression of 84 key genes involved in the activation and response of protease-activated receptors (PARs). The PAR family is a class of G protein-coupled receptors that are activated by proteolytic cleavage of their extracellular domain. Thrombin (F2) activates PAR1, PAR2, and PAR4, whereas trypsin activates PAR3. However, these 4 receptors can also be activated by several other proteases. Each enzyme cleaves specific sites on the receptors, resulting in different downstream responses. The majority of the proteases that activate PAR signaling play a central role in hemostasis, or the formation and degradation of blood clots. Specific PAR signaling pathways and responses have been identified for some of these proteases, such as tissue factor (F3), activated protein C (PROC), factor VIIa (F7), and factor Xa (F10). PAR signaling also cross-talks with other cellular receptors, such as EPCR (PROCR), TLR4, and S1PR3. These signaling pathways have been identified in multiple cell types, affecting biological processes such as adhesion, proliferation, and migration. PAR signaling dysregulation can be involved in cancer progression. In addition, cancer patients are often diagnosed with coagulopathies, caused by dysregulation of either PAR ligands or target genes involved in hemostasis. PAR signaling target genes also include cytokines and other proteins regulating the inflammatory response, as well as angiogenic genes. This array includes ligands and receptors involved in PAR signaling, as well as downstream effectors and target genes identified for specific PAR signaling pathways. The results of this array can suggest which PARs and specific pathways are involved in a model system of interest. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in PAR 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	ADCY7	AKT1	CCL2	CD55	CDKN1A	CSF1	CSF2	CTGF	CTSG	CXCL1	CYR61	DKK1
B	EGR1	ELK1	ETS1	F10	F2	F2R	F2RL1	F2RL2	F2RL3	F3	F7	GATA2
C	GJA1	GNAI1	HBEGF	HMGCR	HRAS	HSPA5	ICAM1	IKBKB	IL10	IL13	IL1B	IL4
D	IL6	IL8	ITGAM	ITGB1	JUNB	KDR	KITLG	MAP2K1	MAPK14	MIF	MMP1	MMP2
E	NAB2	NFATC1	NFKB1	PLAU	PLAUR	PLEK	PLG	PRKCA	PRKCE	PROC	PROCR	PTGS2
F	PTK2	PTPN11	REL	RELA	RHOA	RHOH	RPS6KB1	S1PR1	S1PR3	SELE	SELP	SERPINB2
G	SERPINB5	SERPINE1	SRC	TFPI	TGFB1	THBD	THBS1	TNF	TP53	VCAM1	VEGFA	VEGFC
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.513578	NM_001114	ADCY7	Adenylate cyclase 7
A02	Hs.525622	NM_005163	AKT1	V-akt murine thymoma viral oncogene homolog 1
A03	Hs.303649	NM_002982	CCL2	Chemokine (C-C motif) ligand 2
A04	Hs.126517	NM_000574	CD55	CD55 molecule, decay accelerating factor for complement (Cromer blood group)
A05	Hs.370771	NM_000389	CDKN1A	Cyclin-dependent kinase inhibitor 1A (p21, Cip1)
A06	Hs.591402	NM_000757	CSF1	Colony stimulating factor 1 (macrophage)
A07	Hs.1349	NM_000758	CSF2	Colony stimulating factor 2 (granulocyte-macrophage)
A08	Hs.591346	NM_001901	CTGF	Connective tissue growth factor
A09	Hs.421724	NM_001911	CTSG	Cathepsin G
A10	Hs.789	NM_001511	CXCL1	Chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha)
A11	Hs.8867	NM_001554	CYR61	Cysteine-rich, angiogenic inducer, 61
A12	Hs.40499	NM_012242	DKK1	Dickkopf homolog 1 (Xenopus laevis)
B01	Hs.326035	NM_001964	EGR1	Early growth response 1
B02	Hs.181128	NM_005229	ELK1	ELK1, member of ETS oncogene family
B03	Hs.369438	NM_005238	ETS1	V-ets erythroblastosis virus E26 oncogene homolog 1 (avian)
B04	Hs.361463	NM_000504	F10	Coagulation factor X
B05	Hs.655207	NM_000506	F2	Coagulation factor II (thrombin)
B06	Hs.482562	NM_001992	F2R	Coagulation factor II (thrombin) receptor
B07	Hs.154299	NM_005242	F2RL1	Coagulation factor II (thrombin) receptor-like 1
B08	Hs.42502	NM_004101	F2RL2	Coagulation factor II (thrombin) receptor-like 2
B09	Hs.137574	NM_003950	F2RL3	Coagulation factor II (thrombin) receptor-like 3
B10	Hs.62192	NM_001993	F3	Coagulation factor III (thromboplastin, tissue factor)
B11	Hs.36989	NM_000131	F7	Coagulation factor VII (serum prothrombin conversion accelerator)
B12	Hs.367725	NM_032638	GATA2	GATA binding protein 2
C01	Hs.74471	NM_000165	GJA1	Gap junction protein, alpha 1, 43kDa
C02	Hs.134587	NM_002069	GNAI1	Guanine nucleotide binding protein (G protein), alpha inhibiting activity polypeptide 1
C03	Hs.799	NM_001945	HBEGF	Heparin-binding EGF-like growth factor
C04	Hs.643495	NM_000859	HMGCR	3-hydroxy-3-methylglutaryl-CoA reductase
C05	Hs.37003	NM_005343	HRAS	V-Ha-ras Harvey rat sarcoma viral oncogene homolog
C06	Hs.716396	NM_005347	HSPA5	Heat shock 70kDa protein 5 (glucose-regulated protein, 78kDa)
C07	Hs.643447	NM_000201	ICAM1	Intercellular adhesion molecule 1
C08	Hs.597664	NM_001556	IKBKB	Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta
C09	Hs.193717	NM_000572	IL10	Interleukin 10
C10	Hs.845	NM_002188	IL13	Interleukin 13
C11	Hs.126256	NM_000576	IL1B	Interleukin 1, beta
C12	Hs.73917	NM_000589	IL4	Interleukin 4
D01	Hs.654458	NM_000600	IL6	Interleukin 6 (interferon, beta 2)
D02	Hs.624	NM_000584	IL8	Interleukin 8
D03	Hs.172631	NM_000632	ITGAM	Integrin, alpha M (complement component 3 receptor 3 subunit)
D04	Hs.643813	NM_002211	ITGB1	Integrin, beta 1 (fibronectin receptor, beta polypeptide, antigen CD29 includes MDF2, MSK12)
D05	Hs.25292	NM_002229	JUNB	Jun B proto-oncogene
D06	Hs.479756	NM_002253	KDR	Kinase insert domain receptor (a type III receptor tyrosine kinase)

Position	UniGene	GenBank	Symbol	Description
D07	Hs.1048	NM_003994	KITLG	KIT ligand
D08	Hs.145442	NM_002755	MAP2K1	Mitogen-activated protein kinase kinase 1
D09	Hs.485233	NM_001315	MAPK14	Mitogen-activated protein kinase 14
D10	Hs.407995	NM_002415	MIF	Macrophage migration inhibitory factor (glycosylation-inhibiting factor)
D11	Hs.83169	NM_002421	MMP1	Matrix metallopeptidase 1 (interstitial collagenase)
D12	Hs.513617	NM_004530	MMP2	Matrix metallopeptidase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV collagenase)
E01	Hs.159223	NM_005967	NAB2	NGFI-A binding protein 2 (EGR1 binding protein 2)
E02	Hs.534074	NM_172390	NFATC1	Nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 1
E03	Hs.654408	NM_003998	NFKB1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
E04	Hs.77274	NM_002658	PLAU	Plasminogen activator, urokinase
E05	Hs.466871	NM_002659	PLAUR	Plasminogen activator, urokinase receptor
E06	Hs.468840	NM_002664	PLEK	Pleckstrin
E07	Hs.143436	NM_000301	PLG	Plasminogen
E08	Hs.531704	NM_002737	PRKCA	Protein kinase C, alpha
E09	Hs.580351	NM_005400	PRKCE	Protein kinase C, epsilon
E10	Hs.224698	NM_000312	PROC	Protein C (inactivator of coagulation factors Va and VIIIa)
E11	Hs.647450	NM_006404	PROCR	Protein C receptor, endothelial
E12	Hs.196384	NM_000963	PTGS2	Prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)
F01	Hs.395482	NM_005607	PTK2	PTK2 protein tyrosine kinase 2
F02	Hs.506852	NM_002834	PTPN11	Protein tyrosine phosphatase, non-receptor type 11
F03	Hs.631886	NM_002908	REL	V-rel reticuloendotheliosis viral oncogene homolog (avian)
F04	Hs.502875	NM_021975	RELA	V-rel reticuloendotheliosis viral oncogene homolog A (avian)
F05	Hs.247077	NM_001664	RHOA	Ras homolog gene family, member A
F06	Hs.654594	NM_004310	RHOH	Ras homolog gene family, member H
F07	Hs.463642	NM_003161	RPS6KB1	Ribosomal protein S6 kinase, 70kDa, polypeptide 1
F08	Hs.154210	NM_001400	S1PR1	Sphingosine-1-phosphate receptor 1
F09	Hs.585118	NM_005226	S1PR3	Sphingosine-1-phosphate receptor 3
F10	Hs.89546	NM_000450	SELE	Selectin E
F11	Hs.73800	NM_003005	SELP	Selectin P (granule membrane protein 140kDa, antigen CD62)
F12	Hs.594481	NM_002575	SERPINB2	Serpin peptidase inhibitor, clade B (ovalbumin), member 2
G01	Hs.55279	NM_002639	SERPINB5	Serpin peptidase inhibitor, clade B (ovalbumin), member 5
G02	Hs.414795	NM_000602	SERPINE1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1
G03	Hs.195659	NM_005417	SRC	V-src sarcoma (Schmidt-Ruppin A-2) viral oncogene homolog (avian)
G04	Hs.516578	NM_006287	TFPI	Tissue factor pathway inhibitor (lipoprotein-associated coagulation inhibitor)
G05	Hs.645227	NM_000660	TGFB1	Transforming growth factor, beta 1
G06	Hs.2030	NM_000361	THBD	Thrombomodulin
G07	Hs.164226	NM_003246	THBS1	Thrombospondin 1
G08	Hs.241570	NM_000594	TNF	Tumor necrosis factor
G09	Hs.654481	NM_000546	TP53	Tumor protein p53
G10	Hs.109225	NM_001078	VCAM1	Vascular cell adhesion molecule 1
G11	Hs.73793	NM_003376	VEGFA	Vascular endothelial growth factor A
G12	Hs.435215	NM_005429	VEGFC	Vascular endothelial growth factor C
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.

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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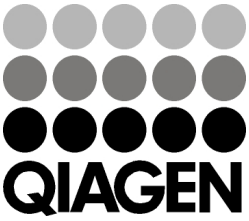

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