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

Human PI3K-AKT Signaling Pathway

Cat. no. 330231 PAHS-058ZA

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 PI3K-AKT Signaling Pathway RT² Profiler PCR Array profiles the expression of 84 genes involved in PI3K-AKT signaling. This array contains members of the AKT (Protein Kinase B) and PI3K families and their regulators. Genes involved in several biological processes are represented including inactivation of Gsk3 and the accumulation of b-catenin, regulation of actin organization and cell migration, and BAD phosphorylation. Genes involved in the IGF-1, mTOR, and anti-apoptotic pathways are also contained in this array. Regulators of eIF4e and p70 S6 kinase activity are included as well. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to PI3K-AKT 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	ADAR	AKT1	AKT2	AKT3	APC	BAD	BTK	CASP9	CCND1	CD14	CDC42	CDKN1B
B	CHUK	CSNK2A1	CTNNB1	EIF2AK2	EIF4B	EIF4E	EIF4EBP1	EIF4G1	ELK1	FASLG	FKBP1A	FOS
C	FOXO1	FOXO3	GJA1	GRB10	GRB2	GSK3B	HRAS	HSPB1	IGF1	IGF1R	ILK	IRAK1
D	IRS1	ITGB1	JUN	MAP2K1	MAPK1	MAPK14	MAPK3	MAPK8	MTCP1	MTOR	MYD88	NFKB1
E	NFKBIA	PABPC1	PAK1	PDGFRA	PDK1	PDK2	PDPK1	PIK3CA	PIK3CG	PIK3R1	PIK3R2	PRKCA
F	PRKCB	PRKCZ	PTEN	PTK2	PTPN11	RAC1	RAF1	RASA1	RBL2	RHEB	RHOA	RPS6KA1
G	RPS6KB1	SHC1	SOS1	SRF	TCL1A	TIRAP	TLR4	TOLLIP	TSC1	TSC2	WASL	YWHAH
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.12341	NM_001111	ADAR	Adenosine deaminase, RNA-specific
A02	Hs.525622	NM_005163	AKT1	V-akt murine thymoma viral oncogene homolog 1
A03	Hs.631535	NM_001626	AKT2	V-akt murine thymoma viral oncogene homolog 2
A04	Hs.498292	NM_005465	AKT3	V-akt murine thymoma viral oncogene homolog 3 (protein kinase B, gamma)
A05	Hs.158932	NM_000038	APC	Adenomatous polyposis coli
A06	Hs.370254	NM_004322	BAD	BCL2-associated agonist of cell death
A07	Hs.159494	NM_000061	BTK	Bruton agammaglobulinemia tyrosine kinase
A08	Hs.329502	NM_001229	CASP9	Caspase 9, apoptosis-related cysteine peptidase
A09	Hs.523852	NM_053056	CCND1	Cyclin D1
A10	Hs.163867	NM_000591	CD14	CD14 molecule
A11	Hs.690198	NM_001791	CDC42	Cell division cycle 42 (GTP binding protein, 25kDa)
A12	Hs.238990	NM_004064	CDKN1B	Cyclin-dependent kinase inhibitor 1B (p27, Kip1)
B01	Hs.198998	NM_001278	CHUK	Conserved helix-loop-helix ubiquitous kinase
B02	Hs.644056	NM_001895	CSNK2A1	Casein kinase 2, alpha 1 polypeptide
B03	Hs.476018	NM_001904	CTNNB1	Catenin (cadherin-associated protein), beta 1, 88kDa
B04	Hs.131431	NM_002759	EIF2AK2	Eukaryotic translation initiation factor 2-alpha kinase 2
B05	Hs.648394	NM_001417	EIF4B	Eukaryotic translation initiation factor 4B
B06	Hs.249718	NM_001968	EIF4E	Eukaryotic translation initiation factor 4E
B07	Hs.411641	NM_004095	EIF4EBP1	Eukaryotic translation initiation factor 4E binding protein 1
B08	Hs.433750	NM_182917	EIF4G1	Eukaryotic translation initiation factor 4 gamma, 1
B09	Hs.181128	NM_005229	ELK1	ELK1, member of ETS oncogene family
B10	Hs.2007	NM_000639	FASLG	Fas ligand (TNF superfamily, member 6)
B11	Hs.471933	NM_000801	FKBP1A	FK506 binding protein 1A, 12kDa
B12	Hs.728789	NM_005252	FOS	FBJ murine osteosarcoma viral oncogene homolog
C01	Hs.370666	NM_002015	FOXO1	Forkhead box O1
C02	Hs.220950	NM_001455	FOXO3	Forkhead box O3
C03	Hs.74471	NM_000165	GJA1	Gap junction protein, alpha 1, 43kDa
C04	Hs.164060	NM_005311	GRB10	Growth factor receptor-bound protein 10
C05	Hs.444356	NM_002086	GRB2	Growth factor receptor-bound protein 2
C06	Hs.445733	NM_002093	GSK3B	Glycogen synthase kinase 3 beta
C07	Hs.37003	NM_005343	HRAS	V-Ha-ras Harvey rat sarcoma viral oncogene homolog
C08	Hs.520973	NM_001540	HSPB1	Heat shock 27kDa protein 1
C09	Hs.160562	NM_000618	IGF1	Insulin-like growth factor 1 (somatomedin C)
C10	Hs.643120	NM_000875	IGF1R	Insulin-like growth factor 1 receptor
C11	Hs.5158	NM_004517	ILK	Integrin-linked kinase
C12	Hs.522819	NM_001569	IRAK1	Interleukin-1 receptor-associated kinase 1
D01	Hs.471508	NM_005544	IRS1	Insulin receptor substrate 1
D02	Hs.643813	NM_002211	ITGB1	Integrin, beta 1 (fibronectin receptor, beta polypeptide, antigen CD29 includes MDF2, MSK12)
D03	Hs.714791	NM_002228	JUN	Jun proto-oncogene
D04	Hs.145442	NM_002755	MAP2K1	Mitogen-activated protein kinase kinase 1
D05	Hs.431850	NM_002745	MAPK1	Mitogen-activated protein kinase 1
D06	Hs.485233	NM_001315	MAPK14	Mitogen-activated protein kinase 14
D07	Hs.861	NM_002746	MAPK3	Mitogen-activated protein kinase 3
D08	Hs.138211	NM_002750	MAPK8	Mitogen-activated protein kinase 8

Position	UniGene	GenBank	Symbol	Description
D09	Hs.6917	NM_001018025	MTCP1	Mature T-cell proliferation 1
D10	Hs.338207	NM_004958	MTOR	Mechanistic target of rapamycin (serine/threonine kinase)
D11	Hs.82116	NM_002468	MYD88	Myeloid differentiation primary response gene (88)
D12	Hs.654408	NM_003998	NFKB1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
E01	Hs.81328	NM_020529	NFKBIA	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha
E02	Hs.387804	NM_002568	PABPC1	Poly(A) binding protein, cytoplasmic 1
E03	Hs.435714	NM_002576	PAK1	P21 protein (Cdc42/Rac)-activated kinase 1
E04	Hs.74615	NM_006206	PDGFRA	Platelet-derived growth factor receptor, alpha polypeptide
E05	Hs.470633	NM_002610	PDK1	Pyruvate dehydrogenase kinase, isozyme 1
E06	Hs.256667	NM_002611	PDK2	Pyruvate dehydrogenase kinase, isozyme 2
E07	Hs.459691	NM_002613	PDPK1	3-phosphoinositide dependent protein kinase-1
E08	Hs.553498	NM_006218	PIK3CA	Phosphoinositide-3-kinase, catalytic, alpha polypeptide
E09	Hs.32942	NM_002649	PIK3CG	Phosphoinositide-3-kinase, catalytic, gamma polypeptide
E10	Hs.132225	NM_181504	PIK3R1	Phosphoinositide-3-kinase, regulatory subunit 1 (alpha)
E11	Hs.371344	NM_005027	PIK3R2	Phosphoinositide-3-kinase, regulatory subunit 2 (beta)
E12	Hs.531704	NM_002737	PRKCA	Protein kinase C, alpha
F01	Hs.460355	NM_002738	PRKCB	Protein kinase C, beta
F02	Hs.496255	NM_002744	PRKCZ	Protein kinase C, zeta
F03	Hs.500466	NM_000314	PTEN	Phosphatase and tensin homolog
F04	Hs.395482	NM_005607	PTK2	PTK2 protein tyrosine kinase 2
F05	Hs.506852	NM_002834	PTPN11	Protein tyrosine phosphatase, non-receptor type 11
F06	Hs.413812	NM_006908	RAC1	Ras-related C3 botulinum toxin substrate 1 (rho family, small GTP binding protein Rac1)
F07	Hs.159130	NM_002880	RAF1	V-raf-1 murine leukemia viral oncogene homolog 1
F08	Hs.664080	NM_002890	RASA1	RAS p21 protein activator (GTPase activating protein) 1
F09	Hs.513609	NM_005611	RBL2	Retinoblastoma-like 2 (p130)
F10	Hs.283521	NM_005614	RHEB	Ras homolog enriched in brain
F11	Hs.247077	NM_001664	RHOA	Ras homolog gene family, member A
F12	Hs.149957	NM_002953	RPS6KA1	Ribosomal protein S6 kinase, 90kDa, polypeptide 1
G01	Hs.463642	NM_003161	RPS6KB1	Ribosomal protein S6 kinase, 70kDa, polypeptide 1
G02	Hs.433795	NM_003029	SHC1	SHC (Src homology 2 domain containing) transforming protein 1
G03	Hs.592839	NM_005633	SOS1	Son of sevenless homolog 1 (Drosophila)
G04	Hs.520140	NM_003131	SRF	Serum response factor (c-fos serum response element-binding transcription factor)
G05	Hs.2484	NM_021966	TCL1A	T-cell leukemia/lymphoma 1A
G06	Hs.537126	NM_001039661	TIRAP	Toll-interleukin 1 receptor (TIR) domain containing adaptor protein
G07	Hs.174312	NM_138554	TLR4	Toll-like receptor 4
G08	Hs.368527	NM_019009	TOLLIP	Toll interacting protein
G09	Hs.370854	NM_000368	TSC1	Tuberous sclerosis 1
G10	Hs.90303	NM_000548	TSC2	Tuberous sclerosis 2
G11	Hs.143728	NM_003941	WASL	Wiskott-Aldrich syndrome-like
G12	Hs.226755	NM_003405	YWHAH	Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, eta polypeptide
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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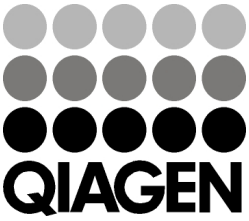

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