

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

Mouse PI3K-AKT Signaling Pathway

Cat. no. 330231 PAMM-058ZA

For pathway expression analysis

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



Sample & Assay Technologies

Description

The Mouse 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	Cank2a1	Ctnnb1	Eif2ak2	Eif4b	Eif4e	Eif4ebp1	Eif4g1	Elk1	Fasl	Fkbp1a	Fos
C	Foxo1	Foxo3	Gja1	Grb10	Grb2	Gsk3b	Hras1	Hspb1	Igf1	Igf1r	Ilk	Irak1
D	Irs1	Itgb1	Jun	Map2k1	Mapk1	Mapk14	Mapk3	Mapk8	Mtcb1	Mtor	Myd88	Nfkb1
E	Nfkbia	Palpc1	Pak1	Pdgfra	Pdk1	Pdk2	Pdpk1	Pik3ca	Pik3cg	Pik3r1	Pik3r2	Prkca
F	Prkcb	Prkcz	Pten	Pik2	Ptpn11	Rac1	Raf1	Rasa1	Rb12	Rheb	Rhoa	Rps6ka1
G	Rps6kb1	Shc1	Sos1	Srf	Tcl1	Tirap	Tlr4	Tollip	Tsc1	Tsc2	Wasl	Ywhah
H	Actb	B2m	Gapdh	Gusb	Hsp90ab1	MGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Mm.316628	NM_019655	Adar	Adenosine deaminase, RNA-specific
A02	Mm.6645	NM_009652	Akt1	Thymoma viral proto-oncogene 1
A03	Mm.177194	NM_007434	Akt2	Thymoma viral proto-oncogene 2
A04	Mm.235194	NM_011785	Akt3	Thymoma viral proto-oncogene 3
A05	Mm.384171	NM_007462	Apc	Adenomatosis polyposis coli
A06	Mm.4387	NM_007522	Bad	BCL2-associated agonist of cell death
A07	Mm.4475	NM_013482	Btk	Bruton agammaglobulinemia tyrosine kinase
A08	Mm.88829	NM_015733	Casp9	Caspase 9
A09	Mm.273049	NM_007631	Ccnd1	Cyclin D1
A10	Mm.3460	NM_009841	Cd14	CD14 antigen
A11	Mm.1022	NM_009861	Cdc42	Cell division cycle 42 homolog (S. cerevisiae)
A12	Mm.2958	NM_009875	Cdkn1b	Cyclin-dependent kinase inhibitor 1B
B01	Mm.3996	NM_007700	Chuk	Conserved helix-loop-helix ubiquitous kinase
B02	Mm.23692	NM_007788	Csnk2a1	Casein kinase 2, alpha 1 polypeptide
B03	Mm.291928	NM_007614	Ctnnb1	Catenin (cadherin associated protein), beta 1
B04	Mm.378990	NM_011163	Eif2ak2	Eukaryotic translation initiation factor 2-alpha kinase 2
B05	Mm.290022	NM_145625	Eif4b	Eukaryotic translation initiation factor 4B
B06	Mm.3941	NM_007917	Eif4e	Eukaryotic translation initiation factor 4E
B07	Mm.6700	NM_007918	Eif4ebp1	Eukaryotic translation initiation factor 4E binding protein 1
B08	Mm.260256	NM_001005331	Eif4g1	Eukaryotic translation initiation factor 4, gamma 1
B09	Mm.405823	NM_007922	Elk1	ELK1, member of ETS oncogene family
B10	Mm.3355	NM_010177	Fasl	Fas ligand (TNF superfamily, member 6)
B11	Mm.278458	NM_008019	Fkbp1a	FK506 binding protein 1a
B12	Mm.246513	NM_010234	Fos	FBJ osteosarcoma oncogene
C01	Mm.29891	NM_019739	Foxo1	Forkhead box O1
C02	Mm.338613	NM_019740	Foxo3	Forkhead box O3
C03	Mm.378921	NM_010288	Gja1	Gap junction protein, alpha 1
C04	Mm.273117	NM_010345	Grb10	Growth factor receptor bound protein 10
C05	Mm.439649	NM_008163	Grb2	Growth factor receptor bound protein 2
C06	Mm.394930	NM_019827	Gsk3b	Glycogen synthase kinase 3 beta
C07	Mm.334313	NM_008284	Hras1	Harvey rat sarcoma virus oncogene 1
C08	Mm.13849	NM_013560	Hspb1	Heat shock protein 1
C09	Mm.268521	NM_010512	Igf1	Insulin-like growth factor 1
C10	Mm.275742	NM_010513	Igf1r	Insulin-like growth factor I receptor
C11	Mm.274846	NM_010562	Ilk	Integrin linked kinase
C12	Mm.38241	NM_008363	Irak1	Interleukin-1 receptor-associated kinase 1
D01	Mm.4952	NM_010570	Irs1	Insulin receptor substrate 1
D02	Mm.263396	NM_010578	Itgb1	Integrin beta 1 (fibronectin receptor beta)
D03	Mm.275071	NM_010591	Jun	Jun oncogene
D04	Mm.248907	NM_008927	Map2k1	Mitogen-activated protein kinase kinase 1
D05	Mm.196581	NM_011949	Mapk1	Mitogen-activated protein kinase 1
D06	Mm.311337	NM_011951	Mapk14	Mitogen-activated protein kinase 14
D07	Mm.8385	NM_011952	Mapk3	Mitogen-activated protein kinase 3
D08	Mm.21495	NM_016700	Mapk8	Mitogen-activated protein kinase 8
D09	Mm.16366	NM_010839	Mtcb1	Mature T-cell proliferation 1

Position	UniGene	GenBank	Symbol	Description
D10	Mm.21158	NM_020009	Mtor	Mechanistic target of rapamycin (serine/threonine kinase)
D11	Mm.213003	NM_010851	Myd88	Myeloid differentiation primary response gene 88
D12	Mm.256765	NM_008689	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1, p105
E01	Mm.170515	NM_010907	Nfkbia	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha
E02	Mm.371570	NM_008774	Pabpc1	Poly(A) binding protein, cytoplasmic 1
E03	Mm.260227	NM_011035	Pak1	P21 protein (Cdc42/Rac)-activated kinase 1
E04	Mm.221403	NM_011058	Pdgfra	Platelet derived growth factor receptor, alpha polypeptide
E05	Mm.34411	NM_172665	Pdk1	Pyruvate dehydrogenase kinase, isoenzyme 1
E06	Mm.29768	NM_133667	Pdk2	Pyruvate dehydrogenase kinase, isoenzyme 2
E07	Mm.10504	NM_011062	Pdpk1	3-phosphoinositide dependent protein kinase 1
E08	Mm.260521	NM_008839	Pik3ca	Phosphatidylinositol 3-kinase, catalytic, alpha polypeptide
E09	Mm.101369	NM_020272	Pik3cg	Phosphoinositide-3-kinase, catalytic, gamma polypeptide
E10	Mm.259333	NM_001024955	Pik3r1	Phosphatidylinositol 3-kinase, regulatory subunit, polypeptide 1 (p85 alpha)
E11	Mm.12945	NM_008841	Pik3r2	Phosphatidylinositol 3-kinase, regulatory subunit, polypeptide 2 (p85 beta)
E12	Mm.222178	NM_011101	Prkca	Protein kinase C, alpha
F01	Mm.207496	NM_008855	Prkcb	Protein kinase C, beta
F02	Mm.28561	NM_008860	Prkcz	Protein kinase C, zeta
F03	Mm.245395	NM_008960	Pten	Phosphatase and tensin homolog
F04	Mm.254494	NM_007982	Ptk2	PTK2 protein tyrosine kinase 2
F05	Mm.8681	NM_011202	Ptprn11	Protein tyrosine phosphatase, non-receptor type 11
F06	Mm.292510	NM_009007	Rac1	RAS-related C3 botulinum substrate 1
F07	Mm.184163	NM_029780	Raf1	V-raf-leukemia viral oncogene 1
F08	Mm.259653	NM_145452	Rasa1	RAS p21 protein activator 1
F09	Mm.235580	NM_011250	Rbl2	Retinoblastoma-like 2
F10	Mm.319175	NM_053075	Rheb	Ras homolog enriched in brain
F11	Mm.757	NM_016802	Rhoa	Ras homolog gene family, member A
F12	Mm.301827	NM_009097	Rps6ka1	Ribosomal protein S6 kinase polypeptide 1
G01	Mm.394280	NM_028259	Rps6kb1	Ribosomal protein S6 kinase, polypeptide 1
G02	Mm.86595	NM_011368	Shc1	Src homology 2 domain-containing transforming protein C1
G03	Mm.434583	NM_009231	Sos1	Son of sevenless homolog 1 (Drosophila)
G04	Mm.45044	NM_020493	Srf	Serum response factor
G05	Mm.18154	NM_009337	Tcl1	T-cell lymphoma breakpoint 1
G06	Mm.23987	NM_054096	Tirap	Toll-interleukin 1 receptor (TIR) domain-containing adaptor protein
G07	Mm.38049	NM_021297	Tlr4	Toll-like receptor 4
G08	Mm.103551	NM_023764	Tollip	Toll interacting protein
G09	Mm.224354	NM_022887	Tsc1	Tuberous sclerosis 1
G10	Mm.30435	NM_011647	Tsc2	Tuberous sclerosis 2
G11	Mm.1574	NM_028459	Wasl	Wiskott-Aldrich syndrome-like (human)
G12	Mm.332314	NM_011738	Ywhah	Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, eta polypeptide
H01	Mm.328431	NM_007393	Actb	Actin, beta
H02	Mm.163	NM_009735	B2m	Beta-2 microglobulin
H03	Mm.343110	NM_008084	Gapdh	Glyceraldehyde-3-phosphate dehydrogenase
H04	Mm.3317	NM_010368	Gusb	Glucuronidase, beta
H05	Mm.2180	NM_008302	Hsp90ab1	Heat shock protein 90 alpha (cytosolic), class B member 1
H06	N/A	SA_00106	MGDC	Mouse 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 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 ² 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 ² 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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