

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

Rat PI3K-AKT Signaling Pathway

Cat. no. 330231 PARN-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 Rat 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	Faslg	Fkbp1a	Fos	Foxg1
C	Foxo3	Gja1	Grb10	Grb2	Gsk3b	Hras	Hspb1	Igf1	Igf1r	Ilk	Irak1	Irs1
D	Itgb1	Jun	Kcnh8	Map2k1	Mapk1	Mapk14	Mapk3	Mapk8	Mtcb1	Mtor	Myd88	Nfkb1
E	Nfkbia	Palpc1	Pak1	Pdgfra	Pdk1	Pdk2	Pdkp1	Pik3ca	Pik3cg	Pik3r1	Pik3r2	Prkca
F	Prkcb	Prkcz	Pten	Pik2	Ptpn11	Rac1	Raf1	Rasa1	Rb12	Rheb	Rhoa	Rps6ka1
G	Rps6kb1	Shc1	Sos1	Srf	Tcl1a	Tirap	Tlr4	Tollip	Tsc1	Tsc2	Wasl	Ywhah
H	Actb	B2m	Hprt1	Ldha	Rplp1	RGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Rn.10056	NM_031006	Adar	Adenosine deaminase, RNA-specific
A02	Rn.11422	NM_033230	Akt1	V-akt murine thymoma viral oncogene homolog 1
A03	Rn.87066	NM_017093	Akt2	V-akt murine thymoma viral oncogene homolog 2
A04	Rn.10506	NM_031575	Akt3	V-akt murine thymoma viral oncogene homolog 3 (protein kinase B, gamma)
A05	Rn.88057	NM_012499	Apc	Adenomatous polyposis coli
A06	Rn.36696	NM_022698	Bad	BCL2-associated agonist of cell death
A07	Rn.26996	NM_001007798	Btk	Bruton agammaglobulinemia tyrosine kinase
A08	Rn.32199	NM_031632	Casp9	Caspase 9, apoptosis-related cysteine peptidase
A09	Rn.22279	NM_171992	Ccnd1	Cyclin D1
A10	Rn.42942	NM_021744	Cd14	CD14 molecule
A11	Rn.60067	NM_171994	Cdc42	Cell division cycle 42 (GTP binding protein)
A12	Rn.29897	NM_031762	Cdkn1b	Cyclin-dependent kinase inhibitor 1B
B01	Rn.23019	NM_001107588	Chuk	Conserved helix-loop-helix ubiquitous kinase
B02	Rn.4231	NM_053824	Csnk2a1	Casein kinase 2, alpha 1 polypeptide
B03	Rn.112601	NM_053357	Ctnnb1	Catenin (cadherin associated protein), beta 1
B04	Rn.10022	NM_019335	Eif2ak2	Eukaryotic translation initiation factor 2-alpha kinase 2
B05	Rn.95954	NM_001008324	Eif4b	Eukaryotic translation initiation factor 4B
B06	Rn.11275	NM_053974	Eif4e	Eukaryotic translation initiation factor 4E
B07	Rn.11161	NM_053857	Eif4ebp1	Eukaryotic translation initiation factor 4E binding protein 1
B08	Rn.101803	XM_213569	Eif4g1	Eukaryotic translation initiation factor 4 gamma, 1
B09	Rn.9725	NM_012908	Faslg	Fas ligand (TNF superfamily, member 6)
B10	Rn.80611	NM_013102	Fkbp1a	FK506 binding protein 1a
B11	Rn.103750	NM_022197	Fos	FBJ osteosarcoma oncogene
B12	Rn.9864	NM_012560	Foxg1	Forkhead box G1
C01	Rn.24593	NM_001106395	Foxo3	Forkhead box O3
C02	Rn.10346	NM_012567	Gja1	Gap junction protein, alpha 1
C03	Rn.63942	NM_001109093	Grb10	Growth factor receptor bound protein 10
C04	Rn.3360	NM_030846	Grb2	Growth factor receptor bound protein 2
C05	Rn.10426	NM_032080	Gsk3b	Glycogen synthase kinase 3 beta
C06	Rn.102180	NM_001098241	Hras	Harvey rat sarcoma virus oncogene
C07	Rn.3841	NM_031970	Hspb1	Heat shock protein 1
C08	Rn.6282	NM_178866	Igf1	Insulin-like growth factor 1
C09	Rn.10957	NM_052807	Igf1r	Insulin-like growth factor 1 receptor
C10	Rn.95042	NM_133409	Ilk	Integrin-linked kinase
C11	Rn.22238	NM_001127555	Irak1	Interleukin-1 receptor-associated kinase 1
C12	Rn.10476	NM_012969	Irs1	Insulin receptor substrate 1
D01	Rn.25733	NM_017022	Itgb1	Integrin, beta 1
D02	Rn.93714	NM_021835	Jun	Jun oncogene
D03	Rn.30029	NM_145095	Kcnh8	Potassium voltage-gated channel, subfamily H (eag-related), member 8
D04	Rn.5850	NM_031643	Map2k1	Mitogen activated protein kinase kinase 1
D05	Rn.34914	NM_053842	Mapk1	Mitogen activated protein kinase 1
D06	Rn.88085	NM_031020	Mapk14	Mitogen activated protein kinase 14
D07	Rn.2592	NM_017347	Mapk3	Mitogen activated protein kinase 3
D08	Rn.4090	XM_341399	Mapk8	Mitogen-activated protein kinase 8
D09	Rn.219711	XM_001070795	Mtcb1	Mature T-cell proliferation 1

Position	UniGene	GenBank	Symbol	Description
D10	Rn.11008	NM_019906	Mtor	Mechanistic target of rapamycin (serine/threonine kinase)
D11	Rn.37341	NM_198130	Myd88	Myeloid differentiation primary response gene 88
D12	Rn.2411	XM_342346	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
E01	Rn.12550	NM_001105720	Nfkbia	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha
E02	Rn.127813	NM_134353	Pabpc1	Poly(A) binding protein, cytoplasmic 1
E03	Rn.9149	NM_017198	Pak1	P21 protein (Cdc42/Rac)-activated kinase 1
E04	Rn.55127	NM_012802	Pdgfra	Platelet derived growth factor receptor, alpha polypeptide
E05	Rn.11185	NM_053826	Pdk1	Pyruvate dehydrogenase kinase, isozyme 1
E06	Rn.88597	NM_030872	Pdk2	Pyruvate dehydrogenase kinase, isozyme 2
E07	Rn.10905	NM_031081	Pdpk1	3-phosphoinositide dependent protein kinase-1
E08	Rn.44193	NM_133399	Pik3ca	Phosphoinositide-3-kinase, catalytic, alpha polypeptide
E09	Rn.152697	NM_001106723	Pik3cg	Phosphoinositide-3-kinase, catalytic, gamma polypeptide
E10	Rn.10599	NM_013005	Pik3r1	Phosphoinositide-3-kinase, regulatory subunit 1 (alpha)
E11	Rn.22497	NM_022185	Pik3r2	Phosphoinositide-3-kinase, regulatory subunit 2 (beta)
E12	Rn.207908	NM_001105713	Prkca	Protein kinase C, alpha
F01	Rn.91118	NM_012713	Prkcb	Protein kinase C, beta
F02	Rn.1109	NM_022507	Prkcz	Protein kinase C, zeta
F03	Rn.22158	NM_031606	Pten	Phosphatase and tensin homolog
F04	Rn.2809	NM_013081	Ptk2	PTK2 protein tyrosine kinase 2
F05	Rn.98209	NM_013088	Ptprn1	Protein tyrosine phosphatase, non-receptor type 11
F06	Rn.29157	NM_134366	Rac1	Ras-related C3 botulinum toxin substrate 1
F07	Rn.33262	NM_012639	Raf1	V-raf-leukemia viral oncogene 1
F08	Rn.12223	NM_013135	Rasa1	RAS p21 protein activator (GTPase activating protein) 1
F09	Rn.11020	NM_031094	Rbl2	Retinoblastoma-like 2
F10	Rn.859	NM_013216	Rheb	Ras homolog enriched in brain
F11	Rn.107401	NM_057132	Rhoa	Ras homolog gene family, member A
F12	Rn.34915	NM_031107	Rps6ka1	Ribosomal protein S6 kinase polypeptide 1
G01	Rn.4042	NM_031985	Rps6kb1	Ribosomal protein S6 kinase, polypeptide 1
G02	Rn.138818	NM_053517	Shc1	SHC (Src homology 2 domain containing) transforming protein 1
G03	Rn.91844	NM_001100716	Sos1	Son of sevenless homolog 1 (Drosophila)
G04	Rn.1501	NM_001109302	Srf	Serum response factor (c-fos serum response element-binding transcription factor)
G05	Rn.218634	NM_001109601	Tcl1a	T-cell leukemia/lymphoma 1A
G06	N/A	XM_001055833	Tirap	Toll-interleukin 1 receptor (TIR) domain-containing adaptor protein
G07	Rn.14534	NM_019178	Tlr4	Toll-like receptor 4
G08	Rn.137040	NM_001109668	Tollip	Toll interacting protein
G09	Rn.205837	NM_021854	Tsc1	Tuberous sclerosis 1
G10	Rn.5875	NM_012680	Tsc2	Tuberous sclerosis 2
G11	Rn.216426	NM_001110365	Wasl	Wiskott-Aldrich syndrome-like
G12	Rn.3324	NM_013052	Ywhah	Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, eta polypeptide
H01	Rn.94978	NM_031144	Actb	Actin, beta
H02	Rn.1868	NM_012512	B2m	Beta-2 microglobulin
H03	Rn.47	NM_012583	Hprt1	Hypoxanthine phosphoribosyltransferase 1
H04	Rn.107896	NM_017025	Ldha	Lactate dehydrogenase A
H05	Rn.973	NM_001007604	Rplp1	Ribosomal protein, large, P1
H06	N/A	U26919	RGDC	Rat 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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