

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

Mouse VEGF Signaling

Cat. no. 330231 PAMM-091ZA

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 VEGF Signaling RT² Profiler PCR Array profiles the expression of 84 key genes involved in signal transduction and cell signaling downstream of vascular endothelial growth factors and their receptors critical for regulating new blood vessel formation, including angiogenesis, arteriogenesis, or vasculogenesis. Angiogenesis and VEGF Signaling go hand-in-hand with sprouting and splitting (intussusception) angiogenesis, vascularization, neovascularization, revascularization, and vascular remodeling in response to developmental and hypoxia or ischemic signaling pathways. The array analyzes the expression of genes directly mediating VEGF signaling: growth factors and their receptors, small G-protein family members and their interacting proteins, phospholipases, intracellular kinases and phosphatases in cross-talking signal transduction pathways, and transcription factors. Normal development requires carefully regulated angiogenesis and VEGF signaling, while pathological angiogenesis and uncontrolled VEGF signaling plays key roles in disease states like cardiovascular disorders, cancer (or tumor growth more specifically), macular degeneration, and wound healing. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes involved in VEGF 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	Akt1	Akt2	Akt3	Arnt	Bad	Casp9	Cav1	Cdc42	Figf	Flt1	Flt4	Grb2
B	Hif1a	Hras1	Hsp90aa1	Hspb1	Kdr	Kras	Map2k1	Map2k2	Mapk1	Mapk11	Mapk12	Mapk13
C	Mapk14	Mapk3	Mapkapk2	Mapkapk3	Nfat5	Nfatc1	Nfatc2	Nfatc3	Nfatc4	Nos3	Nras	Nrp1
D	Nrp2	Pdgfc	Pgf	Pik3ca	Pik3cb	Pik3cd	Pik3cg	Pik3r1	Pik3r2	Pik3r3	Pik3r5	Pla2g10
E	Pla2g12a	Pla2g12b	Pla2g1b	Pla2g2a	Pla2g2d	Pla2g2e	Pla2g2f	Pla2g3	Pla2g4a	Pla2g4b	Pla2g5	Pla2g6
F	Plcg1	Plcg2	Ppp3ca	Ppp3cb	Ppp3cc	Ppp3r1	Ppp3r2	Prkca	Prkcb	Prkcc	Plgs2	Pik2
G	Pxn	Rac1	Rac2	Raf1	Sh2d2a	Shc2	Sphk1	Sphk2	Src	Vegfa	Vegfb	Vegfc
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.6645	NM_009652	Akt1	Thymoma viral proto-oncogene 1
A02	Mm.177194	NM_007434	Akt2	Thymoma viral proto-oncogene 2
A03	Mm.235194	NM_011785	Akt3	Thymoma viral proto-oncogene 3
A04	Mm.250265	NM_009709	Arnt	Aryl hydrocarbon receptor nuclear translocator
A05	Mm.4387	NM_007522	Bad	BCL2-associated agonist of cell death
A06	Mm.88829	NM_015733	Casp9	Caspase 9
A07	Mm.28278	NM_007616	Cav1	Caveolin 1, caveolae protein
A08	Mm.1022	NM_009861	Cdc42	Cell division cycle 42 homolog (S. cerevisiae)
A09	Mm.297978	NM_010216	Figf	C-fos induced growth factor
A10	Mm.389712	NM_010228	Flt1	FMS-like tyrosine kinase 1
A11	Mm.3291	NM_008029	Flt4	FMS-like tyrosine kinase 4
A12	Mm.439649	NM_008163	Grb2	Growth factor receptor bound protein 2
B01	Mm.3879	NM_010431	Hif1a	Hypoxia inducible factor 1, alpha subunit
B02	Mm.334313	NM_008284	Hras1	Harvey rat sarcoma virus oncogene 1
B03	Mm.1843	NM_010480	Hsp90aa1	Heat shock protein 90, alpha (cytosolic), class A member 1
B04	Mm.13849	NM_013560	Hspb1	Heat shock protein 1
B05	Mm.285	NM_010612	Kdr	Kinase insert domain protein receptor
B06	Mm.383182	NM_021284	Kras	V-Ki-ras2 Kirsten rat sarcoma viral oncogene homolog
B07	Mm.248907	NM_008927	Map2k1	Mitogen-activated protein kinase kinase 1
B08	Mm.275436	NM_023138	Map2k2	Mitogen-activated protein kinase kinase 2
B09	Mm.196581	NM_011949	Mapk1	Mitogen-activated protein kinase 1
B10	Mm.91969	NM_011161	Mapk11	Mitogen-activated protein kinase 11
B11	Mm.38343	NM_013871	Mapk12	Mitogen-activated protein kinase 12
B12	Mm.27970	NM_011950	Mapk13	Mitogen-activated protein kinase 13
C01	Mm.311337	NM_011951	Mapk14	Mitogen-activated protein kinase 14
C02	Mm.8385	NM_011952	Mapk3	Mitogen-activated protein kinase 3
C03	Mm.221235	NM_008551	Mapkapk2	MAP kinase-activated protein kinase 2
C04	Mm.222612	NM_178907	Mapkapk3	Mitogen-activated protein kinase-activated protein kinase 3
C05	Mm.390057	NM_018823	Nfat5	Nuclear factor of activated T-cells 5
C06	Mm.329560	NM_016791	Nfatc1	Nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 1
C07	Mm.116802	NM_010899	Nfatc2	Nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 2
C08	Mm.383185	NM_010901	Nfatc3	Nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 3
C09	Mm.27908	NM_023699	Nfatc4	Nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 4
C10	Mm.258415	NM_008713	Nos3	Nitric oxide synthase 3, endothelial cell
C11	Mm.400954	NM_010937	Nras	Neuroblastoma ras oncogene
C12	Mm.271745	NM_008737	Nrp1	Neuropilin 1
D01	Mm.266341	NM_010939	Nrp2	Neuropilin 2
D02	Mm.331089	NM_019971	Pdgfc	Platelet-derived growth factor, C polypeptide
D03	Mm.4809	NM_008827	Pgf	Placental growth factor
D04	Mm.260521	NM_008839	Pik3ca	Phosphatidylinositol 3-kinase, catalytic, alpha polypeptide
D05	Mm.213128	NM_029094	Pik3cb	Phosphatidylinositol 3-kinase, catalytic, beta polypeptide
D06	Mm.229108	NM_008840	Pik3cd	Phosphatidylinositol 3-kinase catalytic delta polypeptide
D07	Mm.101369	NM_020272	Pik3cg	Phosphoinositide-3-kinase, catalytic, gamma polypeptide
D08	Mm.259333	NM_001024955	Pik3r1	Phosphatidylinositol 3-kinase, regulatory subunit, polypeptide 1 (p85 alpha)
D09	Mm.12945	NM_008841	Pik3r2	Phosphatidylinositol 3-kinase, regulatory subunit, polypeptide 2 (p85 beta)

Position	UniGene	GenBank	Symbol	Description
D10	Mm.253819	NM_181585	Pik3r3	Phosphatidylinositol 3 kinase, regulatory subunit, polypeptide 3 (p55)
D11	Mm.244960	NM_177320	Pik3r5	Phosphoinositide-3-kinase, regulatory subunit 5, p101
D12	Mm.4214	NM_011987	Pla2g10	Phospholipase A2, group X
E01	Mm.151951	NM_183423	Pla2g12a	Phospholipase A2, group XIIA
E02	Mm.30268	NM_023530	Pla2g12b	Phospholipase A2, group XIIB
E03	Mm.20190	NM_011107	Pla2g1b	Phospholipase A2, group IB, pancreas
E04	Mm.4675	NM_001082531	Pla2g2a	Phospholipase A2, group IIA (platelets, synovial fluid)
E05	Mm.71913	NM_011109	Pla2g2d	Phospholipase A2, group IID
E06	Mm.296007	NM_012044	Pla2g2e	Phospholipase A2, group IIE
E07	Mm.331989	NM_012045	Pla2g2f	Phospholipase A2, group IIF
E08	Mm.100476	NM_172791	Pla2g3	Phospholipase A2, group III
E09	Mm.4186	NM_008869	Pla2g4a	Phospholipase A2, group IVA (cytosolic, calcium-dependent)
E10	Mm.41467	NM_145378	Pla2g4b	Phospholipase A2, group IVB (cytosolic)
E11	Mm.23347	NM_011110	Pla2g5	Phospholipase A2, group V
E12	Mm.155620	NM_016915	Pla2g6	Phospholipase A2, group VI
F01	Mm.44463	NM_021280	Plcg1	Phospholipase C, gamma 1
F02	Mm.192699	NM_172285	Plcg2	Phospholipase C, gamma 2
F03	Mm.331389	NM_008913	Ppp3ca	Protein phosphatase 3, catalytic subunit, alpha isoform
F04	Mm.274432	NM_008914	Ppp3cb	Protein phosphatase 3, catalytic subunit, beta isoform
F05	Mm.439683	NM_008915	Ppp3cc	Protein phosphatase 3, catalytic subunit, gamma isoform
F06	Mm.41840	NM_024459	Ppp3r1	Protein phosphatase 3, regulatory subunit B, alpha isoform (calcineurin B, type I)
F07	Mm.46125	NM_001004025	Ppp3r2	Protein phosphatase 3, regulatory subunit B, alpha isoform (calcineurin B, type II)
F08	Mm.222178	NM_011101	Prka	Protein kinase C, alpha
F09	Mm.207496	NM_008855	Prkcb	Protein kinase C, beta
F10	Mm.7980	NM_011102	Prkcc	Protein kinase C, gamma
F11	Mm.292547	NM_011198	Plgs2	Prostaglandin-endoperoxide synthase 2
F12	Mm.254494	NM_007992	Plk2	PTK2 protein tyrosine kinase 2
G01	Mm.18714	NM_011223	Pxn	Paxillin
G02	Mm.292510	NM_009007	Rac1	RAS-related C3 botulinum substrate 1
G03	Mm.1972	NM_009008	Rac2	RAS-related C3 botulinum substrate 2
G04	Mm.184163	NM_029780	Raf1	V-raf-leukemia viral oncogene 1
G05	Mm.86361	NM_021309	Sh2d2a	SH2 domain protein 2A
G06	Mm.39424	NM_001024539	Shc2	SHC (Src homology 2 domain containing) transforming protein 2
G07	Mm.20944	NM_025367	Sphk1	Sphingosine kinase 1
G08	Mm.24222	NM_020011	Sphk2	Sphingosine kinase 2
G09	Mm.22845	NM_009271	Src	Rous sarcoma oncogene
G10	Mm.282184	NM_009505	Vegfa	Vascular endothelial growth factor A
G11	Mm.15607	NM_011697	Vegfb	Vascular endothelial growth factor B
G12	Mm.1402	NM_009506	Vegfc	Vascular endothelial growth factor C
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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