

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

Mouse Adherens Junctions

Cat. no. 330231 PAMM-146ZA

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™



Description

The Mouse Adherens Junctions RT² Profiler PCR Array profiles the expression of 84 key genes encoding components, interactors, and regulators of adherens junctions and desmosomes involved in cell–cell contacts mediated by cadherins. Adherens junctions occur at adhesion belts linking adjacent epithelial cells or the focal contacts on the lower surface of cultured fibroblasts. Desmosomes are anchoring cell–cell junctions, usually formed between 2 epithelial cells and characterized by dense protein plaques. Adherens junctions connect cadherins to actin filaments internally, while desmosomes connect cadherins to intermediate filaments such as keratin and desmin filaments. Besides cadherins, cell surface receptor components of adherens junctions also include desmocollins, desmogleins, nectins, and Notch proteins. Adherens-junction–associated proteins, especially the catenins, recruit protein kinases that regulate the cytoskeleton via phosphorylation cascades and G-proteins that directly recruit cytoskeleton components to the junction. Adherens junctions regulate several key normal biological processes including intestinal absorption, keratinization, vascular biology, and WNT-dependent development. Dysregulation of focal adhesion function and integrity plays a key role in the pathophysiology of diseases such as cardiomyopathies, fibroproliferative disorders, polycystic kidney disease, and epithelial-to-mesenchymal transition during tumor metastasis. Profiling the expression of adherens junction and desmosome components may lead to a better understanding of molecular mechanisms behind cell-cell contact mediated cell biology. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in adherens junctions 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	Actn1	Actn2	Actn3	Actn4	Ajap1	Anapc1	Arf6	Arvcf	Baiap2	Cbl1	Cdc27	Cdc42
B	Cdh1	Cdh2	Cdh3	Cdh4	Cdh5	Csnk2a1	Csnk2a2	Csnk2b	Ctnna1	Ctnna2	Ctnna3	Ctnnb1
C	Ctnnd1	Dlg5	Dll1	Dnm1	Dnm2	Dock4	Dsc1	Dsc2	Dsc3	Dsg1a	Dsg1b	Dsg2
D	Dsg3	Dsg4	Dsp	Exoc2	Farp2	Flna	Flnb	Hgs	Iqgap1	Jup	Lmo7	Mapre1
E	Mapre2	Mllt4	Nme1	Notch1	Notch2	Notch3	Notch4	P2rx6	Pard3	Perp	Pik3cg	Pkp1
F	Pkp2	Pkp3	Pkp4	Pnn	Ppop2b	Ppl	Pvr1	Pvr2	Pvr14	Rac1	Rala	Rhoa
G	Sorbs1	Sax2ip	Tjp1	Tln1	Tln2	Vcl	Vezt	Was	Wasf1	Wasf2	Wasl	Zyx
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.253564	NM_134156	Actn1	Actinin, alpha 1
A02	Mm.37638	NM_033268	Actn2	Actinin alpha 2
A03	Mm.5316	NM_013456	Actn3	Actinin alpha 3
A04	Mm.81144	NM_021895	Actn4	Actinin alpha 4
A05	Mm.318874	NM_001099299	Ajap1	Adherens junction associated protein 1
A06	Mm.277408	NM_008569	Anapc1	Anaphase promoting complex subunit 1
A07	Mm.27308	NM_007481	Arf6	ADP-ribosylation factor 6
A08	Mm.293599	NM_033474	Arvcf	Armadillo repeat gene deleted in velo-cardio-facial syndrome
A09	Mm.197534	NM_130862	Baiap2	Brain-specific angiogenesis inhibitor 1-associated protein 2
A10	Mm.273270	NM_134048	Cbl1	Casitas B-lineage lymphoma-like 1
A11	Mm.89845	NM_145436	Cdc27	Cell division cycle 27 homolog (S. cerevisiae)
A12	Mm.1022	NM_009861	Cdc42	Cell division cycle 42 homolog (S. cerevisiae)
B01	Mm.35605	NM_009864	Cdh1	Cadherin 1
B02	Mm.257437	NM_007664	Cdh2	Cadherin 2
B03	Mm.4658	NM_001037809	Cdh3	Cadherin 3
B04	Mm.184711	NM_009867	Cdh4	Cadherin 4
B05	Mm.21767	NM_009868	Cdh5	Cadherin 5
B06	Mm.23692	NM_007788	Csnk2a1	Casein kinase 2, alpha 1 polypeptide
B07	Mm.440348	NM_009974	Csnk2a2	Casein kinase 2, alpha prime polypeptide
B08	Mm.378901	NM_009975	Csnk2b	Casein kinase 2, beta polypeptide
B09	Mm.18962	NM_009818	Ctnna1	Catenin (cadherin associated protein), alpha 1
B10	Mm.34637	NM_009819	Ctnna2	Catenin (cadherin associated protein), alpha 2
B11	Mm.444692	NM_177612	Ctnna3	Catenin (cadherin associated protein), alpha 3
B12	Mm.291928	NM_007614	Ctnnb1	Catenin (cadherin associated protein), beta 1
C01	Mm.35738	NM_007615	Ctnnd1	Catenin (cadherin associated protein), delta 1
C02	Mm.68971	NM_001163513	Dlg5	Discs, large homolog 5 (Drosophila)
C03	Mm.4875	NM_007865	Dll1	Delta-like 1 (Drosophila)
C04	Mm.44736	NM_010065	Dnm1	Dynamin 1
C05	Mm.433257	NM_001039520	Dnm2	Dynamin 2
C06	Mm.341423	NM_172803	Dock4	Dedicator of cytokinesis 4
C07	Mm.33740	NM_013504	Dsc1	Desmocollin 1
C08	Mm.280547	NM_013505	Dsc2	Desmocollin 2
C09	Mm.89935	NM_007882	Dsc3	Desmocollin 3
C10	Mm.37953	NM_010079	Dsg1a	Desmoglein 1 alpha
C11	Mm.269128	NM_181682	Dsg1b	Desmoglein 1 beta
C12	Mm.345891	NM_007883	Dsg2	Desmoglein 2
D01	Mm.106811	NM_030596	Dsg3	Desmoglein 3
D02	Mm.358619	NM_181564	Dsg4	Desmoglein 4
D03	Mm.355327	NM_023842	Dsp	Desmoplakin
D04	Mm.293510	NM_025588	Exoc2	Exocyst complex component 2
D05	Mm.243091	NM_145519	Farp2	FERM, RhoGEF and pleckstrin domain protein 2
D06	Mm.295533	NM_010227	Flna	Filamin, alpha
D07	Mm.28095	NM_134080	Flnb	Filamin, beta
D08	Mm.7919	NM_008244	Hgs	HGF-regulated tyrosine kinase substrate
D09	Mm.207619	NM_016721	Iqgap1	IQ motif containing GTPase activating protein 1

Position	UniGene	GenBank	Symbol	Description
D10	Mm.299774	NM_010593	Jup	Junction plakoglobin
D11	Mm.475718	NM_201529	Lmo7	LIM domain only 7
D12	Mm.143877	NM_007896	Mapre1	Microtubule-associated protein, RP/EB family, member 1
E01	Mm.132237	NM_153058	Mapre2	Microtubule-associated protein, RP/EB family, member 2
E02	Mm.59167	NM_010806	Mllt4	Myeloid/lymphoid or mixed-lineage leukemia (trithorax homolog, Drosophila); translocated to, 4
E03	Mm.439702	NM_008704	Nme1	Non-metastatic cells 1, protein (NM23A) expressed in
E04	Mm.290610	NM_008714	Notch1	Notch gene homolog 1 (Drosophila)
E05	Mm.254017	NM_010928	Notch2	Notch gene homolog 2 (Drosophila)
E06	Mm.439741	NM_008716	Notch3	Notch gene homolog 3 (Drosophila)
E07	Mm.173813	NM_010929	Notch4	Notch gene homolog 4 (Drosophila)
E08	Mm.8032	NM_011028	P2rx6	Purinergic receptor P2X, ligand-gated ion channel, 6
E09	Mm.299254	NM_033620	Pard3	Par-3 (partitioning defective 3) homolog (C. elegans)
E10	Mm.28209	NM_022032	Perp	PERP, TP53 apoptosis effector
E11	Mm.101369	NM_020272	Pik3cg	Phosphoinositide-3-kinase, catalytic, gamma polypeptide
E12	Mm.4494	NM_019645	Pkp1	Plakophilin 1
F01	Mm.2252	NM_026163	Pkp2	Plakophilin 2
F02	Mm.350037	NM_019762	Pkp3	Plakophilin 3
F03	Mm.260938	NM_026361	Pkp4	Plakophilin 4
F04	Mm.22347	NM_008891	Pnn	Pinin
F05	Mm.348326	NM_080555	Ppap2b	Phosphatidic acid phosphatase type 2B
F06	Mm.266875	NM_008909	Ppl	Periplakin
F07	Mm.335096	NM_021424	Pvrl1	Poliovirus receptor-related 1
F08	Mm.4341	NM_008990	Pvrl2	Poliovirus receptor-related 2
F09	Mm.263414	NM_027893	Pvrl4	Poliovirus receptor-related 4
F10	Mm.292510	NM_009007	Rac1	RAS-related C3 botulinum substrate 1
F11	Mm.27348	NM_019491	Rala	V-ral simian leukemia viral oncogene homolog A (ras related)
F12	Mm.757	NM_016802	Rhoa	Ras homolog gene family, member A
G01	Mm.210815	NM_009166	Sorbs1	Sorbin and SH3 domain containing 1
G02	Mm.200783	NM_138744	Ssx2ip	Synovial sarcoma, X breakpoint 2 interacting protein
G03	Mm.4342	NM_009386	Tjp1	Tight junction protein 1
G04	Mm.208601	NM_011602	Tln1	Talin 1
G05	Mm.33645	NM_001081242	Tln2	Talin 2
G06	Mm.279361	NM_009502	Vcl	Vinculin
G07	Mm.256845	NM_172538	Vezt	Vezatin, adherens junctions transmembrane protein
G08	Mm.4735	NM_009515	Was	Wiskott-Aldrich syndrome homolog (human)
G09	Mm.41353	NM_031877	Wasf1	WASP family 1
G10	Mm.23566	NM_153423	Wasf2	WASP protein family, member 2
G11	Mm.1574	NM_028459	Wasl	Wiskott-Aldrich syndrome-like (human)
G12	Mm.282303	NM_011777	Zyx	Zyxin
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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