RT² Profiler PCR Array (Rotor-Gene® Format)

Rat Adherens Junctions

Cat. no. 330231 PARN-146ZR

For pathway expression analysis

Format	For use with the following real-time cyclers
RT² Profiler PCR Array, Format R	Rotor-Gene Q, other Rotor-Gene cyclers

Description

The Rat 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 the Rotor-Gene format are shipped at ambient temperature, on dry ice, or blue ice packs depending on destination and accompanying products.

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

The 96 real-time assays in the Rotor-Gene format are located in wells 1–96 of the Rotor-Disc™ (plate A1–A12=Rotor-Disc 1–12, plate B1–B12=Rotor-Disc 13–24, etc.). To maintain data analysis compatibility, wells 97–100 do not contain real-time assays but will contain master mix to account for weight balance.

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Rn.6401	NM_031005	Actn1	Actinin, alpha 1
A02	Rn.17592	NM_133424	Actn3	Actinin alpha 3
A03	Rn.15777	NM_031675	Actn4	Actinin alpha 4
A04	Rn.8	NM_001107771	Anapc1	Anaphase promoting complex subunit 1
A05	Rn.6993	NM_024152	Arf6	ADP-ribosylation factor 6
A06	Rn.95155	NM_057196	Baiap2	BAI1-associated protein 2
A07	Rn.92651	NM_001108018	Cbll1	Cas-Br-M (murine) ecotropic retroviral transforming sequence-like 1
A08	Rn.66098	NM_001024744	Cdc16	Cell division cycle 16 homolog (S. cerevisiae)
A09	Rn.139314	NM_001100659	Cdc23	CDC23 (cell division cycle 23, yeast, homolog)
A10	Rn.198335	NM_001024793	Cdc27	Cell division cycle 27 homolog (S. cerevisiae)
A11	Rn.60067	NM_171994	Cdc42	Cell division cycle 42 (GTP binding protein)
A12	Rn.1303	NM_031334	Cdh1	Cadherin 1
B01	Rn.23200	NM_031333	Cdh2	Cadherin 2
B02	Rn.105829	NM_053938	Cdh3	Cadherin 3
B03	Rn.214089	XM_001061943	Cdh4	Cadherin 4
B04	Rn.164510	NM_001107407	Cdh5	Cadherin 5
B05	Rn.22069	NM_031745	Clip1	CAP-GLY domain containing linker protein 1
B06	Rn.4231	NM_053824	Csnk2a1	Casein kinase 2, alpha 1 polypeptide
B07	Rn.24013	NM_001107409	Csnk2a2	Casein kinase 2, alpha prime polypeptide
B08	Rn.137692	NM_031021	Csnk2b	Casein kinase 2, beta polypeptide
B09	Rn.34514	NM_001106598	Ctnna2	Catenin (cadherin associated protein), alpha 2
B10	Rn.84956	XM_342133	Ctnna3	Catenin (cadherin associated protein), alpha 3
B11	Rn.112601	NM_053357	Ctnnb1	Catenin (cadherin associated protein), beta 1
B12	Rn.9435	NM_001107740	Ctnnd1	Catenin (cadherin associated protein), delta 1
C01	Rn.154574	NM_001107247	Dlg5	Discs, large homolog 5 (Drosophila)
C02	Rn.10628	NM_032063	Dll1	Delta-like 1 (Drosophila)
C03	Rn.10354	NM_080689	Dnm1	Dynamin 1
C04	Rn.11231	NM_013199	Dnm2	Dynamin 2
C05	Rn.21711	NM_001106161	Dsc1	Desmocollin 1
C06	Rn.3954	NM_001033688	Dsc2	Desmocollin 2
C07	Rn.99931	NM_001107402	Dsc3	Desmocollin 3
C08	Rn.35296	XM_214616	Dsg1b	Desmoglein 1 beta
C09	Rn.214863	XM_001054333	Dsg3	Desmoglein 3
C10	Rn.122657	NM_199490	Dsg4	Desmoglein 4
C11	Rn.54711	XM_225259	Dsp	Desmoplakin
C12	Rn.2869	NM_134414	Exoc2	Exocyst complex component 2
D01	Rn.163085	NM_001108233	Farp2	FERM, RhoGEF and pleckstrin domain protein 2
D02	Rn.102629	NM_001106928	Fert2	Fer (fms/fps related) protein kinase, testis specific 2
D03	Rn.4213	NM_001134599	Flna	Filamin A, alpha
D04	Rn.1761	NM_001107288	Flnb	Filamin, beta
D05	Rn.19361	NM_012755	Fyn	FYN oncogene related to SRC, FGR, YES
D06	Rn.21	NM_019387	Hgs	Hepatocyte growth factor-regulated tyrosine kinase substrate
D07	Rn.106939	NM_001108489	Iqgap1	IQ motif containing GTPase activating protein 1
D08	Rn.11255	NM_031047	Jup	Junction plakoglobin
D09	Rn.98417	NM_001001515	Lmo7	LIM domain 7
D10	Rn.7652	NM_138509	Mapre1	Microtubule-associated protein, RP/EB family, member 1
D11	Rn.154513	NM_001007656	Mapre3	Microtubule-associated protein, RP/EB family, member 3
D12	Rn.58	NM_013217	Mllt4	Myeloid/lymphoid or mixed-lineage leukemia (trithorax homolog, Drosophila); translocated to, 4
E01	Rn.6236	NM_138548	Nme1	Non-metastatic cells 1, protein (NM23A) expressed in
E02	Rn.25046	NM_001105721	Notch1	Notch homolog 1, translocation-associated (Drosophila)
E03	Rn.65930	NM_024358	Notch2	Notch homolog 2 (Drosophila)
E04	Rn.53876	NM_020087	Notch3	Notch homolog 3 (Drosophila)
E05	Rn.12967	NM_001002827	Notch4	Notch homolog 4 (Drosophila)
E06	Rn.10258	NM_012721	P2rx6	Purinergic receptor P2X, ligand-gated ion channel, 6
E07	Rn.31803	NM_031235	Pard3	Par-3 (partitioning defective 3) homolog (C. elegans)
E08	Rn.101762	NM_001106265	Perp	PERP, TP53 apoptosis effector

Position	UniGene	GenBank	Symbol	Description
E09	Rn.152697	NM_001106723	Pik3cg	Phosphoinositide-3-kinase, catalytic, gamma polypeptide
E10	Rn.123811	NM_001107181	Pkp1	Plakophilin 1
E11	Rn.27944	NM_001100499	Pkp2	Plakophilin 2
E12	Rn.144803	NM_001106315	Pkp3	Plakophilin 3
F01	Rn.17389	NM_001106482	Pkp4	Plakophilin 4
F02	Rn.38987	NM_001109023	Pnn	Pinin, desmosome associated protein
F03	Rn.12038	NM_138905	Ppap2b	Phosphatidic acid phosphatase type 2B
F04	Rn.25259	NM_001106976	Ppl	Periplakin
F05	Rn.207176	XM_236210	Pvrl1	Poliovirus receptor-related 1
F06	Rn.203297	NM_001012064	Pvrl2	Poliovirus receptor-related 2
F07	Rn.56373	NM_001105883	Pvrl3	Poliovirus receptor-related 3
F08	Rn.29157	NM_134366	Rac1	Ras-related C3 botulinum toxin substrate 1
F09	Rn.2863	NM_001008384	Rac2	Ras-related C3 botulinum toxin substrate 2 (rho family, small GTP binding protein Rac2)
F10	Rn.100380	NM_031093	Rala	V-ral simian leukemia viral oncogene homolog A (ras related)
F11	Rn.107401	NM_057132	Rhoa	Ras homolog gene family, member A
F12	Rn.110441	XM_001066536	Sorbs1	Sorbin and SH3 domain containing 1
G01	Rn.112600	NM_031977	Src	V-src sarcoma (Schmidt-Ruppin A-2) viral oncogene homolog (avian)
G02	Rn.70527	NM_175597	Ssx2ip	Synovial sarcoma, X breakpoint 2 interacting protein
G03	Rn.101871	NM_001106266	Tjp1	Tight junction protein 1
G04	Rn.7715	NM_001039025	Tln1	Talin 1
G05	Rn.164613	NM_001107248	Vcl	Vinculin
G06	Rn.16786	NM_001006984	Vezt	Vezatin, adherens junctions transmembrane protein
G07	Rn.207069	NM_001108248	Was	Wiskott-Aldrich syndrome homolog (human)
G08	Rn.7692	NM_001025114	Wasf1	WAS protein family, member 1
G09	Rn.162111	NM_001013167	Wasf2	WAS protein family, member 2
G10	Rn.216426	NM_001110365	Wasl	Wiskott-Aldrich syndrome-like
G11	Rn.214217	NM_033298	Yes1	Yamaguchi sarcoma viral (v-yes) oncogene homolog 1
G12	Rn.107363	NM_053761	Zyx	Zyxin
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.
RT² First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT² SYBR Green ROX™ FAST Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the Rotor-Gene Q and other Rotor-Gene cyclers	330620

* 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.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.

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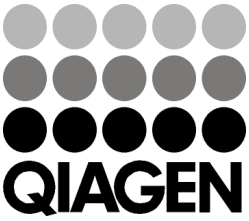

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