RT² Profiler PCR Array (Rotor-Gene® Format)

Rat Primary Cilia

Cat. no. 330231 PARN-127ZR

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 Primary Cilia RT² Profiler PCR Array profiles the expression of 84 key genes important for ciliary organization and maintenance. The single primary cilium found on the surface of almost all mammalian cell types is a non-motile sensory organelle with a 9+0 microtubule formation. Mutations in key ciliary proteins have been recently linked to multiple diseases such as polycystic kidney disease (PKD) and Bardet-Biedl Syndrome (BBS), collectively called ciliopathies. The pathological mutations occur in genes necessary for cilia morphogenesis or maintenance via intraflagellar transport (IFT), disrupting primary cilia function. These discoveries provided the necessary biological significance to increase scientific interest and research in primary cilia. Recent studies suggest that primary cilia regulate the cell cycle, giving them a potential role in carcinogenesis. These organelles also coordinate with multiple signaling pathways such as Hedgehog, WNT and mTOR, although extensive research has not yet explained their connection with many disease phenotypes. This array contains genes important for signaling pathways central to ciliary function as well as genes important in cilia morphogenesis and maintenance. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes involved in primary cilia function 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.87800	NM_130779	Adcy3	Adenylate cyclase 3
A02	Rn.161712	NM_053396	Adcy7	Adenylate cyclase 7
A03	Rn.205875	NM_001002277	Ahi1	Abelson helper integration site 1
A04	Rn.11422	NM_033230	Akt1	V-akt murine thymoma viral oncogene homolog 1
A05	Rn.206881	NM_001106604	Alms1	Alstrom syndrome 1 homolog (human)
A06	Rn.30700	NM_001107101	Arl13b	ADP-ribosylation factor-like 13B
A07	Rn.101944	NM_001108842	Arl6	ADP-ribosylation factor-like 6
A08	Rn.209041	NM_019136	Avpr2	Arginine vasopressin receptor 2
A09	Rn.162212	NM_024355	Axin2	Axin 2
A10	Rn.12497	NM_001107569	Bbs1	Bardet-Biedl syndrome 1
A11	Rn.15987	NM_053618	Bbs2	Bardet-Biedl syndrome 2
A12	Rn.25002	NM_001106826	Bbs4	Bardet-Biedl syndrome 4
B01	Rn.28442	NM_001012180	Bbs7	Bardet-Biedl syndrome 7
B02	Rn.21800	NM_001007148	Btrc	Beta-transducin repeat containing
B03	Rn.22279	NM_171992	Ccnd1	Cyclin D1
B04	Rn.60067	NM_171994	Cdc42	Cell division cycle 42 (GTP binding protein)
B05	Rn.13247	XM_575844	Cdk5rap2	CDK5 regulatory subunit associated protein 2
B06	Rn.10089	NM_080782	Cdkn1a	Cyclin-dependent kinase inhibitor 1A
B07	Rn.144610	NM_031820	Dvl1	Dishevelled, dsh homolog 1 (Drosophila)
B08	Rn.221917	NM_001013940	Dync2li1	Dynein cytoplasmic 2 light intermediate chain 1
B09	Rn.93503	NM_001108955	Fjx1	Four jointed box 1 (Drosophila)
B10	Rn.103750	NM_022197	Fos	FBJ osteosarcoma oncogene
B11	Rn.136607	NM_001037646	Fuz	Fuzzy homolog (Drosophila)
B12	Rn.6575	NM_021266	Fzd1	Frizzled homolog 1 (Drosophila)
C01	Rn.219157	XM_345832	Gli1	GLI family zinc finger 1
C02	Rn.38778	NM_001107169	Gli2	GLI family zinc finger 2
C03	Rn.199034	NM_080405	Gli3	GLI-Kruppel family member GLI3
C04	Rn.166996	NM_001106978	Glis2	GLIS family zinc finger 2
C05	Rn.10426	NM_032080	Gsk3b	Glycogen synthase kinase 3 beta
C06	Rn.11342	NM_013103	Hnf1b	HNF1 homeobox B
C07	Rn.10552	NM_024365	Htr6	5-hydroxytryptamine (serotonin) receptor 6
C08	Rn.87132	NM_022938	Htr7	5-hydroxytryptamine (serotonin) receptor 7
C09	Rn.171849	NM_053792	Ift172	Intraflagellar transport 172 homolog (Chlamydomonas)
C10	Rn.8370	NM_001105815	Ift20	Intraflagellar transport 20 homolog (Chlamydomonas)
C11	Rn.63846	NM_001107093	Ift57	Intraflagellar transport 57 homolog (Chlamydomonas)
C12	Rn.15267	NM_001007001	Ift74	Intraflagellar transport 74 homolog (Chlamydomonas)
D01	Rn.6742	NM_001013911	Ift80	Intraflagellar transport 80 homolog (Chlamydomonas)
D02	Rn.132110	NM_001107266	Ift88	Intraflagellar transport 88 homolog (Chlamydomonas)
D03	Rn.6282	NM_178866	Igf1	Insulin-like growth factor 1
D04	Rn.8711	NM_053384	Ihh	Indian hedgehog
D05	Rn.989	NM_019130	Ins2	Insulin 2
D06	Rn.166430	NM_001107932	Invs	Inversin
D07	Rn.107714	NM_001107092	Iqcb1	IQ motif containing B1
D08	Rn.10476	NM_012969	Irs1	Insulin receptor substrate 1
D09	Rn.25733	NM_017022	Itgb1	Integrin, beta 1
D10	Rn.47400	NM_053377	Kif3a	Kinesin family member 3a
D11	Rn.41581	NM_001106529	Kif3b	Kinesin family member 3B
D12	Rn.24554	NM_031515	Kras	V-Ki-ras2 Kirsten rat sarcoma viral oncogene homolog
E01	Rn.26430	NM_030827	Lrp2	Low density lipoprotein-related protein 2
E02	Rn.5850	NM_031643	Map2k1	Mitogen activated protein kinase kinase 1
E03	Rn.82693	NM_133283	Map2k2	Mitogen activated protein kinase kinase 2
E04	Rn.34914	NM_053842	Mapk1	Mitogen activated protein kinase 1
E05	Rn.8839	NM_001008353	Mkks	McKusick-Kaufman syndrome
E06	Rn.198890	NM_001034917	Mks1	Meckel syndrome, type 1
E07	Rn.10341	NM_020102	Mos	Moloney sarcoma oncogene
E08	Rn.11008	NM_019906	Mtor	Mechanistic target of rapamycin (serine/threonine kinase)
E09	Rn.144705	NM_001105804	Nek8	NIMA (never in mitosis gene a)- related kinase 8

Position	UniGene	GenBank	Symbol	Description
E10	Rn.162718	NM_001106506	Nphp1	Nephronophthisis 1 (juvenile) homolog (human)
E11	Rn.39019	NM_001106961	Ofd1	Oral-facial-digital syndrome 1 gene homolog (human)
E12	Rn.55127	NM_012802	Pdgfra	Platelet derived growth factor receptor, alpha polypeptide
F01	Rn.44193	NM_133399	Pik3ca	Phosphoinositide-3-kinase, catalytic, alpha polypeptide
F02	Rn.127770	XM_002724589	Pkd1	Polycystic kidney disease 1 homolog (human)
F03	Rn.198353	XM_573552	Pkd2	Polycystic kidney disease 2
F04	Rn.207908	NM_001105713	Prkca	Protein kinase C, alpha
F05	Rn.105585	NM_053566	Ptch1	Patched homolog 1 (Drosophila)
F06	Rn.10618	NM_019253	Ptpn5	Protein tyrosine phosphatase, non-receptor type 5
F07	Rn.24441	NM_001109005	Rab23	RAB23, member RAS oncogene family
F08	Rn.107401	NM_057132	Rhoa	Ras homolog gene family, member A
F09	Rn.88642	NM_013022	Rock2	Rho-associated coiled-coil containing protein kinase 2
F10	Rn.55934	NM_001107414	Rpgrip1l	Rpgrip1-like
F11	Rn.10432	NM_017221	Shh	Sonic hedgehog
F12	Rn.44429	NM_012807	Smo	Smoothened homolog (Drosophila)
G01	Rn.10458	NM_133522	Sstr3	Somatostatin receptor 3
G02	Rn.211670	NM_001024899	Sufu	Suppressor of fused homolog (Drosophila)
G03	Rn.72665	NM_001107916	Tmem67	Transmembrane protein 67
G04	Rn.54443	NM_030989	Tp53	Tumor protein p53
G05	Rn.205837	NM_021854	Tsc1	Tuberous sclerosis 1
G06	Rn.5875	NM_012680	Tsc2	Tuberous sclerosis 2
G07	Rn.14768	NM_001106752	Ttc8	Tetratricopeptide repeat domain 8
G08	Rn.198958	NM_001105969	Vangl2	Vang-like 2 (van gogh, Drosophila)
G09	Rn.1923	NM_031836	Vegfa	Vascular endothelial growth factor A
G10	Rn.16625	NM_001107055	Wnt9b	Wingless-type MMTV integration site family, member 9B
G11	Rn.9622	NM_001024869	Wwtr1	WW domain containing transcription regulator 1
G12	Rn.2502	NM_013053	Ywhaq	Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, theta 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.
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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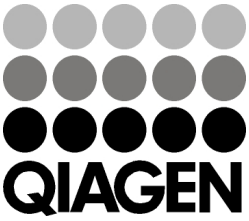

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