

# RT<sup>2</sup> Profiler PCR Array (Rotor-Gene<sup>®</sup> Format)

## Rat Hedgehog Signaling Pathway

Cat. no. 330231 PARN-078ZR

### For pathway expression analysis

Format	For use with the following real-time cyclers
RT <sup>2</sup> Profiler PCR Array,	Rotor-Gene Q, other Rotor-Gene cyclers
Format R	

### Description

The Rat Hedgehog Signaling RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 key genes involved in the hedgehog signaling pathway. The hedgehog family members, including Sonic hedgehog (Shh), are the most well-known morphogens involved in the developmental pattern formation of various organs, such as the nervous system, muscle, the heart and the lungs. Hedgehog signaling has also been implicated in the development of several Rat cancers. The array includes hedgehog family members, hedgehog receptors, and other associated proteins. The array also includes key genes involved in cell differentiation and multi-cellular organism development. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to hedgehog signaling with this array.

For further details, consult the *RT<sup>2</sup> Profiler PCR Array Handbook*.

### Shipping and storage

RT<sup>2</sup> 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 RT<sup>2</sup> 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: RT<sup>2</sup> Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Rn.9996	NM_016993	Bcl2	B-cell CLL/lymphoma 2
A02	Rn.90931	NM_017178	Bmp2	Bone morphogenetic protein 2
A03	Rn.10318	NM_012827	Bmp4	Bone morphogenetic protein 4
A04	Rn.135799	NM_001108168	Bmp5	Bone morphogenetic protein 5
A05	Rn.40476	NM_0013107	Bmp6	Bone morphogenetic protein 6
A06	Rn.18030	XM_342591	Bmp7	Bone morphogenetic protein 7
A07	Rn.126011	NM_001109432	Bmp8a	Bone morphogenetic protein 8a
A08	Rn.51907	NM_001108317	Boc	Biregional cell adhesion molecule-related/down-regulated by oncogenes (Cdon) binding protein
A09	Rn.21800	NM_001007148	Birc	Beta-transducin repeat containing
A10	Rn.115253	NM_153624	Cdig2	Cdig2 protein
A11	Rn.10818	NM_017358	Cdon	Cdon homolog (mouse)
A12	Rn.23810	NM_053615	Csnk1a1	Casein kinase 1, alpha 1
B01	Rn.203721	NM_031617	Csnk1e	Casein kinase 1, epsilon
B02	Rn.10082	NM_022288	Csnk1g1	Casein kinase 1, gamma 1
B03	Rn.112601	NM_053357	Clinnb1	Catenin (cadherin associated protein), beta 1
B04	Rn.15768	NM_001107544	Dchs1	Dachsous 1 (Drosophila)
B05	Rn.198251	NM_053367	Dhh	Desert hedgehog homolog (Drosophila)
B06	Rn.41748	NM_001105983	Disp1	Dispatched homolog 1 (Drosophila)
B07	Rn.19932	NM_001107759	Disp2	Dispatched homolog 2 (Drosophila)
B08	Rn.163078	NM_021687	Erbb4	V-erb-a erythroblastic leukemia viral oncogene homolog 4 (avian)
B09	Rn.159760	NM_001106993	Fbxw11	F-box and WD repeat domain containing 11
B10	Rn.25174	NM_012952	Fgf9	Fibroblast growth factor 9
B11	Rn.23671	NM_053429	Fgf3	Fibroblast growth factor receptor 3
B12	Rn.99789	NM_001037180	Fkbp8	FK506 binding protein 8
C01	Rn.26546	NM_138909	Foxe1	Forkhead box E1 (thyroid transcription factor 2)
C02	Rn.219157	XM_345832	Gli1	GLI family zinc finger 1
C03	Rn.38778	NM_001107169	Gli2	GLI family zinc finger 2
C04	Rn.199034	NM_080405	Gli3	GLI-Kruppel family member GLI3
C05	Rn.42929	NM_019282	Grem1	Gremlin 1, cysteine knot superfamily, homolog (Xenopus laevis)
C06	Rn.10426	NM_032080	Gsk3b	Glycogen synthase kinase 3 beta
C07	Rn.104610	XM_002724902	Hhat	Hedgehog acyltransferase
C08	Rn.204425	XM_238042	Hhip	Hedgehog-interacting protein
C09	Rn.36626	NM_001177685	Ifi52	Intraflagellar transport 52 homolog (Chlamydomonas)
C10	Rn.118681	NM_031511	Igf2	Insulin-like growth factor 2
C11	Rn.8711	NM_053384	Ihh	Indian hedgehog
C12	Rn.27301	NM_001108831	Kctd11	Potassium channel tetramerisation domain containing 11
D01	Rn.213335	NM_001134543	Lats1	LATS, large tumor suppressor, homolog 1 (Drosophila)
D02	Rn.48618	NM_001107267	Lats2	Large tumor suppressor 2
D03	Rn.26430	NM_030827	Lrp2	Low density lipoprotein-related protein 2
D04	Rn.34914	NM_053842	Mapk1	Mitogen activated protein kinase 1
D05	Rn.91829	NM_001108099	Mdm2	Mdm2 p53 binding protein homolog (mouse)
D06	Rn.7775	NM_001108357	Mobk1a	MOB1, Mps One Binder kinase activator-like 1A (yeast)
D07	Rn.38488	NM_001130563	Mtss1	Metastasis suppressor 1
D08	Rn.46695	NM_013193	Nf2	Neurofibromin 2 (merlin)
D09	Rn.102078	NM_133287	Numb	Numb homolog (Drosophila)
D10	Rn.35222	NM_001100566	Otx2	Orthodenticle homeobox 2
D11	Rn.55127	NM_012802	Pdgfra	Platelet derived growth factor receptor, alpha polypeptide
D12	Rn.20	NM_001100922	Prkaca	Protein kinase, cAMP-dependent, catalytic, alpha
E01	Rn.202491	NM_001077645	Prkacb	Protein kinase, cAMP dependent, catalytic, beta
E02	Rn.105585	NM_053566	Ptch1	Patched homolog 1 (Drosophila)
E03	Rn.103010	NM_001107992	Ptchd2	Patched domain containing 2
E04	Rn.24441	NM_001109005	Rab23	RAB23, member RAS oncogene family
E05	Rn.195253	NM_001024275	Rasrf4	Ras association (RatGDS/AF-6) domain family member 4
E06	Rn.214214	NM_053470	Runx2	Runt-related transcription factor 2
E07	Rn.163333	XM_224987	Sfrp1	Secreted frizzled-related protein 1
E08	Rn.10432	NM_017221	Shh	Sonic hedgehog

Position	UniGene	GenBank	Symbol	Description
E09	Rn.11258	NM_013028	Shox2	Short stature homeobox 2
E10	Rn.44429	NM_012807	Smo	Smoothed homolog (Drosophila)
E11	Rn.89363	NM_031735	Sik3	Serine/threonine kinase 3 (STE20 homolog, yeast)
E12	Rn.211670	NM_001024899	Sufu	Suppressor of fused homolog (Drosophila)
F01	Rn.54443	NM_030989	Tp53	Tumor protein p53
F02	Rn.1923	NM_031836	Vegfa	Vascular endothelial growth factor A
F03	Rn.74256	NM_053738	Wif1	Wnt inhibitory factor 1
F04	Rn.138108	NM_001105714	Wnt1	Wingless-type MMTV integration site family, member 1
F05	Rn.18155	NM_001108227	Wnt10a	Wingless-type MMTV integration site family, member 10A
F06	Rn.218544	NM_001108111	Wnt10b	Wingless-type MMTV integration site family, member 10B
F07	Rn.55941	NM_080401	Wnt11	Wingless-type MMTV integration site family, member 11
F08	Rn.209854	NM_001109223	Wnt16	Wingless-type MMTV integration site family, member 16
F09	Rn.203764	XM_575397	Wnt2	Wingless-type MMTV integration site family member 2
F10	Rn.17219	XM_342308	Wnt2b	Wingless-type MMTV integration site family, member 2B
F11	Rn.148140	NM_001105715	Wnt3	Wingless-type MMTV integration site family, member 3
F12	Rn.218621	XM_220546	Wnt3a	Wingless-type MMTV integration site family, member 3A
G01	Rn.34782	NM_053402	Wnt4	Wingless-type MMTV integration site family, member 4
G02	Rn.48749	NM_022631	Wnt5a	Wingless-type MMTV integration site family, member 5A
G03	Rn.58724	NM_001100489	Wnt5b	Wingless-type MMTV integration site family, member 5B
G04	Rn.22149	NM_001108226	Wnt6	Wingless-type MMTV integration site family, member 6
G05	Rn.160583	XM_342723	Wnt7a	Wingless-type MMTV integration site family, member 7A
G06	Rn.129727	NM_001009695	Wnt7b	Wingless-type MMTV integration site family, member 7B
G07	Rn.218696	NM_001106155	Wnt8a	Wingless-type MMTV integration site family, member 8A
G08	Rn.58872	NM_001106359	Wnt8b	Wingless-type MMTV integration site family, member 8B
G09	Rn.40411	NM_001105783	Wnt9a	Wingless-type MMTV integration site family, member 9A
G10	Rn.16625	NM_001107055	Wnt9b	Wingless-type MMTV integration site family, member 9B
G11	Rn.161923	NM_022677	Zic1	Zic family member 1 (odd-paired homolog, Drosophila)
G12	Rn.64359	NM_001108392	Zic2	Zic family member 2 (odd-paired homolog, Drosophila)
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, RT<sup>2</sup> Profiler PCR Arrays should be used together with the RT<sup>2</sup> First Strand Kit for cDNA synthesis and RT<sup>2</sup> SYBR<sup>®</sup> Green qPCR Mastermixes for PCR.

Product	Contents	Cat. no.
RT <sup>2</sup> First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT <sup>2</sup> SYBR Green ROX <sup>™</sup> 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.

RT<sup>2</sup> 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](http://www.qiagen.com) or can be requested from QIAGEN Technical Services or your local distributor.

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