

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

Rat Homeobox (HOX) Genes

Cat. no. 330231 PARN-083ZA

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 Rat Homeobox (HOX) Genes RT² Profiler PCR Array profiles the expression of 84 HOX genes involved in multicellular organismal development. HOX genes encode a group of homeodomain-containing transcription factors, which were initially described as controlling segmental patterning during development. Recently, their importance has been reemphasized by stem cell and cancer researches. Although these HOX genes have been grouped according to their established roles in multicellular organismal development, their true function in your cellular systems is waiting to be discovered by you. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of HOX genes 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	Alx1	Alx3	Alx4	Arx	Barx1	Cdx2	Dlx1	Dlx2	Dlx3	Dlx4	Dlx5	Emx2
B	Hhex	Hlx	Hopx	Hoxa1	Hoxa10	Hoxa2	Hoxa5	Hoxa9	Hoxb13	Hoxb3	Hoxb4	Hoxb7
C	Hoxb9	Hoxc10	Hoxc4	Hoxc5	Hoxc6	Hoxd10	Hoxd4	Isl1	Isl2	Lhx1	Lhx2	Lhx4
D	Lhx5	Lhx6	Lhx8	Lmx1a	Lmx1b	LOC100361765	Meis1	Meis2	Meis3	Meox1	Meox2	Mxd1
E	Msx1	Msx2	Nkx2-1	Nkx2-2	Nkx3-1	Nkx6-1	Nkx6-2	Otp	Otx1	Otx2	Pax3	Pdhx
F	Pdx1	Phox2a	Pitx1	Pitx2	Pitx3	Pou1f1	Pou2f2	Pou2f3	Pou3f1	Pou3f2	Pou3f3	Pou3f4
G	Pou4f1	Pou5f1	Prop1	Prax1	Prnd1	Shox2	Six1	Six3	Six4	Six6	Vax1	Vax2
H	Ac1b	B2m	Hprt1	Ldha	Rplp1	RGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Rn.9282	NM_012921	Alx1	ALX homeobox 1
A02	Rn.18878	NM_001007012	Alx3	Aristaless-like homeobox 3
A03	Rn.218669	NM_001106553	Alx4	ALX homeobox 4
A04	Rn.22484	NM_001100174	Arx	Aristaless related homeobox
A05	Rn.12744	NM_001108880	Barx1	BARX homeobox 1
A06	Rn.64495	NM_023963	Cdx2	Caudal type homeo box 2
A07	Rn.59152	NM_001100531	Dlx1	Distal-less homeobox 1
A08	Rn.144853	XM_230986	Dlx2	Distal-less homeobox 2
A09	Rn.104800	NM_001105832	Dlx3	Distal-less homeobox 3
A10	Rn.218495	NM_001107040	Dlx4	Distal-less homeobox 4
A11	Rn.11248	NM_012943	Dlx5	Distal-less homeobox 5
A12	Rn.16276	NM_001109169	Emx2	Empty spiracles homeobox 2
B01	Rn.12188	NM_024385	Hhex	Hematopoietically expressed homeobox
B02	Rn.35243	NM_001077674	Hlx	H2.0-like homeobox
B03	Rn.2989	NM_133621	Hopx	HOP homeobox
B04	Rn.9780	NM_013075	Hoxa1	Homeo box A1
B05	Rn.852	NM_001129878	Hoxa10	Homeo box A10
B06	Rn.91077	NM_012581	Hoxa2	Homeo box A2
B07	Rn.8465	XM_001059031	Hoxa5	Homeo box A5
B08	Rn.85723	NM_001109233	Hoxa9	Homeobox A9
B09	Rn.83970	NM_001107041	Hoxb13	Homeo box B13
B10	Rn.208556	NM_001107042	Hoxb3	Homeo box B3
B11	Rn.209614	NM_001100787	Hoxb4	Homeo box B4
B12	Rn.113631	NM_001017480	Hoxb7	Homeo box B7
C01	Rn.198320	NM_001100497	Hoxb9	Homeo box B9
C02	Rn.58550	XM_235698	Hoxc10	Homeo box C10
C03	Rn.12051	NM_001109884	Hoxc4	Homeo box C4
C04	Rn.152771	NM_001108116	Hoxc5	Homeo box C5
C05	Rn.91646	XM_001069410	Hoxc6	Homeo box C6
C06	Rn.220197	NM_001107094	Hoxd10	Homeo box D10
C07	Rn.141410	NM_001105885	Hoxd4	Homeo box D4
C08	Rn.202645	NM_017339	Isl1	ISL LIM homeobox 1
C09	Rn.10026	NM_020471	Isl2	ISL LIM homeobox 2
C10	Rn.127825	NM_145880	Lhx1	LIM homeobox 1
C11	Rn.81063	NM_001106571	Lhx2	LIM homeobox 2
C12	Rn.48080	NM_001108348	Lhx4	LIM homeobox 4
D01	Rn.54653	NM_139036	Lhx5	LIM homeobox 5
D02	Rn.214085	NM_001107837	Lhx6	LIM homeobox 6
D03	Rn.133072	NM_001012219	Lhx8	LIM homeobox 8
D04	Rn.137284	NM_001105967	Lmx1a	LIM homeobox transcription factor 1 alpha
D05	Rn.92364	XM_342419	Lmx1b	LIM homeobox transcription factor 1 beta
D06	Rn.202535	XM_002724541	LOC100361765	Homeobox B2

Position	UniGene	GenBank	Symbol	Description
D07	Rn.32269	NM_001134702	Meis1	Meis homeobox 1
D08	Rn.45546	NM_001107758	Meis2	Meis homeobox 2
D09	Rn.56086	NM_001108472	Meis3	Meis homeobox 3
D10	Rn.149759	NM_001108837	Meox1	Mesenchyme homeobox 1
D11	Rn.34890	NM_017149	Meox2	Mesenchyme homeobox 2
D12	Rn.218456	NM_001105979	Mixl1	Mixl1 homeobox-like 1 (Xenopus laevis)
E01	Rn.18117	NM_031059	Msx1	Msh homeobox 1
E02	Rn.10414	NM_012982	Msx2	Msh homeobox 2
E03	Rn.34265	NM_013093	Nkx2-1	NK2 homeobox 1
E04	Rn.32651	XM_345446	Nkx2-2	NK2 homeobox 2
E05	Rn.43468	NM_001034144	Nkx3-1	NK3 homeobox 1
E06	Rn.11387	NM_031737	Nkx6-1	NK6 homeobox 1
E07	Rn.221953	NM_001107558	Nkx6-2	NK6 homeobox 2
E08	Rn.7202	XM_215445	Otp	Orthopedia homeobox
E09	Rn.33443	NM_013109	Otx1	Orthodenticle homeobox 1
E10	Rn.35222	NM_001100566	Otx2	Orthodenticle homeobox 2
E11	Rn.214198	NM_053710	Pax3	Paired box 3
E12	Rn.2260	NM_001044242	Pdhx	Pyruvate dehydrogenase complex, component X
F01	Rn.54603	NM_022852	Pdx1	Pancreatic and duodenal homeobox 1
F02	Rn.2858	NM_053869	Phox2a	Paired-like homeobox 2a
F03	Rn.74248	NM_053624	Pitx1	Paired-like homeodomain 1
F04	Rn.17591	NM_019334	Pitx2	Paired-like homeodomain 2
F05	Rn.22092	NM_019247	Pitx3	Paired-like homeodomain 3
F06	Rn.10445	NM_013008	Pou1f1	POU class 1 homeobox 1
F07	Rn.155998	XM_341802	Pou2f2	POU class 2 homeobox 2
F08	Rn.81060	NM_001105745	Pou2f3	POU class 2 homeobox 3
F09	Rn.82720	NM_138838	Pou3f1	POU class 3 homeobox 1
F10	Rn.82733	NM_172085	Pou3f2	POU class 3 homeobox 2
F11	Rn.11354	NM_138837	Pou3f3	POU class 3 homeobox 3
F12	Rn.33030	NM_017252	Pou3f4	POU class 3 homeobox 4
G01	Rn.198983	XM_341372	Pou4f1	POU class 4 homeobox 1
G02	Rn.161748	NM_001009178	Pou5f1	POU class 5 homeobox 1
G03	Rn.86655	NM_153627	Prop1	PROP paired-like homeobox 1
G04	Rn.26557	NM_001107201	Prox1	Prospero homeobox 1
G05	Rn.10189	NM_145767	Prrxl1	Paired related homeobox protein-like 1
G06	Rn.11258	NM_013028	Shox2	Short stature homeobox 2
G07	Rn.23396	NM_053759	Six1	SIX homeobox 1
G08	Rn.123641	NM_023990	Six3	SIX homeobox 3
G09	Rn.12316	NM_001106739	Six4	SIX homeobox 4
G10	Rn.21301	NM_001108032	Six6	SIX homeobox 6
G11	Rn.48764	NM_022636	Vax1	Ventral anterior homeobox 1
G12	Rn.48765	NM_022637	Vax2	Ventral anterior homeobox 2
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.
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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