

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

Rabbit Osteogenesis

Cat. no. 330231 PANZ-026ZA

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 Rabbit Osteogenesis RT² Profiler PCR Array profiles the expression of 84 genes related to osteogenic differentiation. This array contains genes functioning in the development of the skeletal system as well as bone mineral metabolism. Growth factors and genes mediating osteogenesis and related cell growth, proliferation, and differentiation processes are included. Also represented are the extracellular matrix molecules and cell adhesion molecules involved in bone development. A set of controls present on each array enables data analysis using the $\Delta\Delta\text{CT}$ method of relative quantification as well as assessment of reverse transcription performance, genomic DNA contamination, and PCR performance. Using real-time PCR, research studies can easily and reliably analyze expression of a focused panel of genes related to osteogenic differentiation 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	AHSG	BGN	BMP2	BMP4	BMP5	LOC100008826	BMPR1A	BMPR1B	BMPR2	CALCR	CD36	CDH11
B	CHRD	COL10A1	COL14A1	COL15A1	COL1A2	COL2A1	COL5A1	CTNNB1	CTSK	DLX5	FGF1	FGF2
C	FGFR1	FGFR2	FLT1	FN1	GLI1	CSF2	IGF1	IGF2	IL6	ITGA1	ITGAM	ITGB1
D	EGFR	EGF	VDR	IHH	COL3A1	ITGA2	IGF1R	CSF1	RUNX2	NFKB1	BGLAP	TNFSF11
E	ALPL	SOX2	SMAD5	ANXA5	TGFB2	IBSP	TGFB1	COL1A1	BMP3	IGFBP5	PTH	PDGFA
F	ACVR1	CSF3	BMP1	SP7	NOG	MGP	MMP13	MMP2	MMP9	NF1	PTGS2	PTH1H
G	SERPINH1	SHH	SMAD1	SMAD2	SOX9	SPP1	TGFB1	TGFB2	TGFB3	TNF	VCAM1	VEGFA
H	ACTA2	ACTB	GAPDH	LDHA	LOC100346936	NGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description	Assay
A01	Ocu.2180	XM_002716457	AHSG	Alpha-2-HS-glycoprotein	PPN00315A
A02	Ocu.575	NM_001195691	BGN	Biglycan	PPN00059A
A03	Ocu.2192	NM_001082650	BMP2	Bone morphogenetic protein 2	PPN00619A
A04	Ocu.2194	NM_001195723	BMP4	Bone morphogenetic protein 4	PPN00796A
A05	Ocu.2613	XM_002714515	BMP5	Bone morphogenetic protein 5	PPN02638A
A06	Ocu.2601	XM_008253604	LOC100008826	Bone morphogenetic protein 7 LOC100008826	PPN00178A
A07	N/A	XM_002718355	BMPR1A	Bone morphogenetic protein receptor, type IA	PPN03618A
A08	N/A	XM_002716975	BMPR1B	Bone morphogenetic protein receptor, type IB	PPN03754A
A09	N/A	XM_008258989	BMPR2	Bone morphogenetic protein receptor, type II (serine/threonine kinase)	PPN03571A
A10	Ocu.2121	NM_001082375	CALCR	Calcitonin receptor	PPN00517A
A11	Ocu.2565	XM_002712016	CD36	CD36 molecule (thrombospondin receptor)	PPN00177A
A12	N/A	XM_002711554	CDH11	Cadherin 11, type 2, OB-cadherin (osteoblast)	PPN03447A
B01	Ocu.2579	XM_008266589	CHRD	Chordin	PPN00262A
B02	Ocu.2496	XM_002714724	COL10A1	Collagen, type X, alpha 1	PPN00138A
B03	N/A	XM_002710753	COL14A1	Collagen, type XIV, alpha 1	PPN04164A
B04	N/A	XM_008262238	COL15A1	Collagen, type XV, alpha 1	PPN02857A
B05	Ocu.6518	NM_001195668	COL1A2	Collagen, type I, alpha 2	PPN00311A
B06	Ocu.2182	NM_001195671	COL2A1	Collagen, type II, alpha 1	PPN00317A
B07	Ocu.792	XM_008253537	COL5A1	Collagen, type V, alpha 1	PPN01127A
B08	Ocu.3227	XM_002713075	CTNNB1	Catenin (cadherin-associated protein), beta 1, 88kDa	PPN00859A
B09	Ocu.6195	NM_001082641	CTSK	Cathepsin K	PPN00605A
B10	Ocu.2578	XM_002713784	DLX5	Distal-less homeobox 5	PPN00033A
B11	Ocu.7605	NM_001171488	FGF1	Fibroblast growth factor 1 (acidic)	PPN01362A
B12	Ocu.1874	XM_002717238	FGF2	Fibroblast growth factor 2 (basic)	PPN00371A
C01	N/A	XM_008273974	FGFR1	Fibroblast growth factor receptor 1	PPN03837A
C02	Ocu.2569	NM_001082688	FGFR2	Fibroblast growth factor receptor 2	PPN00683A
C03	N/A	XM_008275216	FLT1	Fms-related tyrosine kinase 1 (vascular endothelial growth factor/vascular permeability factor receptor)	PPN02380A
C04	Ocu.1875	XM_008259120	FN1	Fibronectin 1	PPN01149A
C05	N/A	XM_002720910	GLI1	GLI family zinc finger 1	PPN05062A
C06	Ocu.7612	NM_001171257	CSF2	Granulate-macrophage stimulating factor	PPN01224A
C07	Ocu.2125	NM_001082026	IGF1	Insulin-like growth factor 1 (somatomedin C)	PPN00061A
C08	Ocu.7681	NM_001171406	IGF2	Insulin-like growth factor 2 (somatomedin A)	PPN01279A
C09	Ocu.2447	NM_001082064	IL6	Interleukin 6 (interferon, beta 2)	PPN00115A
C10	N/A	XM_008262192	ITGA1	Integrin, alpha 1	PPN02280A
C11	N/A	XM_002721749	ITGAM	Integrin, alpha M (complement component 3 receptor 3 subunit)	PPN03839A
C12	Ocu.3065	XM_002721189	ITGB1	Integrin, beta 1 (fibronectin receptor, beta polypeptide, antigen CD29 includes MDF2, MSK12)	PPN00238A
D01	Ocu.2439	XM_008261843	EGFR	Epidermal growth factor receptor	PPN05161A

Position	UniGene	GenBank	Symbol	Description	Assay
D02	Ocu.2532	XM_008267485	EGF	Epidermal growth factor	PPN05162A
D03	Ocu.3076	XM_008251852	VDR	Vitamin D3 receptor	PPN05177A
D04	Ocu.3142	XM_008259184	IHH	Indian hedgehog-like protein	PPN05187A
D05	Ocu.243	XM_002712333	COL3A1	Pro alpha 1 type III collagen	PPN05207A
D06	Ocu.7187	XM_008262193	ITGA2	Alpha 2 integrin	PPN05271A
D07	Ocu.7384	XM_008248786	IGF1R	Insulin-like growth factor receptor 1	PPN05286A
D08	N/A	XM_008264725	CSF1	Colony stimulating factor 1-like	PPN05754A
D09	N/A	XM_008262992	RUNX2	Runt-related transcription factor 2	PPN06007A
D10	N/A	XM_008262546	NFKBIL1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor-like 1	PPN06533A
D11	N/A	XM_002715383	BGLAP	Bone gamma-carboxyglutamate (gla) protein	PPN06623A
D12	N/A	XM_002712966	TNFSF11	Tumor necrosis factor (ligand) superfamily, member 11	PPN06834A
E01	N/A	XM_008265733	ALPL	Alkaline phosphatase, liver/bone/kidney	PPN06882A
E02	N/A	XM_008266557	SOX2	SRY (sex determining region Y)-box 2-like	PPN07101A
E03	N/A	XM_002710223	SMAD5	SMAD family member 5	PPN07550A
E04	N/A	XM_008267908	ANXA5	Annexin 5	PPN07692A
E05	Ocu.7816	NM_001177748	TGFB2	Transforming growth factor, beta receptor II	PPN08319A
E06	N/A	XM_008267617	IBSP	Integrin-binding sialoprotein	PPN08361A
E07	N/A	XM_008262084	TGFB1	Transforming growth factor, beta receptor 1	PPN08910A
E08	N/A	XM_008271783	COL1A1	Collagen, type I, alpha 1	PPN09687A
E09	N/A	XM_002717090	BMP3	Bone morphogenetic protein 3-like	PPN10029A
E10	N/A	XM_002712468	IGFBP5	Insulin-like growth factor binding protein 5	PPN10243A
E11	N/A	XM_002708821	PTH	Parathyroid hormone	PPN11262A
E12	N/A	XM_008253665	PDGFA	Platelet-derived growth factor alpha polypeptide	PPN11695A
F01	N/A	XM_002712196	ACVR1	Activin A receptor, type I	PPN12788A
F02	N/A	XM_008271428	CSF3	Colony stimulating factor 3 (granulocyte)	PPN13404B
F03	N/A	XM_008249891	BMP1	Bone morphogenetic protein 1-like	PPN13454A
F04	N/A	XM_002711016	SP7	Sp7 transcription factor	PPN13493A
F05	N/A	XM_002719279	NOG	Noggin	PPN14168A
F06	Ocu.6218	NM_001082200	MGP	Matrix Gla protein	PPN00303A
F07	Ocu.2263	NM_001082037	MMP13	Matrix metalloproteinase 13 (collagenase 3)	PPN00075A
F08	Ocu.6274	NM_001082209	MMP2	Matrix metalloproteinase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV collagenase)	PPN00314A
F09	Ocu.1773	NM_001082203	MMP9	Matrix metalloproteinase 9 (gelatinase B, 92kDa gelatinase, 92kDa type IV collagenase)	PPN00307A
F10	N/A	XM_002718936	NF1	Neurofibromin 1	PPN03441A
F11	Ocu.2173	NM_001082388	PTGS2	Prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	PPN00534A
F12	Ocu.2489	NM_001082653	PTH1H	Parathyroid hormone-like hormone	PPN00626A
G01	Ocu.2647	XM_008267726	SERPINH1	Serpin peptidase inhibitor, clade H (heat shock protein 47), member 1, (collagen binding protein 1)	PPN00622A
G02	N/A	XM_002715022	SHH	Sonic hedgehog	PPN03999A
G03	N/A	XM_002716923	SMAD1	SMAD family member 1	PPN02094A
G04	N/A	XM_002713521	SMAD2	SMAD family member 2	PPN05082A
G05	Ocu.3144	XM_008271763	SOX9	SRY (sex determining region Y)-box 9	PPN00269A
G06	Ocu.2423	NM_001082194	SPP1	Secreted phosphoprotein 1	PPN00297A
G07	Ocu.2133	XM_008249704	TGFB1	Transforming growth factor, beta 1	PPN00045B
G08	Ocu.3100	NM_001082660	TGFB2	Transforming growth factor, beta 2	PPN00638A
G09	N/A	XM_002719635	TGFB3	Transforming growth factor, beta 3	PPN05060A
G10	Ocu.1971	NM_001082263	TNF	Tumor necrosis factor	PPN00391A
G11	Ocu.3113	NM_001082152	VCAM1	Adhesion molecule VCAM-1	PPN00241A
G12	Ocu.2339	XM_008262970	VEGFA	Vascular endothelial growth factor A	PPN00239A
H01	Ocu.2090	NM_001101682	ACTA2	Actin, alpha 2, smooth muscle, aorta	PPN00554B
H02	Ocu.734	NM_001101683	ACTB	Actin, beta	PPN00555A
H03	Ocu.87	NM_001082253	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase	PPN00377A
H04	Ocu.1108	NM_001082277	LDHA	Lactate dehydrogenase A	PPN00409A
H05	N/A	XM_002723383	LOC100346936	Non-POU domain containing, octamer-binding-like	PPN09413A
H06	N/A	SA_00511	NGDC	Rabbit Genomic DNA Contamination	PPN00001A
H07	N/A	SA_00104	RTC	Reverse Transcription Control	PPX63340A
H08	N/A	SA_00104	RTC	Reverse Transcription Control	PPX63340A
H09	N/A	SA_00104	RTC	Reverse Transcription Control	PPX63340A
H10	N/A	SA_00103	PPC	Positive PCR Control	PPX63339A
H11	N/A	SA_00103	PPC	Positive PCR Control	PPX63339A
H12	N/A	SA_00103	PPC	Positive PCR Control	PPX63339A

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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