

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

## Rat Osteogenesis

Cat. no. 330231 PARN-026ZR

For pathway expression analysis

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

### Description

The Rat Osteogenesis RT<sup>2</sup> 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. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to osteogenic differentiation 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.87899	NM_024486	Acvr1	Activin A receptor, type I
A02	Rn.32083	NM_012898	Ahsg	Alpha-2-HS-glycoprotein
A03	Rn.82764	NM_013059	Alpl	Alkaline phosphatase, liver/bone/kidney
A04	Rn.3318	NM_013132	Anxa5	Annexin A5
A05	Rn.9722	NM_013414	Bglap	Bone gamma-carboxyglutamate (gla) protein
A06	Rn.783	NM_017087	Bgn	Biglycan
A07	Rn.9305	NM_031323	Bmp1	Bone morphogenetic protein 1
A08	Rn.90931	NM_017178	Bmp2	Bone morphogenetic protein 2
A09	Rn.208979	NM_017105	Bmp3	Bone morphogenetic protein 3
A10	Rn.10318	NM_012827	Bmp4	Bone morphogenetic protein 4
A11	Rn.135799	NM_001108168	Bmp5	Bone morphogenetic protein 5
A12	Rn.40476	NM_013107	Bmp6	Bone morphogenetic protein 6
B01	Rn.18030	XM_342591	Bmp7	Bone morphogenetic protein 7
B02	Rn.88925	NM_030849	Bmpr1a	Bone morphogenetic protein receptor, type IA
B03	Rn.215592	NM_001024259	Bmpr1b	Bone morphogenetic protein receptor, type IB
B04	Rn.59276	NM_080407	Bmpr2	Bone morphogenetic protein receptor, type II (serine/threonine kinase)
B05	Rn.102418	NM_031561	Cd36	CD36 molecule (thrombospondin receptor)
B06	Rn.8900	NM_053392	Cdh11	Cadherin 11
B07	Rn.29459	NM_057134	Chrd	Chordin
B08	Rn.217522	XM_001053056	Col10a1	Collagen, type X, alpha 1
B09	Rn.99441	NM_001130548	Col14a1	Collagen, type XIV, alpha 1
B10	Rn.2953	NM_053304	Col1a1	Collagen, type I, alpha 1
B11	Rn.107239	NM_053356	Col1a2	Collagen, type I, alpha 2
B12	Rn.10124	NM_012929	Col2a1	Collagen, type II, alpha 1
C01	Rn.3247	NM_032085	Col3a1	Collagen, type III, alpha 1
C02	Rn.53801	NM_001135009	Col4a1	Collagen, type IV, alpha 1
C03	Rn.117	NM_134452	Col5a1	Collagen, type V, alpha 1
C04	Rn.107165	XM_215375	Col6a1	Collagen, type VI, alpha 1
C05	Rn.10343	NM_012834	Comp	Cartilage oligomeric matrix protein
C06	Rn.83632	NM_023981	Csf1	Colony stimulating factor 1 (macrophage)
C07	Rn.44285	XM_340799	Csf2	Colony stimulating factor 2 (granulocyte-macrophage)
C08	Rn.53973	NM_017104	Csf3	Colony stimulating factor 3 (granulocyte)
C09	Rn.5598	NM_031560	Ctsk	Cathepsin K
C10	Rn.11248	NM_012943	Dlx5	Distal-less homeobox 5
C11	Rn.6075	NM_012842	Egf	Epidermal growth factor
C12	Rn.88013	NM_012846	Fgf1	Fibroblast growth factor 1
D01	Rn.31808	NM_019305	Fgf2	Fibroblast growth factor 2
D02	Rn.9797	NM_024146	Fgfr1	Fibroblast growth factor receptor 1
D03	Rn.12732	NM_001109892	Fgfr2	Fibroblast growth factor receptor 2
D04	Rn.10239	NM_019306	Fli1	Fms-related tyrosine kinase 1
D05	Rn.1604	NM_019143	Fn1	Fibronectin 1
D06	Rn.8707	NM_024375	Gdf10	Growth differentiation factor 10
D07	Rn.219157	XM_345832	Gli1	GLI family zinc finger 1
D08	Rn.12	NM_012967	Icam1	Intercellular adhesion molecule 1
D09	Rn.6282	NM_178866	Igf1	Insulin-like growth factor 1
D10	Rn.10957	NM_052807	Igf1r	Insulin-like growth factor 1 receptor
D11	Rn.8711	NM_053384	lhh	Indian hedgehog
D12	Rn.83597	XM_345156	Itga2	Integrin, alpha 2
E01	Rn.154664	NM_001108292	Itga3	Integrin, alpha 3
E02	Rn.54465	NM_012711	Itgam	Integrin, alpha M
E03	Rn.23339	NM_001106549	Itgav	Integrin, alpha V
E04	Rn.25733	NM_017022	Itgb1	Integrin, beta 1
E05	Rn.9946	NM_133514	Mmp10	Matrix metalloproteinase 10
E06	Rn.6422	NM_031054	Mmp2	Matrix metalloproteinase 2
E07	Rn.44474	NM_022221	Mmp8	Matrix metalloproteinase 8
E08	Rn.10209	NM_031055	Mmp9	Matrix metalloproteinase 9
E09	Rn.2411	XM_342346	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1

Position	UniGene	GenBank	Symbol	Description
E10	Rn.10154	NM_012990	Nog	Noggin
E11	Rn.10999	NM_012801	Pdgfa	Platelet-derived growth factor alpha polypeptide
E12	Rn.37861	NM_013004	Phex	Phosphate regulating endopeptidase homolog, X-linked
F01	Rn.214214	NM_053470	Runx2	Runt-related transcription factor 2
F02	Rn.98199	NM_017173	Serpinh1	Serine (or cysteine) peptidase inhibitor, clade H, member 1
F03	Rn.10635	NM_013130	Smad1	SMAD family member 1
F04	Rn.2755	NM_019191	Smad2	SMAD family member 2
F05	Rn.10636	NM_013095	Smad3	SMAD family member 3
F06	Rn.9774	NM_019275	Smad4	SMAD family member 4
F07	Rn.146857	NM_021692	Smad5	SMAD family member 5
F08	Rn.95369	NM_030584	Sost	Sclerostosis
F09	Rn.95086	XM_343981	Sox9	SRY-box containing gene 9
F10	Rn.92200	NM_181374	Sp7	Sp7 transcription factor
F11	Rn.8871	NM_012881	Spp1	Secreted phosphoprotein 1
F12	Rn.40136	NM_021578	Tgfb1	Transforming growth factor, beta 1
G01	Rn.24539	NM_031131	Tgfb2	Transforming growth factor, beta 2
G02	Rn.7018	NM_013174	Tgfb3	Transforming growth factor, beta 3
G03	Rn.44402	NM_012775	Tgfb1	Transforming growth factor, beta receptor 1
G04	Rn.9954	NM_031132	Tgfb2	Transforming growth factor, beta receptor II
G05	Rn.9953	NM_017256	Tgfb3	Transforming growth factor, beta receptor III
G06	Rn.2275	NM_012675	Tnf	Tumor necrosis factor (TNF superfamily, member 2)
G07	Rn.64517	NM_057149	Tnfsf11	Tumor necrosis factor (ligand) superfamily, member 11
G08	Rn.161904	NM_053530	Twist1	Twist homolog 1 (Drosophila)
G09	Rn.11267	NM_012889	Vcam1	Vascular cell adhesion molecule 1
G10	Rn.10911	NM_017058	Vdr	Vitamin D (1,25-dihydroxyvitamin D3) receptor
G11	Rn.1923	NM_031836	Vegfa	Vascular endothelial growth factor A
G12	Rn.198550	NM_053549	Vegfb	Vascular endothelial growth factor B
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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