

RT² Profiler PCR Array (Rotor-Gene® Format)

Rat Cell Motility

Cat. no. 330231 PARN-128ZR

For pathway expression analysis

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

Description

The Rat Cell Motility RT² Profiler PCR Array profiles the expression of 84 key genes involved in the movement of cells. Many cell types rely on cellular movement for important biological processes such as development, as well as infection and injury response. Stimuli such as growth factor release induce specific cells to migrate, requiring actin cytoskeleton mobilization. The actin cytoskeleton, regulated by the Rho small GTPase family, initially forms cellular projections to mediate either the forward movement of a cell or the development of mature cellular processes (e.g. axons). Cells use adhesion proteins to maintain forward progress, from the rolling migration of a leukocyte along the blood vessel endothelium to the mesenchymal movement of a fibroblast along the extracellular matrix. This array contains growth factors and receptors important for chemotaxis, genes involved in Rho family signaling and adhesion, and genes encoding components of various cellular projections. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes involved in cell motility 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.



Sample & Assay Technologies

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.6401	NM_031005	Actn1	Actinin, alpha 1
A02	Rn.17592	NM_133424	Actn3	Actinin alpha 3
A03	Rn.15777	NM_031675	Actn4	Actinin alpha 4
A04	Rn.102249	NM_001009268	Actr2	ARP2 actin-related protein 2 homolog (yeast)
A05	Rn.103326	NM_031068	Actr3	ARP3 actin-related protein 3 homolog (yeast)
A06	Rn.11422	NM_033230	Akt1	V-akt murine thymoma viral oncogene homolog 1
A07	Rn.6993	NM_024152	Arf6	ADP-ribosylation factor 6
A08	Rn.1801	NM_001007005	Arhgdia	Rho GDP dissociation inhibitor (GDI) alpha
A09	Rn.146763	NM_053740	Arhgef7	Rho guanine nucleotide exchange factor (GEF) 7
A10	Rn.95155	NM_057196	Baiap2	BAI1-associated protein 2
A11	Rn.40101	NM_012931	Bcar1	Breast cancer anti-estrogen resistance 1
A12	Rn.6037	NM_019152	Capn1	Calpain 1
B01	Rn.6822	NM_017116	Capn2	Calpain 2
B02	Rn.22518	NM_031556	Cav1	Caveolin 1, caveolae protein
B03	Rn.60067	NM_171994	Cdc42	Cell division cycle 42 (GTP binding protein)
B04	Rn.11675	NM_017147	Cfl1	Cofilin 1, non-muscle
B05	Rn.163154	NM_019302	Crk	V-crk sarcoma virus CT10 oncogene homolog (avian)
B06	Rn.83632	NM_023981	Csf1	Colony stimulating factor 1 (macrophage)
B07	Rn.107869	NM_021868	Ctnn	Cortactin
B08	Rn.3004	NM_001107393	Diaph1	Diaphanous homolog 1 (Drosophila)
B09	Rn.91364	NM_012789	Dpp4	Dipeptidylpeptidase 4
B10	Rn.6075	NM_012842	Egf	Epidermal growth factor
B11	Rn.37227	NM_031507	Egfr	Epidermal growth factor receptor
B12	Rn.163240	NM_001012150	Enah	Enabled homolog (Drosophila)
C01	Rn.773	NM_019357	Ezr	Ezrin
C02	Rn.82756	NM_138850	Fap	Fibroblast activation protein, alpha
C03	Rn.31808	NM_019305	Fgf2	Fibroblast growth factor 2
C04	Rn.10468	NM_017017	Hgf	Hepatocyte growth factor
C05	Rn.6282	NM_178866	Igf1	Insulin-like growth factor 1
C06	Rn.10957	NM_052807	Igf1r	Insulin-like growth factor 1 receptor
C07	Rn.95042	NM_133409	Ilk	Integrin-linked kinase
C08	Rn.11866	NM_001034130	Iqub	IQ motif and ubiquitin domain containing
C09	Rn.12704	NM_001107737	Itga4	Integrin, alpha 4
C10	Rn.25733	NM_017022	Itgb1	Integrin, beta 1
C11	Rn.42962	NM_001037780	Itgb2	Integrin, beta 2
C12	Rn.162202	NM_153720	Itgb3	Integrin, beta 3
D01	Rn.11250	NM_031727	Limk1	LIM domain kinase 1
D02	Rn.34914	NM_053842	Mapk1	Mitogen activated protein kinase 1
D03	Rn.10617	NM_031517	Met	Met proto-oncogene
D04	Rn.10371	NM_031056	Mmp14	Matrix metalloproteinase 14 (membrane-inserted)
D05	Rn.6422	NM_031054	Mmp2	Matrix metalloproteinase 2
D06	Rn.10209	NM_031055	Mmp9	Matrix metalloproteinase 9
D07	Rn.2762	NM_030863	Msn	Moesin
D08	Rn.98166	NM_031520	Myh10	Myosin, heavy chain 10, non-muscle
D09	Rn.11385	NM_013194	Myh9	Myosin, heavy chain 9, non-muscle
D10	Rn.6870	NM_001100885	Myl9	Myosin, light chain 9, regulatory
D11	Rn.203004	NM_001105874	Mylk	Myosin light chain kinase
D12	Rn.9149	NM_017198	Pak1	P21 protein (Cdc42/Rac)-activated kinase 1
E01	Rn.18543	NM_001106238	Pak4	P21 protein (Cdc42/Rac)-activated kinase 4
E02	Rn.1152	NM_022511	Pfn1	Profilin 1
E03	Rn.44193	NM_133399	Pik3ca	Phosphoinositide-3-kinase, catalytic, alpha polypeptide
E04	Rn.82711	NM_017350	Plaur	Plasminogen activator, urokinase receptor
E05	Rn.11243	NM_013187	Plcg1	Phospholipase C, gamma 1
E06	Rn.11130	NM_030992	Pld1	Phospholipase D1
E07	Rn.207908	NM_001105713	Prkca	Protein kinase C, alpha
E08	Rn.22158	NM_031606	Pten	Phosphatase and tensin homolog
E09	Rn.2809	NM_013081	Ptk2	PTK2 protein tyrosine kinase 2

Position	UniGene	GenBank	Symbol	Description
E10	Rn.11025	NM_017318	Plk2b	PTK2B protein tyrosine kinase 2 beta
E11	Rn.11317	NM_012637	Plpn1	Protein tyrosine phosphatase, non-receptor type 1
E12	Rn.75	NM_001012147	Pxn	Paxillin
F01	Rn.29157	NM_134366	Rac1	Ras-related C3 botulinum toxin substrate 1
F02	Rn.2863	NM_001008384	Rac2	Ras-related C3 botulinum toxin substrate 2 (rho family, small GTP binding protein Rac2)
F03	Rn.12223	NM_013135	Rasa1	RAS p21 protein activator (GTPase activating protein) 1
F04	Rn.203261	NM_001005889	Rdx	Radixin
F05	Rn.92530	NM_033441	Rho	Rhodopsin
F06	Rn.107401	NM_057132	Rhoa	Ras homolog gene family, member A
F07	Rn.2042	NM_022542	Rhob	Ras homolog gene family, member B
F08	Rn.162614	NM_001106461	Rhoc	Ras homolog gene family, member C
F09	Rn.25153	NM_001007641	Rnd3	Rho family GTPase 3
F10	Rn.89756	NM_031098	Rock1	Rho-associated coiled-coil containing protein kinase 1
F11	Rn.127935	NM_001107606	Sh3pxd2a	SH3 and PX domains 2A
F12	Rn.112600	NM_031977	Src	V-src sarcoma (Schmidt-Ruppin A-2) viral oncogene homolog (avian)
G01	Rn.10247	NM_012747	Stat3	Signal transducer and activator of transcription 3
G02	Rn.36337	NM_001108416	Svil	Supervillin
G03	Rn.40136	NM_021578	Tgfb1	Transforming growth factor, beta 1
G04	Rn.10161	NM_021989	Timp2	TIMP metalloproteinase inhibitor 2
G05	Rn.7715	NM_001039025	Tln1	Talin 1
G06	Rn.98750	NM_001108475	Vasp	Vasodilator-stimulated phosphoprotein
G07	Rn.164613	NM_001107248	Vcl	Vinculin
G08	Rn.1923	NM_031836	Vegfa	Vascular endothelial growth factor A
G09	Rn.2710	NM_031140	Vim	Vimentin
G10	Rn.7692	NM_001025114	Wasf1	WAS protein family, member 1
G11	Rn.162111	NM_001013167	Wasf2	WAS protein family, member 2
G12	Rn.161803	NM_057192	Wipf1	WAS/WASL interacting protein family, member 1
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 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.

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