RT² Profiler PCR Array (Rotor-Gene® Format)

Human Cell Motility

Cat. no. 330231 PAHS-128ZR

For pathway expression analysis

Format	For use with the following real-time cyclers
RT² Profiler PCR Array, Format R	Rotor-Gene Q, other Rotor-Gene cyclers

Description

The Human 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.

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	Hs.509765	NM_001102	ACTN1	Actinin, alpha 1
A02	Hs.654432	NM_001104	ACTN3	Actinin, alpha 3
A03	Hs.270291	NM_004924	ACTN4	Actinin, alpha 4
A04	Hs.728857	NM_005722	ACTR2	ARP2 actin-related protein 2 homolog (yeast)
A05	Hs.433512	NM_005721	ACTR3	ARP3 actin-related protein 3 homolog (yeast)
A06	Hs.525622	NM_005163	AKT1	V-akt murine thymoma viral oncogene homolog 1
A07	Hs.525330	NM_001663	ARF6	ADP-ribosylation factor 6
A08	Hs.159161	NM_004309	ARHGDIA	Rho GDP dissociation inhibitor (GDI) alpha
A09	Hs.508738	NM_003899	ARHGEF7	Rho guanine nucleotide exchange factor (GEF) 7
A10	Hs.128316	NM_006340	BAIAP2	BAI1-associated protein 2
A11	Hs.479747	NM_014567	BCAR1	Breast cancer anti-estrogen resistance 1
A12	Hs.502842	NM_005186	CAPN1	Calpain 1, (mu/I) large subunit
B01	Hs.350899	NM_001748	CAPN2	Calpain 2, (m/II) large subunit
B02	Hs.74034	NM_001753	CAV1	Caveolin 1, caveolae protein, 22kDa
B03	Hs.690198	NM_001791	CDC42	Cell division cycle 42 (GTP binding protein, 25kDa)
B04	Hs.170622	NM_005507	CFL1	Cofilin 1 (non-muscle)
B05	Hs.638121	NM_016823	CRK	V-crk sarcoma virus CT10 oncogene homolog (avian)
B06	Hs.591402	NM_000757	CSF1	Colony stimulating factor 1 (macrophage)
B07	Hs.596164	NM_005231	CTTN	Cortactin
B08	Hs.529451	NM_005219	DIAPH1	Diaphanous homolog 1 (Drosophila)
B09	Hs.368912	NM_001935	DPP4	Dipeptidyl-peptidase 4
B10	Hs.419815	NM_001963	EGF	Epidermal growth factor
B11	Hs.488293	NM_005228	EGFR	Epidermal growth factor receptor
B12	Hs.497893	NM_001008493	ENAH	Enabled homolog (Drosophila)
C01	Hs.487027	NM_003379	EZR	Ezrin
C02	Hs.654370	NM_004460	FAP	Fibroblast activation protein, alpha
C03	Hs.284244	NM_002006	FGF2	Fibroblast growth factor 2 (basic)
C04	Hs.396530	NM_000601	HGF	Hepatocyte growth factor (hepapoietin A; scatter factor)
C05	Hs.160562	NM_000618	IGF1	Insulin-like growth factor 1 (somatomedin C)
C06	Hs.643120	NM_000875	IGF1R	Insulin-like growth factor 1 receptor
C07	Hs.5158	NM_004517	ILK	Integrin-linked kinase
C08	Hs.694732	NM_000885	ITGA4	Integrin, alpha 4 (antigen CD49D, alpha 4 subunit of VLA-4 receptor)
C09	Hs.643813	NM_002211	ITGB1	Integrin, beta 1 (fibronectin receptor, beta polypeptide, antigen CD29 includes MDF2, MSK12)
C10	Hs.375957	NM_000211	ITGB2	Integrin, beta 2 (complement component 3 receptor 3 and 4 subunit)
C11	Hs.218040	NM_000212	ITGB3	Integrin, beta 3 (platelet glycoprotein IIIa, antigen CD61)
C12	Hs.647035	NM_002314	LIMK1	LIM domain kinase 1
D01	Hs.431850	NM_002745	MAPK1	Mitogen-activated protein kinase 1
D02	Hs.132966	NM_000245	MET	Met proto-oncogene (hepatocyte growth factor receptor)
D03	Hs.2399	NM_004995	MMP14	Matrix metallopeptidase 14 (membrane-inserted)
D04	Hs.513617	NM_004530	MMP2	Matrix metallopeptidase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV collagenase)
D05	Hs.297413	NM_004994	MMP9	Matrix metallopeptidase 9 (gelatinase B, 92kDa gelatinase, 92kDa type IV collagenase)
D06	Hs.87752	NM_002444	MSN	Moesin
D07	Hs.16355	NM_005964	MYH10	Myosin, heavy chain 10, non-muscle
D08	Hs.474751	NM_002473	MYH9	Myosin, heavy chain 9, non-muscle
D09	Hs.504687	NM_006097	MYL9	Myosin, light chain 9, regulatory
D10	Hs.477375	NM_053025	MYLK	Myosin light chain kinase
D11	Hs.435714	NM_002576	PAK1	P21 protein (Cdc42/Rac)-activated kinase 1
D12	Hs.20447	NM_005884	PAK4	P21 protein (Cdc42/Rac)-activated kinase 4
E01	Hs.494691	NM_005022	PFN1	Profilin 1
E02	Hs.553498	NM_006218	PIK3CA	Phosphoinositide-3-kinase, catalytic, alpha polypeptide
E03	Hs.466871	NM_002659	PLAUR	Plasminogen activator, urokinase receptor
E04	Hs.268177	NM_002660	PLCG1	Phospholipase C, gamma 1
E05	Hs.382865	NM_002662	PLD1	Phospholipase D1, phosphatidylcholine-specific
E06	Hs.531704	NM_002737	PRKCA	Protein kinase C, alpha

Position	UniGene	GenBank	Symbol	Description
E07	Hs.500466	NM_000314	PTEN	Phosphatase and tensin homolog
E08	Hs.395482	NM_005607	PTK2	PTK2 protein tyrosine kinase 2
E09	Hs.491322	NM_004103	PTK2B	PTK2B protein tyrosine kinase 2 beta
E10	Hs.417549	NM_002827	PTPN1	Protein tyrosine phosphatase, non-receptor type 1
E11	Hs.446336	NM_002859	PXN	Paxillin
E12	Hs.413812	NM_006908	RAC1	Ras-related C3 botulinum toxin substrate 1 (rho family, small GTP binding protein Rac1)
F01	Hs.517601	NM_002872	RAC2	Ras-related C3 botulinum toxin substrate 2 (rho family, small GTP binding protein Rac2)
F02	Hs.664080	NM_002890	RASA1	RAS p21 protein activator (GTPase activating protein) 1
F03	Hs.263671	NM_002906	RDX	Radixin
F04	Hs.247565	NM_000539	RHO	Rhodopsin
F05	Hs.247077	NM_001664	RHOA	Ras homolog gene family, member A
F06	Hs.502876	NM_004040	RHOB	Ras homolog gene family, member B
F07	Hs.502659	NM_175744	RHOC	Ras homolog gene family, member C
F08	Hs.6838	NM_005168	RND3	Rho family GTPase 3
F09	Hs.306307	NM_005406	ROCK1	Rho-associated, coiled-coil containing protein kinase 1
F10	Hs.594708	NM_014631	SH3PXD2A	SH3 and PX domains 2A
F11	Hs.195659	NM_005417	SRC	V-src sarcoma (Schmidt-Ruppin A-2) viral oncogene homolog (avian)
F12	Hs.463059	NM_003150	STAT3	Signal transducer and activator of transcription 3 (acute-phase response factor)
G01	Hs.499209	NM_003174	SVIL	Supervillin
G02	Hs.645227	NM_000660	TGFB1	Transforming growth factor, beta 1
G03	Hs.633514	NM_003255	TIMP2	TIMP metallopeptidase inhibitor 2
G04	Hs.471014	NM_006289	TLN1	Talin 1
G05	Hs.515469	NM_003370	VASP	Vasodilator-stimulated phosphoprotein
G06	Hs.643896	NM_003373	VCL	Vinculin
G07	Hs.73793	NM_003376	VEGFA	Vascular endothelial growth factor A
G08	Hs.642813	NM_003380	VIM	Vimentin
G09	Hs.75850	NM_003931	WASF1	WAS protein family, member 1
G10	Hs.590909	NM_006990	WASF2	WAS protein family, member 2
G11	Hs.143728	NM_003941	WASL	Wiskott-Aldrich syndrome-like
G12	Hs.128067	NM_003387	WIPF1	WAS/WASL interacting protein family, member 1
H01	Hs.520640	NM_001101	ACTB	Actin, beta
H02	Hs.534255	NM_004048	B2M	Beta-2-microglobulin
H03	Hs.592355	NM_002046	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
H04	Hs.412707	NM_000194	HPRT1	Hypoxanthine phosphoribosyltransferase 1
H05	Hs.546285	NM_001002	RPLP0	Ribosomal protein, large, P0
H06	N/A	SA_00105	HGDC	Human 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.
RT² First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT² 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.

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 or can be requested from QIAGEN Technical Services or your local distributor.

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