RT² Profiler PCR Array (Rotor-Gene® Format)

Human Glucocorticoid Signaling

Cat. no. 330231 PAHS-154ZR

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 Glucocorticoid Signaling RT² Profiler PCR Array profiles the expression of 84 key genes involved in signaling initiated by the glucocorticoid receptor. Secreted by the adrenal cortex, glucocorticoid hormones affect several biological processes, from inhibiting inflammation to maintaining normal blood glucose levels and more. Signaling occurs when the glucocorticoid receptor binds the cell-permeable hormones, causing nuclear translocation, interaction with other co-transcription factors (indicating a role of crosstalk with other pathways), and the activation or repression of target gene expression. The therapeutic use of glucocorticoids (such as the commonly used prednisone, dexamethasone, or hydrocortisone) helps treat various disorders including allergies, asthma, autoimmune diseases, dermatitis, leukemia, lymphomas, and rheumatoid arthritis. Their immunosuppressant activity also helps prevent acute transplant rejection and graft-versus-host disease. Resistance and side-effects (such as the susceptibility to infection and inhibition of tissue repair processes) limit the long-term use of these drugs, but has spurred research into the development of safer glucocorticoid analogs. Examining glucocorticoid transcriptional responses could help provide a better understanding of their effects on biological processes in any target tissue. This array includes the glucocorticoid receptors and key co-transcription factors, but mostly target genes identified from studies simultaneously using both chromatin immunoprecipitation (ChIP) and gene expression in the two key responsive tissues: adipose and lung. A set of controls present on each array enables data analysis using the ΔΔCT method of relative quantification, assessment of reverse transcription performance, genomic DNA contamination, and PCR performance. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in glucocorticoid signaling 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.474018	NM_001112	ADARB1	Adenosine deaminase, RNA-specific, B1
A02	Hs.480190	NM_005935	AFF1	AF4/FMR2 family, member 1
A03	Hs.470907	NM_001625	AK2	Adenylate kinase 2
A04	Hs.501890	NM_000480	AMPD3	Adenosine monophosphate deaminase 3
A05	Hs.9613	NM_001039667	ANGPTL4	Angiopoietin-like 4
A06	Hs.422986	NM_001153	ANXA4	Annexin A4
A07	Hs.76152	NM_198098	AQP1	Aquaporin 1 (Colton blood group)
A08	Hs.535297	NM_032199	ARID5B	AT rich interactive domain 5B (MRF1-like)
A09	Hs.591874	NM_004318	ASPH	Aspartate beta-hydroxylase
A10	Hs.496487	NM_001675	ATF4	Activating transcription factor 4 (tax-responsive enhancer element B67)
A11	Hs.478588	NM_001706	BCL6	B-cell CLL/lymphoma 6
A12	Hs.660998	NM_133468	BMPER	BMP binding endothelial regulator
B01	Hs.489127	NM_001742	CALCR	CALCITONIN RECEPTOR
B02	Hs.699463	NM_004364	CEBPA	CCAAT/enhancer binding protein (C/EBP), alpha
B03	Hs.517106	NM_005194	CEBPB	CCAAT/enhancer binding protein (C/EBP), beta
B04	Hs.508716	NM_001846	COL4A2	Collagen, type IV, alpha 2
B05	Hs.516646	NM_004379	CREB1	CAMP responsive element binding protein 1
B06	Hs.522110	NM_006368	CREB3	CAMP responsive element binding protein 3
B07	Hs.372924	NM_130898	CREB3L4	CAMP responsive element binding protein 3-like 4
B08	Hs.591346	NM_001901	CTGF	Connective tissue growth factor
B09	Hs.355264	NM_001915	CYB561	Cytochrome b-561
B10	Hs.523012	NM_019058	DDIT4	DNA-damage-inducible transcript 4
B11	Hs.165636	NM_017594	DIRAS2	DIRAS family, GTP-binding RAS-like 2
B12	Hs.171695	NM_004417	DUSP1	Dual specificity phosphatase 1
C01	Hs.511899	NM_001955	EDN1	Endothelin 1
C02	Hs.368808	NM_014600	EHD3	EH-domain containing 3
C03	Hs.605445	NM_018948	ERRFI1	ERBB receptor feedback inhibitor 1
C04	Hs.407190	NM_004117	FKBP5	FK506 binding protein 5
C05	Hs.220971	NM_005253	FOSL2	FOS-like antigen 2
C06	Hs.631744	NM_182569	GDPD1	Glycerophosphodiester phosphodiesterase domain containing 1
C07	Hs.767	NM_000823	GHRHR	Growth hormone releasing hormone receptor
C08	Hs.518525	NM_002065	GLUL	Glutamate-ammonia ligase
C09	Hs.500756	NM_002079	GOT1	Glutamic-oxaloacetic transaminase 1, soluble (aspartate aminotransferase 1)
C10	Hs.463511	NM_004285	H6PD	Hexose-6-phosphate dehydrogenase (glucose 1-dehydrogenase)
C11	Hs.159226	NM_005328	HAS2	Hyaluronan synthase 2
C12	Hs.445497	NM_138394	HNRPLL	Heterogeneous nuclear ribonucleoprotein L-like
D01	Hs.193717	NM_000572	IL10	Interleukin 10
D02	Hs.81134	NM_000577	IL1RN	Interleukin 1 receptor antagonist
D03	Hs.654458	NM_000600	IL6	Interleukin 6 (interferon, beta 2)
D04	Hs.709210	NM_000565	IL6R	Interleukin 6 receptor
D05	Hs.525752	NM_015995	KLF13	Kruppel-like factor 13
D06	Hs.150557	NM_001206	KLF9	Kruppel-like factor 9
D07	Hs.102267	NM_002317	LOX	Lysyl oxidase
D08	Hs.306178	NM_006343	MERTK	C-mer proto-oncogene tyrosine kinase
D09	Hs.534330	NM_175617	MT1E	Metallothionein 1E
D10	Hs.647371	NM_005953	MT2A	Metallothionein 2A
D11	Hs.81328	NM_020529	NFKBIA	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha
D12	Hs.122926	NM_000176	NR3C1	Nuclear receptor subfamily 3, group C, member 1 (glucocorticoid receptor)
E01	Hs.458596	NM_005707	PDCD7	Programmed cell death 7
E02	Hs.509067	NM_002609	PDGFRB	Platelet-derived growth factor receptor, beta polypeptide
E03	Hs.22265	NM_018444	PDP1	Pyruvate dehyrogenase phosphatase catalytic subunit 1
E04	Hs.445534	NM_002616	PER1	Period homolog 1 (Drosophila)
E05	Hs.58756	NM_022817	PER2	Period homolog 2 (Drosophila)
E06	Hs.132225	NM_181504	PIK3R1	Phosphoinositide-3-kinase, regulatory subunit 1 (alpha)
E07	Hs.382865	NM_002662	PLD1	Phospholipase D1, phosphatidylcholine-specific
E08	Hs.466383	NM_024310	PLEKHF1	Pleckstrin homology domain containing, family F (with FYVE domain) member 1

Position	UniGene	GenBank	Symbol	Description
E09	Hs.493649	NM_002697	POU2F1	POU class 2 homeobox 1
E10	Hs.654420	NM_002698	POU2F2	POU class 2 homeobox 2
E11	Hs.593075	NM_007368	RASA3	RAS p21 protein activator 3
E12	Hs.78944	NM_002923	RGS2	Regulator of G-protein signaling 2, 24kDa
F01	Hs.502876	NM_004040	RHOB	Ras homolog gene family, member B
F02	Hs.656339	NM_020663	RHOJ	Ras homolog gene family, member J
F03	Hs.591336	NM_014454	SESN1	Sestrin 1
F04	Hs.510078	NM_005627	SGK1	Serum/glucocorticoid regulated kinase 1
F05	Hs.452996	NM_197965	SLC10A6	Solute carrier family 10 (sodium/bile acid cotransporter family), member 6
F06	Hs.30246	NM_006996	SLC19A2	Solute carrier family 19 (thiamine transporter), member 2
F07	Hs.443572	NM_003060	SLC22A5	Solute carrier family 22 (organic cation/carnitine transporter), member 5
F08	Hs.31121	NM_003098	SNTA1	Syntrophin, alpha 1 (dystrophin-associated protein A1, 59kDa, acidic component)
F09	Hs.68061	NM_021972	SPHK1	Sphingosine kinase 1
F10	Hs.705454	NM_025106	SPSB1	SplA/ryanodine receptor domain and SOCS box containing 1
F11	Hs.437058	NM_003152	STAT5A	Signal transducer and activator of transcription 5A
F12	Hs.595276	NM_012448	STAT5B	Signal transducer and activator of transcription 5B
G01	Hs.715537	NM_024665	TBL1XR1	Transducin (beta)-like 1 X-linked receptor 1
G02	Hs.241570	NM_000594	TNF	Tumor necrosis factor
G03	Hs.211600	NM_006290	TNFAIP3	Tumor necrosis factor, alpha-induced protein 3
G04	Hs.716410	NM_004089	TSC22D3	TSC22 domain family, member 3
G05	Hs.524085	NM_171997	USP2	Ubiquitin specific peptidase 2
G06	Hs.657355	NM_152586	USP54	Ubiquitin specific peptidase 54
G07	Hs.524368	NM_000376	VDR	Vitamin D (1,25- dihydroxyvitamin D3) receptor
G08	Hs.370422	NM_003383	VLDLR	Very low density lipoprotein receptor
G09	Hs.250	NM_000379	XDH	Xanthine dehydrogenase
G10	Hs.534052	NM_003407	ZFP36	Zinc finger protein 36, C3H type, homolog (mouse)
G11	Hs.380133	NM_015035	ZHX3	Zinc fingers and homeoboxes 3
G12	Hs.59757	NM_012482	ZNF281	Zinc finger protein 281
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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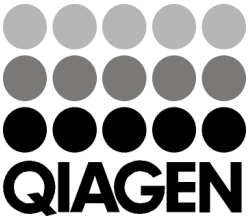

Sample & Assay Technologies