RT² Profiler PCR Array (Rotor-Gene® Format)

Human Parkinson's Disease

Cat. no. 330231 PAHS-124ZR

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 Parkinson's Disease RT² Profiler™ PCR Array profiles the expression of 84 key genes directly or potentially involved in Parkinson's disease (PD). PD is a neurodegenerative disorder caused by loss of dopaminergic neurons. Although there are inheritable genetic forms of PD, the majority of diagnoses are sporadic PD, where the cause is unknown. Gene expression microarray analyses of multiple PD animal models have shed insight into the mechanism of PD initiation and progression. For example, one microarray study shows that genes of the PARK family, central to inheritable PD, are also dysregulated in patients diagnosed with sporadic PD. In addition, this study identifies dysregulated genes involved in ion transport, such as ATP2B2. Therefore, PD research focuses on both known mutated genes, such as Alpha-synuclein (SNCA) and Parkin (PARK2), as well as novel genes identified from microarray experiments. This array includes known PD genes and their interactors, as well as genes whose expression changes across multiple human, mouse, rat and macaque PD microarray analyses. These genes mediate multiple cellular functions dysregulated in PD, such as ubiquitination, ion transport, apoptosis and dopaminergic signaling. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes involved in Parkinson's disease progression 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.76392	NM_000689	ALDH1A1	Aldehyde dehydrogenase 1 family, member A1
A02	Hs.158932	NM_000038	APC	Adenomatous polyposis coli
A03	Hs.434980	NM_000484	APP	Amyloid beta (A4) precursor protein
A04	Hs.268942	NM_001683	ATP2B2	ATPase, Ca++ transporting, plasma membrane 2
A05	Hs.76253	NM_002973	ATXN2	Ataxin 2
A06	Hs.532632	NM_004993	ATXN3	Ataxin 3
A07	Hs.728962	NM_006317	BASP1	Brain abundant, membrane attached signal protein 1
A08	Hs.502182	NM_001709	BDNF	Brain-derived neurotrophic factor
A09	Hs.654933	NM_183394	CADPS	Ca++-dependent secretion activator
A10	Hs.2490	NM_033292	CASP1	Caspase 1, apoptosis-related cysteine peptidase (interleukin 1, beta, convertase)
A11	Hs.141125	NM_004346	CASP3	Caspase 3, apoptosis-related cysteine peptidase
A12	Hs.9216	NM_001227	CASP7	Caspase 7, apoptosis-related cysteine peptidase
B01	Hs.599762	NM_001228	CASP8	Caspase 8, apoptosis-related cysteine peptidase
B02	Hs.329502	NM_001229	CASP9	Caspase 9, apoptosis-related cysteine peptidase
B03	Hs.463295	NM_001256	CDC27	Cell division cycle 27 homolog (S. cerevisiae)
B04	Hs.690198	NM_001791	CDC42	Cell division cycle 42 (GTP binding protein, 25kDa)
B05	Hs.368322	NM_001796	CDH8	Cadherin 8, type 2
B06	Hs.516874	NM_001819	CHGB	Chromogranin B (secretogranin 1)
B07	Hs.82919	NM_003591	CUL2	Cullin 2
B08	Hs.180933	NM_014593	CXXC1	CXXC finger protein 1
B09	Hs.518595	NM_014392	D4S234E	DNA segment on chromosome 4 (unique) 234 expressed sequence
B10	Hs.359698	NM_000790	DDC	Dopa decarboxylase (aromatic L-amino acid decarboxylase)
B11	Hs.533717	NM_003836	DLK1	Delta-like 1 homolog (Drosophila)
B12	Hs.73893	NM_000795	DRD2	Dopamine receptor D2
C01	Hs.444450	NM_022051	EGLN1	Egl nine homolog 1 (C. elegans)
C02	Hs.216653	NM_012347	FBXO9	F-box protein 9
C03	Hs.6540	NM_004114	FGF13	Fibroblast growth factor 13
C04	Hs.203717	NM_002026	FN1	Fibronectin 1
C05	Hs.198612	NM_005458	GABBR2	Gamma-aminobutyric acid (GABA) B receptor, 2
C06	Hs.436062	NM_000158	GBE1	Glucan (1,4-alpha-), branching enzyme 1
C07	Hs.406094	NM_005302	GPR37	G protein-coupled receptor 37 (endothelin receptor type B-like)
C08	Hs.377070	NM_000828	GRIA3	Glutamate receptor, ionotrophic, AMPA 3
C09	Hs.90093	NM_002154	HSPA4	Heat shock 70kDa protein 4
C10	Hs.654586	NM_000621	HTR2A	5-hydroxytryptamine (serotonin) receptor 2A
C11	Hs.658533	NM_002240	KCNJ6	Potassium inwardly-rectifying channel, subfamily J, member 6
C12	Hs.187636	NM_198578	LRRK2	Leucine-rich repeat kinase 2
D01	Hs.484371	NM_002752	MAPK9	Mitogen-activated protein kinase 9
D02	Hs.101174	NM_005910	MAPT	Microtubule-associated protein tau
D03	Hs.596314	NM_003743	NCOA1	Nuclear receptor coactivator 1
D04	Hs.521461	NM_006158	NEFL	Neurofilament, light polypeptide
D05	Hs.13349	NM_015090	NFASC	Neurofascin
D06	Hs.563344	NM_006186	NR4A2	Nuclear receptor subfamily 4, group A, member 2
D07	Hs.368307	NM_004796	NRXN3	Neurexin 3
D08	Hs.431279	NM_006178	NSF	N-ethylmaleimide-sensitive factor
D09	Hs.494312	NM_006180	NTRK2	Neurotrophic tyrosine kinase, receptor, type 2
D10	Hs.594504	NM_130837	OPA1	Optic atrophy 1 (autosomal dominant)
D11	Hs.273397	NM_014871	PAN2	PAN2 poly(A) specific ribonuclease subunit homolog (S. cerevisiae)
D12	Hs.132954	NM_004562	PARK2	Parkinson protein 2, E3 ubiquitin protein ligase (parkin)
E01	Hs.419640	NM_007262	PARK7	Parkinson protein 7
E02	Hs.389171	NM_032409	PINK1	PTEN induced putative kinase 1
E03	Hs.581725	NM_005038	PPID	Peptidylprolyl isomerase D
E04	Hs.432121	NM_005809	PRDX2	Peroxiredoxin 2
E05	Hs.25363	NM_000447	PSEN2	Presenilin 2 (Alzheimer disease 4)
E06	Hs.500466	NM_000314	PTEN	Phosphatase and tensin homolog
E07	Hs.386726	NM_005613	RGS4	Regulator of G-protein signaling 4
E08	Hs.368626	NM_021136	RTN1	Reticulon 1
E09	Hs.422181	NM_006272	S100B	S100 calcium binding protein B

Position	UniGene	GenBank	Symbol	Description
E10	Hs.728762	NM_002688	SEPT5	Septin 5
E11	Hs.171626	NM_006930	SKP1	S-phase kinase-associated protein 1
E12	Hs.654476	NM_003054	SLC18A2	Solute carrier family 18 (vesicular monoamine), member 2
F01	Hs.246506	NM_001151	SLC25A4	Solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 4
F02	Hs.406	NM_001044	SLC6A3	Solute carrier family 6 (neurotransmitter transporter, dopamine), member 3
F03	Hs.632082	NM_003061	SLIT1	Slit homolog 1 (Drosophila)
F04	Hs.271771	NM_000345	SNCA	Synuclein, alpha (non A4 component of amyloid precursor)
F05	Hs.558463	NM_015001	SPEN	Spen homolog, transcriptional regulator (Drosophila)
F06	Hs.309090	NM_001031684	SRSF7	Serine/arginine-rich splicing factor 7
F07	Hs.592081	NM_005861	STUB1	STIP1 homology and U-box containing protein 1, E3 ubiquitin protein ligase
F08	Hs.21754	NM_014848	SV2B	Synaptic vesicle glycoprotein 2B
F09	Hs.435277	NM_004209	SYNGR3	Synaptogyrin 3
F10	Hs.310545	NM_005639	SYT1	Synaptotagmin I
F11	Hs.32984	NM_152280	SYT11	Synaptotagmin XI
F12	Hs.593995	NM_030756	TCF7L2	Transcription factor 7-like 2 (T-cell specific, HMG-box)
G01	Hs.435609	NM_000360	TH	Tyrosine hydroxylase
G02	Hs.82128	NM_006670	TPBG	Trophoblast glycoprotein
G03	Hs.533273	NM_003334	UBA1	Ubiquitin-like modifier activating enzyme 1
G04	Hs.356190	NM_018955	UBB	Ubiquitin B
G05	Hs.302903	NM_003345	UBE2I	Ubiquitin-conjugating enzyme E2I
G06	Hs.728888	NM_005339	UBE2K	Ubiquitin-conjugating enzyme E2K
G07	Hs.108104	NM_003347	UBE2L3	Ubiquitin-conjugating enzyme E2L 3
G08	Hs.518731	NM_004181	UCHL1	Ubiquitin carboxyl-terminal esterase L1 (ubiquitin thiolesterase)
G09	Hs.644708	NM_014709	USP34	Ubiquitin specific peptidase 34
G10	Hs.20021	NM_014231	VAMP1	Vesicle-associated membrane protein 1 (synaptobrevin 1)
G11	Hs.655340	NM_005662	VDAC3	Voltage-dependent anion channel 3
G12	Hs.492407	NM_003406	YWHAZ	Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, zeta polypeptide
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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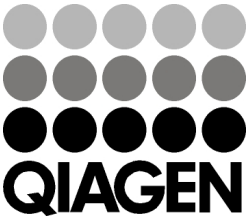

Sample & Assay Technologies