RT² Profiler PCR Array (Rotor-Gene® Format)

Rat Parkinson's Disease

Cat. no. 330231 PARN-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 Rat 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	Rn.6132	NM_022407	Aldh1a1	Aldehyde dehydrogenase 1 family, member A1
A02	Rn.88057	NM_012499	Apc	Adenomatous polyposis coli
A03	Rn.2104	NM_019288	App	Amyloid beta (A4) precursor protein
A04	Rn.90982	NM_012508	Atp2b2	ATPase, Ca++ transporting, plasma membrane 2
A05	Rn.6129	XM_213779	Atxn2	Ataxin 2
A06	Rn.42932	NM_021702	Atxn3	Ataxin 3
A07	Rn.37779	NM_022300	Basp1	Brain abundant, membrane attached signal protein 1
A08	Rn.11266	NM_012513	Bdnf	Brain-derived neurotrophic factor
A09	Rn.88197	NM_013219	Cadps	Ca++-dependent secretion activator
A10	Rn.37508	NM_012762	Casp1	Caspase 1
A11	Rn.10562	NM_012922	Casp3	Caspase 3
A12	Rn.53995	NM_022260	Casp7	Caspase 7
B01	Rn.54474	NM_022277	Casp8	Caspase 8
B02	Rn.32199	NM_031632	Casp9	Caspase 9, apoptosis-related cysteine peptidase
B03	Rn.1120	NM_012924	Cd44	Cd44 molecule
B04	Rn.198335	NM_001024793	Cdc27	Cell division cycle 27 homolog (S. cerevisiae)
B05	Rn.60067	NM_171994	Cdc42	Cell division cycle 42 (GTP binding protein)
B06	Rn.214220	NM_053393	Cdh8	Cadherin 8
B07	Rn.11090	NM_012526	Chgb	Chromogranin B
B08	Rn.28931	NM_031147	Cirbp	Cold inducible RNA binding protein
B09	Rn.2970	NM_001108417	Cul2	Cullin 2
B10	Rn.86349	NM_001079698	Cxxc1	CXXC finger 1 (PHD domain)
B11	Rn.11064	NM_012545	Ddc	Dopa decarboxylase (aromatic L-amino acid decarboxylase)
B12	Rn.14547	NM_053744	Dlk1	Delta-like 1 homolog (Drosophila)
C01	Rn.87299	NM_012547	Drd2	Dopamine receptor D2
C02	Rn.44718	XM_002725436	Egln1	EGL nine homolog 1 (C. elegans)
C03	Rn.3335	NM_001011998	Fbxo9	F-box protein 9
C04	Rn.15709	NM_053428	Fgf13	Fibroblast growth factor 13
C05	Rn.93503	NM_001108955	Fjx1	Four jointed box 1 (Drosophila)
C06	Rn.1604	NM_019143	Fn1	Fibronectin 1
C07	Rn.162814	NM_031802	Gabbr2	Gamma-aminobutyric acid (GABA) B receptor 2
C08	Rn.28035	NM_057201	Gpr37	G protein-coupled receptor 37
C09	Rn.74049	NM_032990	Gria3	Glutamate receptor, ionotrophic, AMPA 3
C10	Rn.5106	NM_017268	Hmgcs1	3-hydroxy-3-methylglutaryl-Coenzyme A synthase 1 (soluble)
C11	Rn.163092	NM_153629	Hspa4	Heat shock protein 4
C12	Rn.10294	NM_017254	Htr2a	5-hydroxytryptamine (serotonin) receptor 2A
D01	Rn.10185	NM_013192	Kcnj6	Potassium inwardly-rectifying channel, subfamily J, member 6
D02	Rn.9910	NM_017322	Mapk9	Mitogen-activated protein kinase 9
D03	Rn.2455	NM_017212	Mapt	Microtubule-associated protein tau
D04	Rn.18568	NM_031783	Nefl	Neurofilament, light polypeptide
D05	Rn.3048	NM_053909	Nfasc	Neurofascin
D06	Rn.88129	NM_019328	Nr4a2	Nuclear receptor subfamily 4, group A, member 2
D07	Rn.10926	NM_053817	Nrxn3	Neurexin 3
D08	Rn.13345	NM_021748	Nsf	N-ethylmaleimide-sensitive factor
D09	Rn.2865	NM_024128	Nsg1	Neuron specific gene family member 1
D10	Rn.11246	NM_012731	Ntrk2	Neurotrophic tyrosine kinase, receptor, type 2
D11	Rn.9783	NM_133585	Opa1	Optic atrophy 1 homolog (human)
D12	Rn.9091	NM_001008862	Pan2	PAN2 polyA specific ribonuclease subunit homolog (S. cerevisiae)
E01	Rn.207194	NM_020093	Park2	Parkinson disease (autosomal recessive, juvenile) 2, parkin
E02	Rn.30105	NM_057143	Park7	Parkinson disease (autosomal recessive, early onset) 7
E03	Rn.219286	NM_001106694	Pink1	PTEN induced putative kinase 1
E04	Rn.136915	NM_001004279	Ppid	Peptidylprolyl isomerase D (cyclophilin D)
E05	Rn.163017	NM_001025418	Ppp2r1b	Protein phosphatase 2 (formerly 2A), regulatory subunit A, beta isoform
E06	Rn.2511	NM_017169	Prdx2	Peroxiredoxin 2
E07	Rn.11045	NM_031087	Psen2	Presenilin 2
E08	Rn.22158	NM_031606	Pten	Phosphatase and tensin homolog
E09	Rn.11065	NM_017214	Rgs4	Regulator of G-protein signaling 4

Position	UniGene	GenBank	Symbol	Description
E10	Rn.55126	NM_053865	Rtn1	Reticulon 1
E11	Rn.8937	NM_013191	S100b	S100 calcium binding protein B
E12	Rn.3477	NM_001007608	Skp1	S-phase kinase-associated protein 1
F01	Rn.9686	NM_013031	Slc18a2	Solute carrier family 18 (vesicular monoamine), member 2
F02	Rn.4092	NM_053515	Slc25a4	Solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 4
F03	Rn.10093	NM_012694	Slc6a3	Solute carrier family 6 (neurotransmitter transporter, dopamine), member 3
F04	Rn.30002	NM_022953	Slit1	Slit homolog 1 (Drosophila)
F05	Rn.1827	NM_019169	Snca	Synuclein, alpha (non A4 component of amyloid precursor)
F06	Rn.99178	XM_345315	Spen	SPEN homolog, transcriptional regulator (Drosophila)
F07	Rn.218757	NM_001039035	Srsf7	Serine/arginine-rich splicing factor 7
F08	Rn.6504	NM_001025625	Stub1	STIP1 homology and U-Box containing protein 1
F09	Rn.58137	NM_057207	Sv2b	Synaptic vesicle glycoprotein 2b
F10	Rn.6497	NM_001106985	Syngr3	Synaptogyrin 3
F11	Rn.216272	NM_001033680	Syt1	Synaptotagmin I
F12	Rn.9805	NM_031667	Syt11	Synaptotagmin XI
G01	Rn.105849	XM_001054844	Tcf7l2	Transcription factor 7-like 2 (T-cell specific, HMG-box)
G02	Rn.11082	NM_012740	Th	Tyrosine hydroxylase
G03	Rn.43122	NM_031807	Tpbg	Trophoblast glycoprotein
G04	Rn.11800	NM_001014080	Uba1	Ubiquitin-like modifier activating enzyme 1
G05	Rn.1253	NM_138895	Ubb	Ubiquitin B
G06	Rn.2274	NM_013050	Ube2i	Ubiquitin-conjugating enzyme E2I (UBC9 homolog, yeast)
G07	Rn.203330	NM_001106006	Ube2k	Ubiquitin-conjugating enzyme E2K (UBC1 homolog, yeast)
G08	Rn.163186	NM_001108847	Ube2l3	Ubiquitin-conjugating enzyme E2L 3
G09	Rn.107213	NM_017237	Uchl1	Ubiquitin carboxyl-terminal esterase L1 (ubiquitin thiolesterase)
G10	Rn.31977	NM_013090	Vamp1	Vesicle-associated membrane protein 1
G11	Rn.107287	NM_031355	Vdac3	Voltage-dependent anion channel 3
G12	Rn.1292	NM_013011	Ywhaz	Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, zeta polypeptide
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.
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.

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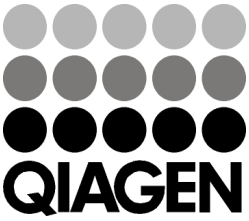

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