

# RT<sup>2</sup> Profiler PCR Array (Rotor-Gene® Format)

## Dog Parkinson's Disease

Cat. no. 330231 PAFD-124ZR

For pathway expression analysis

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

### Description

The Pig Parkinson's Disease RT<sup>2</sup> 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 *RT<sup>2</sup> Profiler PCR Array Handbook*.



## **Shipping and storage**

RT<sup>2</sup> 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 RT<sup>2</sup> 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.

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## Gene table: RT<sup>2</sup> Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
1	Cfa.1715	NM_001286977	ALDH1A1	Aldehyde dehydrogenase 1 family, member A1
2	N/A	XM_014111995	APC	Adenomatous polyposis coli
3	Cfa.24091	NM_001006601	APP	Amyloid beta (A4) precursor protein
4	N/A	XM_003432745	ATP2B2	ATPase, Ca++ transporting, plasma membrane 2
5	N/A	XM_014107737	ATXN2	Ataxin 2
6	N/A	XM_005623161	ATXN3	Ataxin 3
7	N/A	XM_005619422	BASP1	Brain abundant, membrane attached signal protein 1
8	Cfa.170	NM_001002975	BDNF	Brain-derived neurotrophic factor
9	N/A	XM_014121992	CADPS	Ca++-dependent secretion activator
10	Cfa.84	NM_001003042	CASP3	Caspase 3, apoptosis-related cysteine peptidase
11	Cfa.3589	NM_001003125	CASP4	Caspase 4, apoptosis-related cysteine peptidase
12	N/A	XM_005637738	CASP7	Caspase 7, apoptosis-related cysteine peptidase
13	Cfa.24658	NM_001048029	CASP8	Caspase 8, apoptosis-related cysteine peptidase
14	Cfa.20874	NM_001031633	CASP9	Caspase 9, apoptosis-related cysteine peptidase
15	N/A	XM_005624186	CDC27	Cell division cycle 27 homolog ( <i>S. cerevisiae</i> )
16	Cfa.39956	NM_001003254	CDC42	Cell division cycle 42 (GTP binding protein, 25kDa)
17	N/A	XM_546896	CDH8	Cadherin 8, type 2
18	N/A	XM_005634808	CHGB	Chromogranin B (secretogranin 1)
19	N/A	XM_005633145	CIRBP	Cold inducible RNA binding protein
20	N/A	XM_005616937	CUL2	Cullin 2
21	N/A	XM_005623104	CXXC1	CXXC finger protein 1
22	N/A	XM_005630904	DDC	Dopa decarboxylase (aromatic L-amino acid decarboxylase)
23	N/A	XM_547982	DLK1	Delta-like 1 homolog ( <i>Drosophila</i> )
24	Cfa.3562	NM_001003110	DRD2	Dopamine receptor D2
25	N/A	XM_546089	EGLN1	Egl nine homolog 1 ( <i>C. elegans</i> )
26	Cfa.4135	NM_001160299	FBXO9	F-box protein 9
27	N/A	XM_005641878	FGF13	Fibroblast growth factor 13
28	Cfa.47867	XM_014110981	FN1	Fibronectin 1
29	N/A	XM_538749	GABBR2	Gamma-aminobutyric acid (GABA) B receptor, 2
30	N/A	XM_535555	GBE1	Glucan (1,4-alpha-), branching enzyme 1
31	N/A	XM_539394	GPR37	G protein-coupled receptor 37 (endothelin receptor type B-like)
32	N/A	XM_005641767	GRIA3	Glutamate receptor, ionotropic, AMPA 3
33	N/A	XM_005619343	HMGCS1	3-hydroxy-3-methylglutaryl-CoA synthase 1 (soluble)
34	Cfa.19900	NM_001048016	HSPA4	Heat shock 70kDa protein 4
35	Cfa.8880	NM_001005869	HTR2A	5-hydroxytryptamine (serotonin) receptor 2A
36	N/A	XM_544881	KCNJ6	Potassium inwardly-rectifying channel, subfamily J, member 6
37	N/A	XM_536243	LOC479096	Similar to neuron specific gene family member 1
38	N/A	XM_014115700	LOC490812	Neurexin 3

Position	UniGene	GenBank	Symbol	Description
39	N/A	XM_543734	LRRK2	Leucine-rich repeat kinase 2
40	N/A	XM_851205	MAPK9	Mitogen-activated protein kinase 9
41	Cfa.6505	NM_001110801	MAPT	Microtubule-associated protein tau
42	Cfa.47921	XM_005630198	NCOA1	Nuclear receptor coactivator 1
43	N/A	XM_534572	NEFL	Neurofilament, light polypeptide
44	N/A	XM_003434326	NFASC	Neurofascin
45	N/A	XM_005640189	NR4A2	Nuclear receptor subfamily 4, group A, member 2
46	N/A	XM_005624201	NSF	N-ethylmaleimide-sensitive factor
47	N/A	XM_541264	NTRK2	Neurotrophic tyrosine kinase, receptor, type 2
48	N/A	XM_005634622	OPA1	Optic atrophy 1 (autosomal dominant)
49	N/A	XM_005625500	PAN2	PAN2 poly(A) specific ribonuclease subunit homolog ( <i>S. cerevisiae</i> )
50	N/A	XM_536733	PARK7	Parkinson protein 7
51	N/A	XM_532704	PPID	Peptidylprolyl isomerase D
52	N/A	XM_014113423	PPP2R1B	Protein phosphatase 2, regulatory subunit A, beta
53	N/A	XM_542042	PRDX2	Peroxiredoxin 2
54	Cfa.9548	NM_001284465	PSEN2	Presenilin 2 (Alzheimer disease 4)
55	Cfa.3695	NM_001003192	PTEN	Phosphatase and tensin homolog
56	N/A	XM_003434310	RGS4	Regulator of G-protein signaling 4
57	N/A	NM_001007131	RTN1	Reticulon 1
58	N/A	XM_548737	S100B	S100 calcium binding protein B
59	N/A	XM_005636587	SEPTIN5	Septin 5
60	Cfa.45285	NM_001252408	SKP1	S-phase kinase-associated protein 1
61	N/A	XM_544038	SLC18A2	Solute carrier family 18 (vesicular monoamine), member 2
62	N/A	XM_532844	SLC25A4	Solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 4
63	Cfa.22997	NM_001136500	SLC6A3	Solute carrier family 6 (neurotransmitter transporter, dopamine), member 3
64	N/A	XM_005637583	SLIT1	Slit homolog 1 ( <i>Drosophila</i> )
65	N/A	XM_005639186	SNCA	Synuclein, alpha (non A4 component of amyloid precursor)
66	N/A	XM_003432189	SRSF7	Serine/arginine-rich splicing factor 7
67	N/A	XM_005621746	STUB1	STIP1 homology and U-box containing protein 1, E3 ubiquitin protein ligase
68	N/A	XM_005618329	SV2B	Synaptic vesicle glycoprotein 2B
69	N/A	XM_005622093	SYNGR3	Synaptogyrin 3
70	N/A	XM_539696	SYT1	Synaptotagmin I
71	N/A	XM_005622720	SYT11	Synaptotagmin XI
72	N/A	XM_005637736	TCF7L2	Transcription factor 7-like 2 (T-cell specific, HMG-box)
73	Cfa.3446	NM_001002966	TH	Tyrosine hydroxylase
74	Cfa.11304	XM_539020	TPBG	Trophoblast glycoprotein
75	N/A	XM_014111384	UBA1	Ubiquitin-like modifier activating enzyme 1
76	N/A	XM_847967	UBC	Ubiquitin C
77	N/A	XM_005621732	UBE2I	Ubiquitin-conjugating enzyme E2I
78	N/A	XM_003434394	UBE2K	Ubiquitin-conjugating enzyme E2K

<b>Position</b>	<b>UniGene</b>	<b>GenBank</b>	<b>Symbol</b>	<b>Description</b>
79	N/A	XM_005636619	UBE2L3	Ubiquitin-conjugating enzyme E2L 3
80	N/A	XM_014112350	UCHL1	Ubiquitin carboxyl-terminal esterase L1 (ubiquitin thiolesterase)
81	N/A	XM_014117553	USP34	Ubiquitin specific peptidase 34
82	N/A	XM_005637250	VAMP1	Vesicle-associated membrane protein 1 (synaptobrevin 1)
83	Cfa.39377	NM_001251965	VDAC3	Voltage-dependent anion channel 3
84	N/A	XM_014118550	YWHAZ	Tyrosine 3-monoxygenase/tryptophan 5-monoxygenase activation protein, zeta polypeptide
85	Cfa.17735	NM_001195845	ACTB	Actin, beta
86	N/A	XM_535458	B2M	Beta-2-microglobulin
87	Cfa.36213	NM_001003142	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
88	Cfa.4551	NM_001003357	HPRT1	Hypoxanthine phosphoribosyltransferase 1
89	N/A	XM_014109387	RPLP1	Ribosomal protein, large, P1
90	N/A	SA_00130	FGDC	Dog Genomic DNA Contamination
91	N/A	SA_00104	RTC	Reverse Transcription Control
92	N/A	SA_00104	RTC	Reverse Transcription Control
93	N/A	SA_00104	RTC	Reverse Transcription Control
94	N/A	SA_00103	PPC	Positive PCR Control
95	N/A	SA_00103	PPC	Positive PCR Control
96	N/A	SA_00103	PPC	Positive PCR Control

## Related products

For optimal performance, RT<sup>2</sup> Profiler PCR Arrays should be used together with the RT<sup>2</sup> First Strand Kit for cDNA synthesis and RT2 SYBR<sup>®</sup> Green qPCR Mastermixes for PCR.

Product	Contents	Cat. no.
RT <sup>2</sup> First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT <sup>2</sup> SYBR Green ROX <sup>™</sup> 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.

RT<sup>2</sup> 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](http://www.qiagen.com) or can be requested from QIAGEN Technical Services or your local distributor.

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