RT² Profiler PCR Array (Rotor-Gene® Format)

Human Huntington's Disease

Cat. no. 330231 PAHS-123ZR

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 Huntington's Disease RT² Profiler™ PCR Array profiles the expression of 84 key genes directly or potentially involved in Huntington's disease (HD). HD, an autosomal dominant genetic disorder caused by expanded CAG repeats in the Huntingtin (HTT) gene, patients present with progressive neuronal dysfunction, and eventually death. HTT interacts with multiple transcription factors (e.g. REST and SP1). HTT mutations have multiple effects, including loss of anti-apoptotic function as well as altered interactions between HTT and transcription factors, affecting downstream expression of target genes. For example, HTT sequesters REST in the cytoplasm. Mutant HTT's decreased interaction with REST allows the transcription factor to enter the nucleus and repress BDNF gene expression. BDNF is critical for striatal neuron survival, and its down-regulation leads to neuronal death.
Microarray gene expression analyses of human cadavers and mouse HD models have identified many genes that may be involved in HD progression. Analysis of these dysregulated genes in your model system may provide insights into HD pathophysiological mechanisms and suggestions for new therapeutic targets. This array includes known HTT cofactors and downstream interactors, as well as SP1 and REST targets whose expression changes correlate across multiple HD microarray analyses. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes central to Huntington'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.525622	NM_005163	AKT1	V-akt murine thymoma viral oncogene homolog 1
A02	Hs.654439	NM_000041	APOE	Apolipoprotein E
A03	Hs.76152	NM_198098	AQP1	Aquaporin 1 (Colton blood group)
A04	Hs.75139	NM_012402	ARFIP2	ADP-ribosylation factor interacting protein 2
A05	Hs.268942	NM_001683	ATP2B2	ATPase, Ca++ transporting, plasma membrane 2
A06	Hs.624291	NM_004324	BAX	BCL2-associated X protein
A07	Hs.591996	NM_003986	BBOX1	Butyrobetaine (gamma), 2-oxoglutarate dioxygenase (gamma-butyrobetaine hydroxylase) 1
A08	Hs.502182	NM_001709	BDNF	Brain-derived neurotrophic factor
A09	Hs.529053	NM_000064	C3	Complement component 3
A10	Hs.65425	NM_004929	CALB1	Calbindin 1, 28kDa
A11	Hs.141125	NM_004346	CASP3	Caspase 3, apoptosis-related cysteine peptidase
A12	Hs.599762	NM_001228	CASP8	Caspase 8, apoptosis-related cysteine peptidase
B01	Hs.502328	NM_000610	CD44	CD44 molecule (Indian blood group)
B02	Hs.491351	NM_004859	CLTC	Clathrin, heavy chain (Hc)
B03	Hs.75110	NM_016083	CNR1	Cannabinoid receptor 1 (brain)
B04	Hs.516646	NM_004379	CREB1	CAMP responsive element binding protein 1
B05	Hs.459759	NM_004380	CREBBP	CREB binding protein
B06	Hs.516111	NM_004082	DCTN1	Dynactin 1
B07	Hs.463928	NM_001365	DLG4	Discs, large homolog 4 (Drosophila)
B08	Hs.433839	NM_001958	EEF1A2	Eukaryotic translation elongation factor 1 alpha 2
B09	Hs.488293	NM_005228	EGFR	Epidermal growth factor receptor
B10	Hs.656638	NM_130442	ELMO1	Engulfment and cell motility 1
B11	Hs.584758	NM_021032	FGF12	Fibroblast growth factor 12
B12	Hs.113882	NM_000815	GABRD	Gamma-aminobutyric acid (GABA) A receptor, delta
C01	Hs.74471	NM_000165	GJA1	Gap junction protein, alpha 1, 43kDa
C02	Hs.511757	NM_006783	GJB6	Gap junction protein, beta 6, 30kDa
C03	Hs.269782	NM_002072	GNAQ	Guanine nucleotide binding protein (G protein), q polypeptide
C04	Hs.76686	NM_000581	GPX1	Glutathione peroxidase 1
C05	Hs.444356	NM_002086	GRB2	Growth factor receptor-bound protein 2
C06	Hs.411472	NM_000833	GRIN2A	Glutamate receptor, ionotropic, N-methyl D-aspartate 2A
C07	Hs.654430	NM_000834	GRIN2B	Glutamate receptor, ionotropic, N-methyl D-aspartate 2B
C08	Hs.147361	NM_000842	GRM5	Glutamate receptor, metabotropic 5
C09	Hs.158300	NM_177977	HAP1	Huntingtin-associated protein 1
C10	Hs.88556	NM_004964	HDAC1	Histone deacetylase 1
C11	Hs.3352	NM_001527	HDAC2	Histone deacetylase 2
C12	Hs.329266	NM_005338	HIP1	Huntingtin interacting protein 1
D01	Hs.591761	NM_004272	HOMER1	Homer homolog 1 (Drosophila)
D02	Hs.632391	NM_002143	HPCA	Hippocalcin
D03	Hs.518450	NM_002111	HTT	Huntingtin
D04	Hs.412196	NM_018010	IFT57	Intraflagellar transport 57 homolog (Chlamydomonas)
D05	Hs.160562	NM_000618	IGF1	Insulin-like growth factor 1 (somatomedin C)
D06	Hs.567295	NM_002222	ITPR1	Inositol 1,4,5-trisphosphate receptor, type 1
D07	Hs.654519	NM_003471	KCNAB1	Potassium voltage-gated channel, shaker-related subfamily, beta member 1
D08	Hs.440497	NM_003636	KCNAB2	Potassium voltage-gated channel, shaker-related subfamily, beta member 2
D09	Hs.467146	NM_004977	KCNC3	Potassium voltage-gated channel, Shaw-related subfamily, member 3
D10	Hs.180878	NM_000237	LPL	Lipoprotein lipase
D11	Hs.466743	NM_002446	MAP3K10	Mitogen-activated protein kinase kinase kinase 10
D12	Hs.462323	NM_006311	NCOR1	Nuclear receptor corepressor 1
E01	Hs.521461	NM_006158	NEFL	Neurofilament, light polypeptide
E02	Hs.97316	NM_019850	NGEF	Neuronal guanine nucleotide exchange factor
E03	Hs.494312	NM_006180	NTRK2	Neurotrophic tyrosine kinase, receptor, type 2
E04	Hs.520087	NM_020804	PACSIN1	Protein kinase C and casein kinase substrate in neurons 1
E05	Hs.78771	NM_000291	PGK1	Phosphoglycerate kinase 1
E06	Hs.431173	NM_015192	PLCB1	Phospholipase C, beta 1 (phosphoinositide-specific)
E07	Hs.477866	NM_182943	PLOD2	Procollagen-lysine, 2-oxoglutarate 5-dioxygenase 2
E08	Hs.527078	NM_013261	PPARGC1A	Peroxisome proliferator-activated receptor gamma, coactivator 1 alpha

Position	UniGene	GenBank	Symbol	Description
E09	Hs.435512	NM_000944	PPP3CA	Protein phosphatase 3, catalytic subunit, alpha isozyme
E10	Hs.460355	NM_002738	PRKCB	Protein kinase C, beta
E11	Hs.643580	NM_017892	PRPF40A	PRP40 pre-mRNA processing factor 40 homolog A (S. cerevisiae)
E12	Hs.506852	NM_002834	PTPN11	Protein tyrosine phosphatase, non-receptor type 11
F01	Hs.503222	NM_002869	RAB6A	RAB6A, member RAS oncogene family
F02	Hs.510521	NM_015156	RCOR1	REST corepressor 1
F03	Hs.631513	NM_005612	REST	RE1-silencing transcription factor
F04	Hs.386726	NM_005613	RGS4	Regulator of G-protein signaling 4
F05	Hs.534497	NM_031430	RILP	Rab interacting lysosomal protein
F06	Hs.21239	NM_014954	RPH3A	Rabphilin 3A homolog (mouse)
F07	Hs.388034	NM_021976	RXRB	Retinoid X receptor, beta
F08	Hs.510078	NM_005627	SGK1	Serum/glucocorticoid regulated kinase 1
F09	Hs.513039	NM_015477	SIN3A	SIN3 homolog A, transcription regulator (yeast)
F10	Hs.101307	NM_015865	SLC14A1	Solute carrier family 14 (urea transporter), member 1 (Kidd blood group)
F11	Hs.246506	NM_001151	SLC25A4	Solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 4
F12	Hs.167317	NM_003081	SNAP25	Synaptosomal-associated protein, 25kDa
G01	Hs.443914	NM_000454	SOD1	Superoxide dismutase 1, soluble
G02	Hs.518438	NM_003106	SOX2	SRY (sex determining region Y)-box 2
G03	Hs.620754	NM_138473	SP1	Sp1 transcription factor
G04	Hs.515475	NM_004819	SYMPK	Symplekin
G05	Hs.225936	NM_006950	SYN1	Synapsin I
G06	Hs.2563	NM_013998	TAC1	Tachykinin, precursor 1
G07	Hs.590872	NM_003194	TBP	TATA box binding protein
G08	Hs.517033	NM_004613	TGM2	Transglutaminase 2 (C polypeptide, protein-glutamine-gamma-glutamyltransferase)
G09	Hs.368527	NM_019009	TOLLIP	Toll interacting protein
G10	Hs.654481	NM_000546	TP53	Tumor protein p53
G11	Hs.636480	NM_178014	TUBB	Tubulin, beta
G12	Hs.591945	NM_006006	ZBTB16	Zinc finger and BTB domain containing 16
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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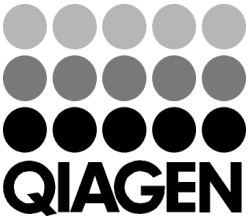

Sample & Assay Technologies