

RT² Profiler PCR Array (96-Well Format and 384-Well [4 x 96] Format)

Mouse Neurotoxicity

Cat. no. 330231 PAMM-096ZA

For pathway expression analysis

Format	For use with the following real-time cyclers
RT ² Profiler PCR Array, Format A	Applied Biosystems [®] models 5700, 7000, 7300, 7500, 7700, 7900HT, ViiA™ 7 (96-well block); Bio-Rad [®] models iCycler [®] , iQ™ 5, MyiQ™, MyiQ2; Bio-Rad/MJ Research Chromo4™; Eppendorf [®] Mastercycler [®] ep realplex models 2, 2s, 4, 4s; Stratagene [®] models Mx3005P [®] , Mx3000P [®] ; Takara TP-800
RT ² Profiler PCR Array, Format C	Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)
RT ² Profiler PCR Array, Format D	Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon [®] , DNA Engine Opticon 2; Stratagene Mx4000 [®]
RT ² Profiler PCR Array, Format E	Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™
RT ² Profiler PCR Array, Format F	Roche [®] LightCycler [®] 480 (96-well block)
RT ² Profiler PCR Array, Format G	Roche LightCycler 480 (384-well block)
RT ² Profiler PCR Array, Format H	Fluidigm [®] BioMark™



Sample & Assay Technologies

Description

The Mouse Neurotoxicity RT² Profiler PCR Array profiles the expression of 84 key genes involved in drug and chemical-induced neurotoxic responses. Minimizing toxicity remains one of the major barriers to bringing a drug to and keeping a drug on the market. Neurotoxicity represents a frequent and troublesome side-effect, making the central and peripheral nervous systems important targets of toxicological studies. However, the simplest measurable phenotypic response to neurotoxicants is cell death upon chronic exposure, a potentially expensive and time-consuming experiment. Quantifiable gene expression changes that occur prior to gross morphological changes allow an earlier identification and determination of neurotoxicity and the more specific mechanisms behind it. This array includes potential biomarkers for a variety of neurotoxic responses, from peripheral neuropathy (cisplatin) to motor neuron axonopathy (1-bromopropane), and from developmental neurotoxicity (chlorpyrifos) to Parkinsonian-type symptoms (paraquat). Neurotoxic drug candidates can be identified and eliminated from the pipeline early in the validation process by analyzing the expression of such genes, reducing experimental time and costs. The organization of genes by their predicted direction of expression change eases data analysis. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes involved in neurotoxicity with this array.

For further details, consult the *RT² Profiler PCR Array Handbook*.

Shipping and storage

RT² Profiler PCR Arrays in formats A, C, D, E, F, and G are shipped at ambient temperature, on dry ice, or blue ice packs depending on destination and accompanying products. RT² Profiler PCR Arrays in format H are shipped on dry ice or blue ice packs.

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 (96-well)

For 384-well 4 x 96 PCR arrays, genes are present in a staggered format. Refer to the *RT² Profiler PCR Array Handbook* for layout.

	1	2	3	4	5	6	7	8	9	10	11	12
A	Abl1	Angptl4	Arg1	Arg2	Arb1	Afh4	Bag4	Bdnf	Bik	Birc2	Camk2a	Camk2d
B	Casp7	Ccnd1	Cd8b1	Cdkn1a	Cdo1	Cidea	Cideb	Clcn5	Clcnkb	Col12a1	Cradd	Dapk1
C	Ddit3	Drd2	Drp2	Dynll1	Egln3	Eif2ak3	Ereg	Fas	Fasl	Gal	Galc	Gch1
D	Gpr37	Grin1	Gsn	Gsr	Gucy1a3	Heph	Hsp90aa1	Hspa5	Htr1a	Htr3a	Il10	Kit
E	Ldha	Lefty2	Lta	Mmp9	NfkB1	Nol3	Nos1ap	Nosip	Nostrin	Notch4	Nup50	Pappa
F	Pdia4	Plp1	Pou1f1	Prim2	Rasd1	Sema3b	Sfn5	Slc16a3	Sod2	Tacr1	Tnfrsf10b	Tnfrsf11b
G	Tnfrsf25	Tph1	Traf2	Traf4	Trp53	Trpm1	Trpm4	Txnip	Tyrp1	Usp7	Xiap	Ywhae
H	Actb	B2m	Gapdh	Gusb	Hsp90ab1	MGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Mm.1318	NM_009594	Abl1	C-abl oncogene 1, non-receptor tyrosine kinase
A02	Mm.196189	NM_020581	Angptl4	Angiotensin-like 4
A03	Mm.154144	NM_007482	Arg1	Arginase, liver
A04	Mm.3506	NM_009705	Arg2	Arginase type II
A05	Mm.260193	NM_177231	Arb1	Arrestin, beta 1
A06	Mm.641	NM_009716	Afh4	Activating transcription factor 4
A07	Mm.118400	NM_026121	Bag4	BCL2-associated athanogene 4
A08	Mm.1442	NM_007540	Bdnf	Brain derived neurotrophic factor
A09	Mm.267006	NM_007546	Bik	Bcl2-interacting killer
A10	Mm.335659	NM_007465	Birc2	Baculoviral IAP repeat-containing 2
A11	Mm.131530	NM_177407	Camk2a	Calcium/calmodulin-dependent protein kinase II alpha
A12	Mm.255822	NM_023813	Camk2d	Calcium/calmodulin-dependent protein kinase II, delta
B01	Mm.35687	NM_007611	Casp7	Caspase 7
B02	Mm.273049	NM_007631	Ccnd1	Cyclin D1
B03	Mm.333148	NM_009858	Cd8b1	CD8 antigen, beta chain 1
B04	Mm.195663	NM_007669	Cdkn1a	Cyclin-dependent kinase inhibitor 1A (P21)
B05	Mm.241056	NM_033037	Cdo1	Cysteine dioxygenase 1, cytosolic
B06	Mm.449	NM_007702	Cidea	Cell death-inducing DNA fragmentation factor, alpha subunit-like effector A
B07	Mm.466766	NM_009894	Cideb	Cell death-inducing DNA fragmentation factor, alpha subunit-like effector B
B08	Mm.254370	NM_016691	Clcn5	Chloride channel 5
B09	Mm.24882	NM_019701	Clcnkb	Chloride channel Kb
B10	Mm.3819	NM_007730	Col12a1	Collagen, type XII, alpha 1
B11	Mm.218009	NM_009950	Cradd	CASP2 and RIPK1 domain containing adaptor with death domain
B12	Mm.24103	NM_029653	Dapk1	Death associated protein kinase 1
C01	Mm.110220	NM_007837	Ddit3	DNA-damage inducible transcript 3
C02	Mm.41970	NM_010077	Drd2	Dopamine receptor D2
C03	Mm.121662	NM_010078	Drp2	Dystrophin related protein 2
C04	Mm.256858	NM_019682	Dynll1	Dynein light chain LC8-type 1
C05	Mm.133037	NM_028133	Egln3	EGL nine homolog 3 (C. elegans)
C06	Mm.247167	NM_010121	Eif2ak3	Eukaryotic translation initiation factor 2 alpha kinase 3
C07	Mm.4791	NM_007950	Ereg	Epiregulin
C08	Mm.1626	NM_007987	Fas	Fas (TNF receptor superfamily member 6)
C09	Mm.3355	NM_010177	Fasl	Fas ligand (TNF superfamily, member 6)
C10	Mm.4655	NM_010253	Gal	Galanin
C11	Mm.5120	NM_008079	Galc	Galactosylceramidase
C12	Mm.10651	NM_008102	Gch1	GTP cyclohydrolase 1
D01	Mm.409670	NM_010338	Gpr37	G protein-coupled receptor 37
D02	Mm.278672	NM_008169	Grin1	Glutamate receptor, ionotropic, NMDA1 (zeta 1)
D03	Mm.21109	NM_146120	Gsn	Gelsolin
D04	Mm.283573	NM_010344	Gsr	Glutathione reductase
D05	Mm.143831	NM_021896	Gucy1a3	Guanylate cyclase 1, soluble, alpha 3
D06	Mm.277092	NM_181273	Heph	Hephaestin
D07	Mm.1843	NM_010480	Hsp90aa1	Heat shock protein 90, alpha (cytosolic), class A member 1
D08	Mm.330160	NM_022310	Hspa5	Heat shock protein 5
D09	Mm.4716	NM_008308	Htr1a	5-hydroxytryptamine (serotonin) receptor 1A

Position	UniGene	GenBank	Symbol	Description
D10	Mm.4831	NM_013561	Htr3a	5-hydroxytryptamine (serotonin) receptor 3A
D11	Mm.874	NM_010548	Il10	Interleukin 10
D12	Mm.247073	NM_021099	Kit	Kit oncogene
E01	Mm.29324	NM_010699	Ldha	Lactate dehydrogenase A
E02	Mm.87078	NM_177099	Lefty2	Left-right determination factor 2
E03	Mm.87787	NM_010735	Lta	Lymphotoxin A
E04	Mm.4406	NM_013599	Mmp9	Matrix metalloproteinase 9
E05	Mm.256765	NM_008689	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1, p105
E06	Mm.475715	NM_030152	Nol3	Nucleolar protein 3 (apoptosis repressor with CARD domain)
E07	Mm.65316	NM_001109985	Nos1ap	Nitric oxide synthase 1 (neuronal) adaptor protein
E08	Mm.272139	NM_025533	Nosip	Nitric oxide synthase interacting protein
E09	Mm.90047	NM_181547	Nostir1	Nitric oxide synthase trafficker
E10	Mm.173813	NM_010929	Notch4	Notch gene homolog 4 (Drosophila)
E11	Mm.28379	NM_016714	Nup50	Nucleoporin 50
E12	Mm.317854	NM_021362	Pappa	Pregnancy-associated plasma protein A
F01	Mm.2442	NM_009787	Pdia4	Protein disulfide isomerase associated 4
F02	Mm.1268	NM_011123	Plp1	Proteolipid protein (myelin) 1
F03	Mm.355440	NM_008849	Pou1f1	POU domain, class 1, transcription factor 1
F04	Mm.27705	NM_008922	Prim2	DNA primase, p58 subunit
F05	Mm.3903	NM_009026	Rasd1	RAS, dexamethasone-induced 1
F06	Mm.4083	NM_009153	Sema3b	Sema domain, immunoglobulin domain (Ig), short basic domain, secreted, (semaphorin) 3B
F07	Mm.121485	NM_178639	Sfn5	Sideroflexin 5
F08	Mm.28632	NM_030696	Slc16a3	Solute carrier family 16 (monocarboxylic acid transporters), member 3
F09	Mm.290876	NM_013671	Sod2	Superoxide dismutase 2, mitochondrial
F10	Mm.8055	NM_009313	Tacr1	Tachykinin receptor 1
F11	Mm.193430	NM_020275	Tnfrsf10b	Tumor necrosis factor receptor superfamily, member 10b
F12	Mm.15383	NM_008764	Tnfrsf11b	Tumor necrosis factor receptor superfamily, member 11b (osteoprotegerin)
G01	Mm.101198	NM_033042	Tnfrsf25	Tumor necrosis factor receptor superfamily, member 25
G02	Mm.248684	NM_009414	Tph1	Tryptophan hydroxylase 1
G03	Mm.3399	NM_009422	Traf2	Tnf receptor-associated factor 2
G04	Mm.390418	NM_009423	Traf4	Tnf receptor associated factor 4
G05	Mm.222	NM_011640	Trp53	Transformation related protein 53
G06	Mm.38875	NM_001039104	Trpm1	Transient receptor potential cation channel, subfamily M, member 1
G07	Mm.439890	NM_175130	Trpm4	Transient receptor potential cation channel, subfamily M, member 4
G08	Mm.410189	NM_023719	Txnip	Thioredoxin interacting protein
G09	Mm.30438	NM_031202	Tyrl1	Tyrosinase-related protein 1
G10	Mm.295330	NM_001003918	Usp7	Ubiquitin specific peptidase 7
G11	Mm.259879	NM_009688	Xiap	X-linked inhibitor of apoptosis
G12	Mm.234700	NM_009536	Ywhae	Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, epsilon polypeptide
H01	Mm.328431	NM_007393	Actb	Actin, beta
H02	Mm.163	NM_009735	B2m	Beta-2 microglobulin
H03	Mm.343110	NM_008084	Gapdh	Glyceraldehyde-3-phosphate dehydrogenase
H04	Mm.3317	NM_010368	Gusb	Glucuronidase, beta
H05	Mm.2180	NM_008302	Hsp90ab1	Heat shock protein 90 alpha (cytosolic), class B member 1
H06	N/A	SA_00106	MGDC	Mouse 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.
RT ² First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT ² SYBR Green qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with real-time cyclers that do not require a reference dye, including: Bio-Rad models CFX96, CFX384, DNA Engine Opticon 2; Bio-Rad/MJ Research Chromo4; Roche LightCycler 480 (96-well and 384-well); all other cyclers	330500
RT ² SYBR Green ROX™ qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the following real-time cyclers: Applied Biosystems models 5700, 7000, 7300, 7500 [Standard and FAST], 7700, 7900HT 96-well block [Standard and FAST] and 384-well block, StepOnePlus; Eppendorf Mastercycler ep realplex models 2, 2S, 4, 4S; Stratagene models Mx3000P, Mx3005P, Mx4000; Takara TP-800	330520
RT ² SYBR Green Fluor qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the following real-time cyclers: Bio-Rad models iCycler, iQ5, MyiQ, MyiQ2	330510

* 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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