

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

Rat Multiple Sclerosis

Cat. no. 330231 PARN-125ZA

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 Rat Multiple Sclerosis RT² Profiler PCR Array profiles the expression of 84 key genes involved in multiple sclerosis (MS) progression. MS, an autoimmune disease of the central nervous system, progressively destroys axonal myelin sheaths and oligodendrocytes. Symptoms primarily result from the loss of myelin and accompanying inflammation. This disease typically progresses with acute attacks (relapses) characterized by T cell invasion and inflammation that form white matter lesions, with a period of remission where neuronal cells can recover. One central focus of MS research uses microarray analyses of white matter lesions from postmortem patients to identify novel genes explaining MS mechanisms and potentially yield new therapeutic targets. This array includes genes mediating MS progression, such as cytokines and chemokines or inflammatory and immune response genes, as well as genes whose expression changes correlate across multiple microarray expression analyses, potentially identifying novel cellular functions involved in this disease such as cell adhesion, cellular stress, and apoptosis. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes involved in multiple sclerosis 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	Adam17	Adm	Akt1s1	Apc	App	Aspa	Bax	Bcl2	Bcl2l1	C1s	Ccl12	Ccl3
B	Ccl5	Ccl7	Ccr1	Ccr5	Cd28	Cd4	Cd40	Cd44	Cd9	Csf1	Cxcl10	Cxcl11
C	Cxcl9	Cxcr3	Edc4	Ednra	Egr1	Epha1	ErbB3	Ezr	Faslg	Fn1	Foxp3	Gfap
D	Gnai2	Gpx1	Grb2	Hdac1	Hexb	Hif1a	Icam1	Ifng	Il10	Il13	Il18	Il1b
E	Il2ra	Il6	Il6st	Ilgb2	Jak1	Jak2	Lta	Mag	Mal	Map2k1	Mapk1	Mbp
F	Mmp9	Myc	Nfkb1	Nr2f1	Nf3	Phgdh	Pip1	Pmp22	Ptpn11	Raf1	Rangap1	RT1-Db1
G	Sod1	Stat3	Tgfb1	Tgfb2	Tnf	Tnfrsf1a	Tnfrsf1b	Top1	Tubb4	Vcam1	Vegfa	Ywhah
H	Actb	B2m	Hprt1	Ldha	Rplp1	RGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Rn.144585	NM_020306	Adam17	ADAM metallopeptidase domain 17
A02	Rn.10232	NM_012715	Adm	Adrenomedullin
A03	Rn.102669	NM_001106259	Akt1s1	AKT1 substrate 1 (proline-rich)
A04	Rn.88057	NM_012499	Apc	Adenomatous polyposis coli
A05	Rn.2104	NM_019288	App	Amyloid beta (A4) precursor protein
A06	Rn.21677	NM_024399	Aspa	Aspartoacylase
A07	Rn.10668	NM_017059	Bax	Bcl2-associated X protein
A08	Rn.9996	NM_016993	Bcl2	B-cell CLL/lymphoma 2
A09	Rn.10323	NM_031535	Bcl2l1	Bcl2-like 1
A10	Rn.4037	NM_138900	C1s	Complement component 1, s subcomponent
A11	Rn.137780	NM_001105822	Ccl12	Chemokine (C-C motif) ligand 12
A12	Rn.10139	NM_013025	Ccl3	Chemokine (C-C motif) ligand 3
B01	Rn.8019	NM_031116	Ccl5	Chemokine (C-C motif) ligand 5
B02	Rn.26815	NM_001007612	Ccl7	Chemokine (C-C motif) ligand 7
B03	Rn.34673	NM_020542	Ccr1	Chemokine (C-C motif) receptor 1
B04	Rn.10736	NM_053960	Ccr5	Chemokine (C-C motif) receptor 5
B05	Rn.10327	NM_013121	Cd28	Cd28 molecule
B06	Rn.10748	NM_012705	Cd4	Cd4 molecule
B07	Rn.25180	NM_134360	Cd40	CD40 molecule, TNF receptor superfamily member 5
B08	Rn.1120	NM_012924	Cd44	Cd44 molecule
B09	Rn.2091	NM_053018	Cd9	CD9 molecule
B10	Rn.83632	NM_023981	Csf1	Colony stimulating factor 1 (macrophage)
B11	Rn.10584	NM_139089	Cxcl10	Chemokine (C-X-C motif) ligand 10
B12	Rn.13664	NM_182952	Cxcl11	Chemokine (C-X-C motif) ligand 11
C01	Rn.7391	NM_145672	Cxcl9	Chemokine (C-X-C motif) ligand 9
C02	Rn.24787	NM_053415	Cxcr3	Chemokine (C-X-C motif) receptor 3
C03	Rn.145173	NM_001033068	Edc4	Enhancer of mRNA decapping 4
C04	Rn.10915	NM_012550	Ednra	Endothelin receptor type A
C05	Rn.9096	NM_012551	Egr1	Early growth response 1
C06	Rn.218221	NM_001107858	Epha1	Eph receptor A1
C07	Rn.10228	NM_017218	ErbB3	V-erb-b2 erythroblastic leukemia viral oncogene homolog 3 (avian)
C08	Rn.773	NM_019357	Ezr	Ezrin
C09	Rn.9725	NM_012908	Faslg	Fas ligand (TNF superfamily, member 6)
C10	Rn.1604	NM_019143	Fn1	Fibronectin 1
C11	Rn.177272	NM_001108250	Foxp3	Forkhead box P3
C12	Rn.91512	NM_017009	Gfap	Glial fibrillary acidic protein
D01	Rn.3036	NM_031035	Gnai2	Guanine nucleotide binding protein (G protein), alpha inhibiting 2
D02	Rn.11323	NM_030826	Gpx1	Glutathione peroxidase 1
D03	Rn.3360	NM_030846	Grb2	Growth factor receptor bound protein 2
D04	Rn.1863	NM_001025409	Hdac1	Histone deacetylase 1
D05	Rn.203067	NM_001011946	Hexb	Hexosaminidase B
D06	Rn.10852	NM_024359	Hif1a	Hypoxia-inducible factor 1, alpha subunit (basic helix-loop-helix transcription factor)
D07	Rn.12	NM_012967	Icam1	Intercellular adhesion molecule 1
D08	Rn.10795	NM_138880	Ifng	Interferon gamma

Position	UniGene	GenBank	Symbol	Description
D09	Rn.9868	NM_012854	Il10	Interleukin 10
D10	Rn.9921	NM_053828	Il13	Interleukin 13
D11	Rn.11118	NM_019165	Il18	Interleukin 18
D12	Rn.9869	NM_031512	Il1b	Interleukin 1 beta
E01	Rn.9872	NM_013163	Il2ra	Interleukin 2 receptor, alpha
E02	Rn.9873	NM_012589	Il6	Interleukin 6
E03	Rn.12138	NM_001008725	Il6st	Interleukin 6 signal transducer
E04	Rn.42962	NM_001037780	Itgb2	Integrin, beta 2
E05	Rn.90191	NM_053466	Jak1	Janus kinase 1
E06	Rn.18909	NM_031514	Jak2	Janus kinase 2
E07	Rn.160577	NM_080769	Lta	Lymphotoxin alpha (TNF superfamily, member 1)
E08	Rn.87331	NM_017190	Mag	Myelin-associated glycoprotein
E09	Rn.10174	NM_012798	Mal	Mal, T-cell differentiation protein
E10	Rn.5850	NM_031643	Map2k1	Mitogen activated protein kinase kinase 1
E11	Rn.34914	NM_053842	Mapk1	Mitogen activated protein kinase 1
E12	Rn.63285	NM_017026	Mbp	Myelin basic protein
F01	Rn.10209	NM_031055	Mmp9	Matrix metalloproteinase 9
F02	Rn.12072	NM_012603	Myc	Myelocytomatosis oncogene
F03	Rn.2411	XM_342346	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
F04	Rn.89710	NM_031130	Nr2f1	Nuclear receptor subfamily 2, group F, member 1
F05	Rn.9715	NM_031073	Ntr3	Neurotrophin 3
F06	Rn.6872	NM_031620	Phgdh	Phosphoglycerate dehydrogenase
F07	Rn.4550	NM_030990	Plp1	Proteolipid protein 1
F08	Rn.1476	NM_017037	Pmp22	Peripheral myelin protein 22
F09	Rn.98209	NM_013088	Ptpn11	Protein tyrosine phosphatase, non-receptor type 11
F10	Rn.33262	NM_012639	Raf1	V-raf-leukemia viral oncogene 1
F11	Rn.107099	NM_001012199	Rangap1	RAN GTPase activating protein 1
F12	Rn.33311	NM_001008884	RT1-Db1	RT1 class II, locus Db1
G01	Rn.6059	NM_017050	Sod1	Superoxide dismutase 1, soluble
G02	Rn.10247	NM_012747	Stat3	Signal transducer and activator of transcription 3
G03	Rn.40136	NM_021578	Tgfb1	Transforming growth factor, beta 1
G04	Rn.24539	NM_031131	Tgfb2	Transforming growth factor, beta 2
G05	Rn.2275	NM_012675	Tnf	Tumor necrosis factor (TNF superfamily, member 2)
G06	Rn.11119	NM_013091	Tnfrsf1a	Tumor necrosis factor receptor superfamily, member 1a
G07	Rn.83633	NM_130426	Tnfrsf1b	Tumor necrosis factor receptor superfamily, member 1b
G08	Rn.91572	NM_022615	Top1	Topoisomerase (DNA) I
G09	Rn.195342	NM_080882	Tubb4	Tubulin, beta 4
G10	Rn.11267	NM_012889	Vcam1	Vascular cell adhesion molecule 1
G11	Rn.1923	NM_031836	Vegfa	Vascular endothelial growth factor A
G12	Rn.3324	NM_013052	Ywhah	Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, eta 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.
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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