RT² Profiler PCR Array (Rotor-Gene® Format)

Mouse Notch Signaling Targets

Cat. no. 330231 PAMM-259ZR

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 Mouse Notch Signaling Targets RT² Profiler PCR Array profiles the expression of 84 key genes regulated by the Notch pathway. Notch signaling is a conserved developmental pathway involved in cell-cell communication, cell fate, apoptosis, and development. The pathway was originally discovered in Drosophila melanogaster, and mammalian homologs were identified later. Ligands from the Delta and Jagged/Serrate families activate the Notch membrane-bound receptors, inducing cleavage of the Notch intracellular domain. This intracellular domain interacts with the RBPJ family of transcription factors as well as a variety of coactivators and corepressors to initiate target gene transcription. The output of Notch signaling activation depends on the cellular context, and the proper timing and spatial regulation of its activation is crucial for normal embryonic developmental processes. Dysregulation of Notch signaling processes can lead to cancer as well as genetic developmental disorders. Many Notch pathway target genes have been identified using experimental techniques such as chromatin immunoprecipitation (ChIP) and gene expression studies. This array includes Notch signaling pathway transcription factors and highly relevant target genes identified by multiple studies. Results obtained with this array can be used to analyze activation or inhibition of Notch signaling. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes regulated by Notch signaling 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	Mm.1318	NM_009594	Abl1	C-abl oncogene 1, non-receptor tyrosine kinase
A02	Mm.1421	NM_009621	Adamts1	A disintegrin-like and metallopeptidase (reprolysin type) with thrombospondin type 1 motif, 1
A03	Mm.1442	NM_007540	Bdnf	Brain derived neurotrophic factor
A04	Mm.194339	NM_009824	Cbfa2t3	Core-binding factor, runt domain, alpha subunit 2, translocated to, 3 (human)
A05	Mm.273049	NM_007631	Ccnd1	Cyclin D1
A06	Mm.333406	NM_009829	Ccnd2	Cyclin D2
A07	Mm.3552	NM_007715	Clock	Circadian locomotor output cycles kaput
A08	Mm.132238	NM_001025432	Crebbp	CREB binding protein
A09	Mm.103711	NM_009142	Cx3cl1	Chemokine (C-X3-C motif) ligand 1
A10	Mm.21013	NM_008176	Cxcl1	Chemokine (C-X-C motif) ligand 1
A11	Mm.303231	NM_021704	Cxcl12	Chemokine (C-X-C motif) ligand 12
A12	Mm.214717	NM_010051	Dkk1	Dickkopf homolog 1 (Xenopus laevis)
B01	Mm.1645	NM_008052	Dtx1	Deltex 1 homolog (Drosophila)
B02	Mm.14543	NM_010104	Edn1	Endothelin 1
B03	Mm.15675	NM_010107	Efna1	Ephrin A1
B04	Mm.3374	NM_010110	Efnb1	Ephrin B1
B05	Mm.103737	NM_018781	Egr3	Early growth response 3
B06	Mm.3644	NM_021272	Fabp7	Fatty acid binding protein 7, brain
B07	Mm.29730	NM_010218	Fjx1	Four jointed box 1 (Drosophila)
B08	Mm.389712	NM_010228	Flt1	FMS-like tyrosine kinase 1
B09	Mm.12949	NM_008592	Foxc1	Forkhead box C1
B10	Mm.4758	NM_010425	Foxd3	Forkhead box D3
B11	Mm.33897	NM_010426	Foxf1a	Forkhead box F1a
B12	Mm.427436	NM_011356	Frzb	Frizzled-related protein
C01	Mm.150813	NM_022721	Fzd5	Frizzled homolog 5 (Drosophila)
C02	Mm.1360	NM_008655	Gadd45b	Growth arrest and DNA-damage-inducible 45 beta
C03	Mm.226941	NM_029522	Gpsm2	G-protein signalling modulator 2 (AGS3-like, C. elegans)
C04	Mm.289681	NM_010415	Hbegf	Heparin-binding EGF-like growth factor
C05	Mm.390859	NM_008235	Hes1	Hairy and enhancer of split 1 (Drosophila)
C06	Mm.137268	NM_010419	Hes5	Hairy and enhancer of split 5 (Drosophila)
C07	Mm.98505	NM_033041	Hes7	Hairy and enhancer of split 7 (Drosophila)
C08	Mm.29581	NM_010423	Hey1	Hairy/enhancer-of-split related with YRPW motif 1
C09	Mm.103573	NM_013904	Hey2	Hairy/enhancer-of-split related with YRPW motif 2
C10	Mm.103615	NM_013905	Heyl	Hairy/enhancer-of-split related with YRPW motif-like
C11	Mm.21549	NM_030704	Hspb8	Heat shock protein 8
C12	Mm.444	NM_010495	Id1	Inhibitor of DNA binding 1
D01	Mm.34871	NM_010496	Id2	Inhibitor of DNA binding 2
D02	Mm.110	NM_008321	Id3	Inhibitor of DNA binding 3
D03	Mm.458006	NM_031166	Id4	Inhibitor of DNA binding 4
D04	Mm.29254	NM_008343	Igfbp3	Insulin-like growth factor binding protein 3
D05	Mm.182359	NM_133775	Il33	Interleukin 33
D06	Mm.22398	NM_013822	Jag1	Jagged 1
D07	Mm.275071	NM_010591	Jun	Jun oncogene
D08	Mm.450612	NM_001164268	Kalrn	Kalirin, RhoGEF kinase
D09	Mm.45124	NM_013598	Kitl	Kit ligand
D10	Mm.439898	NM_016958	Krt14	Keratin 14
D11	Mm.12834	NM_008494	Lfng	LFNG O-fucosylpeptide 3-beta-N-acetylglucosaminyltransferase
D12	Mm.7445	NM_145515	Mark1	MAP/microtubule affinity-regulating kinase 1
E01	Mm.5820	NM_010827	Msc	Musculin
E02	Mm.4984	NM_008656	Myf5	Myogenic factor 5
E03	Mm.202727	NM_021524	Nampt	Nicotinamide phosphoribosyltransferase
E04	Mm.331129	NM_016701	Nes	Nestin
E05	Mm.57195	NM_013611	Nodal	Nodal
E06	Mm.290610	NM_008714	Notch1	Notch gene homolog 1 (Drosophila)
E07	Mm.439741	NM_008716	Notch3	Notch gene homolog 3 (Drosophila)
E08	Mm.46539	NM_025980	Nrarp	Notch-regulated ankyrin repeat protein

Position	UniGene	GenBank	Symbol	Description
E09	Mm.3608	NM_013627	Pax6	Paired box gene 6
E10	Mm.43358	NM_183355	Pbx1	Pre B-cell leukemia transcription factor 1
E11	Mm.390715	NM_021543	Pcdh8	Protocadherin 8
E12	Mm.144089	NM_011057	Pdgfb	Platelet derived growth factor, B polypeptide
F01	Mm.221403	NM_011058	Pdgfra	Platelet derived growth factor receptor, alpha polypeptide
F02	Mm.4146	NM_008809	Pdgfrb	Platelet derived growth factor receptor, beta polypeptide
F03	Mm.215173	NM_011195	Ptcra	Pre T-cell antigen receptor alpha
F04	Mm.292547	NM_011198	Ptgs2	Prostaglandin-endoperoxide synthase 2
F05	Mm.209292	NM_009035	Rbpj	Recombination signal binding protein for immunoglobulin kappa J region
F06	Mm.473794	NM_009036	Rbpjl	Recombination signal binding protein for immunoglobulin kappa J region-like
F07	Mm.120274	NM_145530	Rhov	Ras homolog gene family, member V
F08	Mm.274010	NM_172612	Rnd1	Rho family GTPase 1
F09	Mm.4081	NM_009821	Runx1	Runt related transcription factor 1
F10	Mm.391013	NM_009820	Runx2	Runt related transcription factor 2
F11	Mm.136736	NM_010101	S1pr3	Sphingosine-1-phosphate receptor 3
F12	Mm.412319	NM_009163	Sgpl1	Sphingosine phosphate lyase 1
G01	Mm.2093	NM_011427	Snai1	Snail homolog 1 (Drosophila)
G02	Mm.271174	NM_025507	Snw1	SNW domain containing 1
G03	Mm.3468	NM_007707	Socs3	Suppressor of cytokine signaling 3
G04	Mm.286407	NM_011448	Sox9	SRY-box containing gene 9
G05	Mm.3881	NM_009328	Tcf15	Transcription factor 15
G06	Mm.319581	NM_001113460	Tec	Tec protein tyrosine kinase
G07	Mm.454219	NM_011607	Tnc	Tenascin C
G08	Mm.282184	NM_009505	Vegfa	Vascular endothelial growth factor A
G09	Mm.10222	NM_018865	Wisp1	WNT1 inducible signaling pathway protein 1
G10	Mm.20355	NM_009523	Wnt4	Wingless-related MMTV integration site 4
G11	Mm.287544	NM_009524	Wnt5a	Wingless-related MMTV integration site 5A
G12	Mm.268282	NM_009526	Wnt6	Wingless-related MMTV integration site 6
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.
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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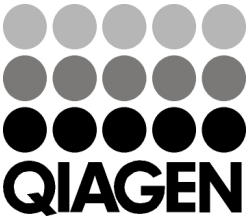

Sample & Assay Technologies