

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

Human Crohn's Disease

Cat. no. 330231 PAHS-169ZA

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™



Description

The Human Crohn's Disease RT² Profiler PCR Array profiles the expression of 84 key genes differentially expressed during inflammatory bowel disease (IBD). The most common form of IBD is Crohn's disease, an inflammatory disorder of the intestines. Ulcerative colitis (UC), another common form of IBD, only affects the mucosa of the large intestine. The major symptoms of IBD include abdominal pain, vomiting, and diarrhea. The disease can result in weight loss, and during severe cases the patient may undergo complications such as decreased intestinal function and ultimately colectomy. Although the initial cause of IBD is not generally understood, the resulting biology is under investigation to research potential therapies as well as biomarkers for the various types of IBD. One major therapeutic goal is to reduce IBD symptoms and inflammation, since the symptomatic diseases have an increased risk of colorectal cancer. Inflammatory cytokines are upregulated, as are extracellular remodeling enzymes. The immune response is also upregulated, including innate immunity and T cell responses. Microarray studies have compared both Crohn's disease and UC to controls and each other to attempt to identify the underlying causes. This array includes genes identified via microarray to be differentially regulated during Crohn's disease and UC. A set of controls present on each array enables data analysis using the $\Delta\Delta\text{CT}$ method of relative quantification, assessment of reverse transcription performance, genomic DNA contamination, and PCR performance. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in inflammatory bowel disease 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	ABCB1	ALDOB	ATG16L1	C3	C4BPB	CASP1	CCL11	CCL2	CCL20	CCL25	CCL5	CCR1
B	CCR2	CCR5	CCR9	CD55	CHI3L1	CR2	CSTA	CX3CL1	CX3CR1	CXCL1	CXCL10	CXCL11
C	CXCL12	CXCL2	CXCL3	CXCL9	CXCR1	CXCR3	DEFA5	DEFA6	EDN3	EGR3	FPR1	GCG
D	HLA-DQA1	HLA-DRA	HLA-DRB1	HSP90B1	HSPA5	IFNG	IL13	IL17A	IL1B	IL1RN	IL23A	IL2RA
E	IL5	IL6	IL8	IRF5	ISG15	ITGB2	LCN2	LTB	LYZ	MMP1	MMP10	MMP3
F	MMP7	MUC1	NOD2	NOS2	NR3C2	PCK1	PECAM1	REG1A	REG1B	S100A8	S100A9	SAA1
G	SELE	SELL	SOD2	STAT1	STAT3	TDO2	TFF1	TIMP1	TNF	TYK2	UBD	VWF
H	ACTB	B2M	GAPDH	HPRT1	RPLP0	HGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Hs.489033	NM_000927	ABCB1	ATP-binding cassette, sub-family B (MDR/TAP), member 1
A02	Hs.530274	NM_000035	ALDOB	Aldolase B, fructose-bisphosphate
A03	Hs.529322	NM_017974	ATG16L1	ATG16 autophagy related 16-like 1 (<i>S. cerevisiae</i>)
A04	Hs.529053	NM_000064	C3	Complement component 3
A05	Hs.99886	NM_000716	C4BPB	Complement component 4 binding protein, beta
A06	Hs.2490	NM_033292	CASP1	Caspase 1, apoptosis-related cysteine peptidase (interleukin 1, beta, convertase)
A07	Hs.54460	NM_002986	CCL11	Chemokine (C-C motif) ligand 11
A08	Hs.303649	NM_002982	CCL2	Chemokine (C-C motif) ligand 2
A09	Hs.75498	NM_004591	CCL20	Chemokine (C-C motif) ligand 20
A10	Hs.310511	NM_005624	CCL25	Chemokine (C-C motif) ligand 25
A11	Hs.514821	NM_002985	CCL5	Chemokine (C-C motif) ligand 5
A12	Hs.301921	NM_001295	CCR1	Chemokine (C-C motif) receptor 1
B01	Hs.511794	NM_001123396	CCR2	Chemokine (C-C motif) receptor 2
B02	Hs.450802	NM_000579	CCR5	Chemokine (C-C motif) receptor 5
B03	Hs.225946	NM_006641	CCR9	Chemokine (C-C motif) receptor 9
B04	Hs.126517	NM_000574	CD55	CD55 molecule, decay accelerating factor for complement (Cromer blood group)
B05	Hs.382202	NM_001276	CHI3L1	Chitinase 3-like 1 (cartilage glycoprotein-39)
B06	Hs.445757	NM_001877	CR2	Complement component (3d/Epstein Barr virus) receptor 2
B07	Hs.518198	NM_005213	CSTA	Cystatin A (stefin A)
B08	Hs.531668	NM_002996	CX3CL1	Chemokine (C-X3-C motif) ligand 1
B09	Hs.78913	NM_001337	CX3CR1	Chemokine (C-X3-C motif) receptor 1
B10	Hs.789	NM_001511	CXCL1	Chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha)
B11	Hs.632586	NM_001565	CXCL10	Chemokine (C-X-C motif) ligand 10
B12	Hs.632592	NM_005409	CXCL11	Chemokine (C-X-C motif) ligand 11
C01	Hs.522891	NM_000609	CXCL12	Chemokine (C-X-C motif) ligand 12
C02	Hs.590921	NM_002089	CXCL2	Chemokine (C-X-C motif) ligand 2
C03	Hs.89690	NM_002090	CXCL3	Chemokine (C-X-C motif) ligand 3
C04	Hs.77367	NM_002416	CXCL9	Chemokine (C-X-C motif) ligand 9
C05	Hs.194778	NM_000634	CXCR1	Chemokine (C-X-C motif) receptor 1
C06	Hs.198252	NM_001504	CXCR3	Chemokine (C-X-C motif) receptor 3
C07	Hs.655233	NM_021010	DEFA5	Defensin, alpha 5, Paneth cell-specific
C08	Hs.711	NM_001926	DEFA6	Defensin, alpha 6, Paneth cell-specific
C09	Hs.1408	NM_000114	EDN3	Endothelin 3
C10	Hs.534313	NM_004430	EGR3	Early growth response 3
C11	Hs.753	NM_002029	FPR1	Formyl peptide receptor 1
C12	Hs.516494	NM_002054	GCG	Glucagon
D01	Hs.387679	NM_002122	HLA-DQA1	Major histocompatibility complex, class II, DQ alpha 1
D02	Hs.520048	NM_019111	HLA-DRA	Major histocompatibility complex, class II, DR alpha
D03	Hs.701691	NM_002124	HLA-DRB1	Major histocompatibility complex, class II, DR beta 1
D04	Hs.192374	NM_003299	HSP90B1	Heat shock protein 90kDa beta (Grp94), member 1
D05	Hs.716396	NM_005347	HSPA5	Heat shock 70kDa protein 5 (glucose-regulated protein, 78kDa)
D06	Hs.856	NM_000619	IFNG	Interferon, gamma
D07	Hs.845	NM_002188	IL13	Interleukin 13
D08	Hs.41724	NM_002190	IL17A	Interleukin 17A

Position	UniGene	GenBank	Symbol	Description
D09	Hs.126256	NM_000576	IL1B	Interleukin 1, beta
D10	Hs.81134	NM_000577	IL1RN	Interleukin 1 receptor antagonist
D11	Hs.98309	NM_016584	IL23A	Interleukin 23, alpha subunit p19
D12	Hs.231367	NM_000417	IL2RA	Interleukin 2 receptor, alpha
E01	Hs.2247	NM_000879	IL5	Interleukin 5 (colony-stimulating factor, eosinophil)
E02	Hs.654458	NM_000600	IL6	Interleukin 6 (interferon, beta 2)
E03	Hs.624	NM_000584	IL8	Interleukin 8
E04	Hs.521181	NM_001098629	IRF5	Interferon regulatory factor 5
E05	Hs.458485	NM_005101	ISG15	ISG15 ubiquitin-like modifier
E06	Hs.375957	NM_000211	ITGB2	Integrin, beta 2 (complement component 3 receptor 3 and 4 subunit)
E07	Hs.204238	NM_005564	LCN2	Lipocalin 2
E08	Hs.376208	NM_002341	LTB	Lymphotoxin beta (TNF superfamily, member 3)
E09	Hs.524579	NM_000239	LYZ	Lysozyme
E10	Hs.83169	NM_002421	MMP1	Matrix metalloproteinase 1 (interstitial collagenase)
E11	Hs.2258	NM_002425	MMP10	Matrix metalloproteinase 10 (stromelysin 2)
E12	Hs.375129	NM_002422	MMP3	Matrix metalloproteinase 3 (stromelysin 1, progelatinase)
F01	Hs.2256	NM_002423	MMP7	Matrix metalloproteinase 7 (matrilysin, uterine)
F02	Hs.89603	NM_001018016	MUC1	Mucin 1, cell surface associated
F03	Hs.592072	NM_022162	NOD2	Nucleotide-binding oligomerization domain containing 2
F04	Hs.709191	NM_000625	NOS2	Nitric oxide synthase 2, inducible
F05	Hs.163924	NM_000901	NR3C2	Nuclear receptor subfamily 3, group C, member 2
F06	Hs.1872	NM_002591	PCK1	Phosphoenolpyruvate carboxykinase 1 (soluble)
F07	Hs.514412	NM_000442	PECAM1	Platelet/endothelial cell adhesion molecule
F08	Hs.49407	NM_002909	REG1A	Regenerating islet-derived 1 alpha
F09	Hs.4158	NM_006507	REG1B	Regenerating islet-derived 1 beta
F10	Hs.416073	NM_002964	S100A8	S100 calcium binding protein A8
F11	Hs.112405	NM_002965	S100A9	S100 calcium binding protein A9
F12	Hs.632144	NM_000331	SAA1	Serum amyloid A1
G01	Hs.89546	NM_000450	SELE	Selectin E
G02	Hs.728756	NM_000655	SELL	Selectin L
G03	Hs.487046	NM_000636	SOD2	Superoxide dismutase 2, mitochondrial
G04	Hs.642990	NM_007315	STAT1	Signal transducer and activator of transcription 1, 91kDa
G05	Hs.463059	NM_003150	STAT3	Signal transducer and activator of transcription 3 (acute-phase response factor)
G06	Hs.183671	NM_005651	TDO2	Tryptophan 2,3-dioxygenase
G07	Hs.162807	NM_003225	TFF1	Trefoil factor 1
G08	Hs.522632	NM_003254	TIMP1	TIMP metalloproteinase inhibitor 1
G09	Hs.241570	NM_000594	TNF	Tumor necrosis factor
G10	Hs.75516	NM_003331	TYK2	Tyrosine kinase 2
G11	Hs.44532	NM_006398	UBD	Ubiquitin D
G12	Hs.440848	NM_000552	VWF	Von Willebrand factor
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.
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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