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

Human Estrogen Receptor Signaling

Cat. no. 330231 PAHS-005ZA

For pathway expression analysis

Format	For use with the following real-time cyclers
RT² 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
RT² Profiler PCR Array, Format C	Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)
RT² Profiler PCR Array, Format D	Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000®
RT² Profiler PCR Array, Format E	Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™
RT² Profiler PCR Array, Format F	Roche® LightCycler® 480 (96-well block)
RT² Profiler PCR Array, Format G	Roche LightCycler 480 (384-well block)
RT² Profiler PCR Array, Format H	Fluidigm® BioMark™

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Description

The Human Estrogen Receptor Signaling RT² Profiler PCR Array profiles the expression of 84 key genes involved in estrogen receptor (ER) activation and response. Estrogen receptors are steroid hormone receptors important in development, growth, and reproduction. The 2 well-characterized ERs, alpha and beta, interact with a variety of co-regulators in the nucleus and initiate target gene transcription. ERs can also associate with the cell membrane, where they activate downstream signaling pathways. ERs play a large role in female organ cancers, especially breast cancer. The mechanisms of ER signaling are not entirely understood since tissue-specific ER responses vary depending on the agonist or antagonist. ER signaling is important in mammalian systems other than female organs. For example, ERs are involved in neurological development, and estrogens play a protective role against cardiovascular disease and osteoporosis, although the exact mechanisms of these processes are under investigation. This array includes the ERs, their co-regulators and interacting proteins, and downstream target genes. Results obtained with this array can yield insights into ER mechanisms and responses. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in estrogenic signaling 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	AHR	AKAP1	APBB1	BCAR1	BCL2L1	BDNF	BMP4	BMP7	BRCA1	C3	CAV1	CCL2
B	CCND1	CITED2	CKB	CTGF	CTSD	CYP19A1	CYP1A1	EBAG9	EFNA5	EGR3	ERBB2	ERBB3
C	ESR1	ESR2	FOS	FOXA1	FST	G6PD	GPER	HSP90AA1	IGF1	IGFBP4	IGFBP5	IRS1
D	JUNB	KLK3	L1CAM	LGALS1	LPL	LTBP1	MAFF	MED1	MMP9	MTA1	MYC	NAB2
E	NCOA1	NCOA2	NCOA3	NCOR1	NCOR2	NOV	NR0B1	NR0B2	NR2F6	NR3C1	NR5A2	NRIP1
F	NRP1	PDZK1	PELP1	PGR	PHB2	PTCH1	PTGS2	RALA	RARA	S100A6	SAFB	SNAI1
G	SOCS3	SPP1	TFF1	TGFA	TGFB3	THBS1	VDR	VEGFA	WISP2	WNT4	WNT5A	XBP1
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.171189	NM_001621	AHR	Aryl hydrocarbon receptor
A02	Hs.463506	NM_003488	AKAP1	A kinase (PRKA) anchor protein 1
A03	Hs.372840	NM_001164	APBB1	Amyloid beta (A4) precursor protein-binding, family B, member 1 (Fe65)
A04	Hs.479747	NM_014567	BCAR1	Breast cancer anti-estrogen resistance 1
A05	Hs.516966	NM_138578	BCL2L1	BCL2-like 1
A06	Hs.502182	NM_001709	BDNF	Brain-derived neurotrophic factor
A07	Hs.68879	NM_130851	BMP4	Bone morphogenetic protein 4
A08	Hs.473163	NM_001719	BMP7	Bone morphogenetic protein 7
A09	Hs.194143	NM_007294	BRCA1	Breast cancer 1, early onset
A10	Hs.529053	NM_000064	C3	Complement component 3
A11	Hs.74034	NM_001753	CAV1	Caveolin 1, caveolae protein, 22kDa
A12	Hs.303649	NM_002982	CCL2	Chemokine (C-C motif) ligand 2
B01	Hs.523852	NM_053056	CCND1	Cyclin D1
B02	Hs.82071	NM_006079	CITED2	Cbp/p300-interacting transactivator, with Glu/Asp-rich carboxy-terminal domain, 2
B03	Hs.173724	NM_001823	CKB	Creatine kinase, brain
B04	Hs.591346	NM_001901	CTGF	Connective tissue growth factor
B05	Hs.121575	NM_001909	CTSD	Cathepsin D
B06	Hs.260074	NM_000103	CYP19A1	Cytochrome P450, family 19, subfamily A, polypeptide 1
B07	Hs.72912	NM_000499	CYP1A1	Cytochrome P450, family 1, subfamily A, polypeptide 1
B08	Hs.409368	NM_004215	EBAG9	Estrogen receptor binding site associated, antigen, 9
B09	Hs.288741	NM_001962	EFNA5	Ephrin-A5
B10	Hs.534313	NM_004430	EGR3	Early growth response 3
B11	Hs.446352	NM_004448	ERBB2	V-erb-b2 erythroblastic leukemia viral oncogene homolog 2, neuro/glioblastoma derived oncogene homolog (avian)
B12	Hs.118681	NM_001982	ERBB3	V-erb-b2 erythroblastic leukemia viral oncogene homolog 3 (avian)
C01	Hs.208124	NM_000125	ESR1	Estrogen receptor 1
C02	Hs.729020	NM_001437	ESR2	Estrogen receptor 2 (ER beta)
C03	Hs.728789	NM_005252	FOS	FBJ murine osteosarcoma viral oncogene homolog
C04	Hs.163484	NM_004496	FOXA1	Forkhead box A1
C05	Hs.9914	NM_006350	FST	Follistatin
C06	Hs.461047	NM_000402	G6PD	Glucose-6-phosphate dehydrogenase
C07	Hs.20961	NM_001505	GPER	G protein-coupled estrogen receptor 1
C08	Hs.525600	NM_001017963	HSP90AA1	Heat shock protein 90kDa alpha (cytosolic), class A member 1
C09	Hs.160562	NM_000618	IGF1	Insulin-like growth factor 1 (somatomedin C)
C10	Hs.462998	NM_001552	IGFBP4	Insulin-like growth factor binding protein 4
C11	Hs.607212	NM_000599	IGFBP5	Insulin-like growth factor binding protein 5
C12	Hs.471508	NM_005544	IRS1	Insulin receptor substrate 1
D01	Hs.25292	NM_002229	JUNB	Jun B proto-oncogene
D02	Hs.171995	NM_001648	KLK3	Kallikrein-related peptidase 3
D03	Hs.522818	NM_000425	L1CAM	L1 cell adhesion molecule
D04	Hs.445351	NM_002305	LGALS1	Lectin, galactoside-binding, soluble, 1
D05	Hs.180878	NM_000237	LPL	Lipoprotein lipase
D06	Hs.713533	NM_000627	LTBP1	Latent transforming growth factor beta binding protein 1
D07	Hs.517617	NM_012323	MAFF	V-maf musculoaponeurotic fibrosarcoma oncogene homolog F (avian)

Position	UniGene	GenBank	Symbol	Description
D08	Hs.643754	NM_004774	MED1	Mediator complex subunit 1
D09	Hs.297413	NM_004994	MMP9	Matrix metallopeptidase 9 (gelatinase B, 92kDa gelatinase, 92kDa type IV collagenase)
D10	Hs.525629	NM_004689	MTA1	Metastasis associated 1
D11	Hs.202453	NM_002467	MYC	V-myc myelocytomatosis viral oncogene homolog (avian)
D12	Hs.159223	NM_005967	NAB2	NGFI-A binding protein 2 (EGR1 binding protein 2)
E01	Hs.596314	NM_003743	NCOA1	Nuclear receptor coactivator 1
E02	Hs.446678	NM_006540	NCOA2	Nuclear receptor coactivator 2
E03	Hs.592142	NM_181659	NCOA3	Nuclear receptor coactivator 3
E04	Hs.462323	NM_006311	NCOR1	Nuclear receptor corepressor 1
E05	Hs.137510	NM_006312	NCOR2	Nuclear receptor corepressor 2
E06	Hs.235935	NM_002514	NOV	Nephroblastoma overexpressed gene
E07	Hs.268490	NM_000475	NR0B1	Nuclear receptor subfamily 0, group B, member 1
E08	Hs.427055	NM_021969	NR0B2	Nuclear receptor subfamily 0, group B, member 2
E09	Hs.466148	NM_005234	NR2F6	Nuclear receptor subfamily 2, group F, member 6
E10	Hs.122926	NM_000176	NR3C1	Nuclear receptor subfamily 3, group C, member 1 (glucocorticoid receptor)
E11	Hs.33446	NM_003822	NR5A2	Nuclear receptor subfamily 5, group A, member 2
E12	Hs.155017	NM_003489	NRIP1	Nuclear receptor interacting protein 1
F01	Hs.131704	NM_003873	NRP1	Neuropilin 1
F02	Hs.444751	NM_002614	PDZK1	PDZ domain containing 1
F03	Hs.716438	NM_014389	PELP1	Proline, glutamate and leucine rich protein 1
F04	Hs.32405	NM_000926	PGR	Progesterone receptor
F05	Hs.504620	NM_007273	PHB2	Prohibitin 2
F06	Hs.494538	NM_000264	PTCH1	Patched 1
F07	Hs.196384	NM_000963	PTGS2	Prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)
F08	Hs.6906	NM_005402	RALA	V-ral simian leukemia viral oncogene homolog A (ras related)
F09	Hs.654583	NM_000964	RARA	Retinoic acid receptor, alpha
F10	Hs.275243	NM_014624	S100A6	S100 calcium binding protein A6
F11	Hs.728802	NM_002967	SAFB	Scaffold attachment factor B
F12	Hs.48029	NM_005985	SNAI1	Snail homolog 1 (Drosophila)
G01	Hs.527973	NM_003955	SOCS3	Suppressor of cytokine signaling 3
G02	Hs.313	NM_000582	SPP1	Secreted phosphoprotein 1
G03	Hs.162807	NM_003225	TFF1	Trefoil factor 1
G04	Hs.170009	NM_003236	TGFA	Transforming growth factor, alpha
G05	Hs.592317	NM_003239	TGFB3	Transforming growth factor, beta 3
G06	Hs.164226	NM_003246	THBS1	Thrombospondin 1
G07	Hs.524368	NM_000376	VDR	Vitamin D (1,25- dihydroxyvitamin D3) receptor
G08	Hs.73793	NM_003376	VEGFA	Vascular endothelial growth factor A
G09	Hs.592145	NM_003881	WISP2	WNT1 inducible signaling pathway protein 2
G10	Hs.25766	NM_030761	WNT4	Wingless-type MMTV integration site family, member 4
G11	Hs.696364	NM_003392	WNT5A	Wingless-type MMTV integration site family, member 5A
G12	Hs.437638	NM_005080	XBP1	X-box binding protein 1
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 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
RT² 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
RT² 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.

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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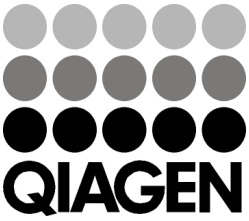

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