

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

Dog Prostate Cancer

Cat. no. 330231 PAFD-135ZA

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 Dog Prostate Cancer RT² Profiler PCR Array profiles the expression of 84 key genes commonly involved in prostate cancer development. One of the top lethal cancers in the United States, prostate cancer is a neoplasm of the male reproductive gland that manifests primarily after the age of fifty. The molecular cause of prostate cancer is still unclear, but is often associated with deregulated androgen signaling and aberrant metabolism of macromolecules such as fatty acids. Indeed, androgen ablation therapy causes regression of primary and metastatic androgen-dependent prostate cancer. Androgen receptor expression seems to promote prostate cancer cell survival, but inhibiting the androgen receptor has, so far, been clinically less effective than predicted. Polyunsaturated fatty acids cause prostate tumor progression and increased mortality, while diets rich in omega-3 fatty acids seem to benefit prostate cancer patients. Research directed at these pathways may yield insights into the molecular mechanisms behind prostate oncogenesis. This array represents genes involved in androgen receptor, PI3 kinase/AKT, and PTEN signaling, as well as the cell cycle and apoptotic pathways. The 84 key genes also include deregulated genes detected routinely in molecular analysis of prostate cancer samples and in high-throughput microarray profiling studies, as well as genes known to have differentially methylated promoters in prostate cancer. Prostate cancers tend to metastasize; therefore, the array includes genes associated with metastatic potential. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in prostate cancer initiation, progression, and metastasis 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	ACACA	AKT1	APC	AR	ARNTL	BCL2	CAMKK1	CAMSAP1	CASP3	CAV1	CAV2	CCNA1
B	CCND1	CCND2	CDH1	CDKN2A	CLN3	CREB1	DAXX	DDX11	DKK3	DLC1	ECT2	EDNRB
C	EGFR	EGR3	ERG	ETV1	FASN	FOLH1	FOXO1	GCA	GNRH1	GPX3	GSTP1	HAL
D	HMGCR	IGF1	IGFBP5	IL6	KLHL13	KLKB1	LGALS4	LOXL1	MAPK1	MAX	MGMT	MKI67
E	MSX1	MTO1	NDRG3	NFKB1	NKX3-1	NRIP1	PDLIM4	PDPK1	PES1	PPP2R1B	PRKAB1	PTEN
F	PTGS1	PTGS2	RARB	RASSF1	RB1	RBM39	SCAF11	SEPTIN7	SFRP1	SHBG	SLC5A8	SOC53
G	SOX4	SREBF1	STK11	TFPI2	TGFB11I	TIMP2	TIMP3	TMPRSS2	TP53	USP5	VEGFA	ZNF185
H	ACTB	B2M	GAPDH	HPRT1	RPLP1	FGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	N/A	XM_548250	ACACA	Acetyl-CoA carboxylase alpha
A02	N/A	XM_005623876	AKT1	V-akt murine thymoma viral oncogene homolog 1
A03	N/A	XM_014111995	APC	Adenomatous polyposis coli
A04	Cfa.141	NM_001003053	AR	Androgen receptor
A05	N/A	XM_005633683	ARNTL	Aryl hydrocarbon receptor nuclear translocator-like
A06	Cfa.110	NM_001002949	BCL2	B-cell CLL/lymphoma 2
A07	N/A	XM_863461	CAMKK1	Calcium/calmodulin-dependent protein kinase kinase 1, alpha
A08	N/A	XM_014116869	CAMSAP1	Calmodulin regulated spectrin-associated protein 1
A09	Cfa.84	NM_001003042	CASP3	Caspase 3, apoptosis-related cysteine peptidase
A10	Cfa.3850	NM_001003296	CAV1	Caveolin 1, caveolae protein, 22kDa
A11	Cfa.15829	NM_001010997	CAV2	Caveolin 2
A12	N/A	XM_005635456	CCNA1	Cyclin A1
B01	Cfa.16248	NM_001005757	CCND1	Cyclin D1
B02	N/A	XM_849493	CCND2	Cyclin D2
B03	Cfa.3488	NM_001287125	CDH1	Cadherin 1, type 1, E-cadherin (epithelial)
B04	Cfa.48916	XM_014117791	CDKN2A	Cyclin-dependent kinase inhibitor 2A (melanoma, p16, inhibits CDK4)
B05	Cfa.14017	NM_001013417	CLN3	Ceroid-lipofuscinosis, neuronal 3
B06	N/A	XM_014110990	CREB1	CAMP responsive element binding protein 1
B07	N/A	XM_005627201	DAXX	Death-domain associated protein
B08	N/A	XM_005637325	DDX11	DEAD/H (Asp-Glu-Ala-Asp/His) box helicase 11
B09	N/A	NM_001284475	DKK3	Dickkopf homolog 3 (Xenopus laevis)
B10	Cfa.1721	NM_001145071	DLC1	Deleted in liver cancer 1
B11	N/A	XM_014110471	ECT2	Epithelial cell transforming sequence 2 oncogene
B12	Cfa.3590	NM_001010943	EDNRB	Endothelin receptor type B

Position	UniGene	GenBank	Symbol	Description
C01	Cfa.3903	XM_014120756	EGFR	Epidermal growth factor receptor
C02	N/A	XM_003433338	EGR3	Early growth response 3
C03	N/A	XM_005638911	ERG	V-ets avian erythroblastosis virus E26 oncogene homolog
C04	N/A	XM_005628570	ETV1	Ets variant 1
C05	Cfa.17136	XM_005624145	FASN	Fatty acid synthase
C06	Cfa.48550	NM_001271778	FOLH1	Folate hydrolase (prostate-specific membrane antigen) 1
C07	N/A	XM_014107340	FOXO1	Forkhead box O1
C08	N/A	XM_005640253	GCA	Grancalcin, EF-hand calcium binding protein
C09	N/A	XM_845766	GNRH1	Gonadotropin-releasing hormone 1 (luteinizing-releasing hormone)
C10	Cfa.40786	NM_001164454	GPX3	Glutathione peroxidase 3
C11	Cfa.26926	NM_001252167	GSTP1	Glutathione S-transferase pi 1
C12	N/A	XM_532657	HAL	Histidine ammonia-lyase
D01	N/A	XM_536323	HMGCR	3-hydroxy-3-methylglutaryl-CoA reductase
D02	Cfa.3888	NM_001313855	IGF1	Insulin-like growth factor 1 (somatomedin C)
D03	N/A	XM_847792	IGFBP5	Insulin-like growth factor binding protein 5
D04	Cfa.3528	NM_001003301	IL6	Interleukin 6 (interferon, beta 2)
D05	N/A	XM_003435652	KLHL13	Kelch-like 13 (Drosophila)
D06	Cfa.15539	NM_001242717	KLKB1	Kallikrein B, plasma (Fletcher factor) 1
D07	Cfa.48635	NM_001284470	LGALS4	Lectin, galactoside-binding, soluble, 4
D08	N/A	XM_005638715	LOXL1	Lysyl oxidase-like 1
D09	Cfa.2796	NM_001110800	MAPK1	Mitogen-activated protein kinase 1
D10	N/A	XM_005623510	MAX	MYC associated factor X
D11	Cfa.3907	NM_001003376	MGMT	O-6-methylguanine-DNA methyltransferase
D12	N/A	XM_014108788	MKI67	Antigen identified by monoclonal antibody Ki-67
E01	N/A	XM_545946	MSX1	Msh homeobox 1
E02	N/A	XM_532202	MTOI	Mitochondrial translation optimization 1 homolog (<i>S. cerevisiae</i>)
E03	N/A	XM_003433259	NDRG3	NDRG family member 3
E04	Cfa.10766	NM_001003344	NFKB1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
E05	N/A	XM_543240	NKX3-1	NK3 homeobox 1
E06	N/A	XM_005638762	NRIP1	Nuclear receptor interacting protein 1
E07	N/A	XM_003431628	PDLIM4	PDZ and LIM domain 4
E08	N/A	XM_005621677	PDPK1	3-phosphoinositide dependent protein kinase-1
E09	N/A	XM_543480	PES1	Pescadillo homolog 1, containing BRCT domain (zebrafish)
E10	N/A	XM_014113423	PPP2R1B	Protein phosphatase 2, regulatory subunit A, beta
E11	N/A	XM_543421	PRKAB1	Protein kinase, AMP-activated, beta 1 non-catalytic subunit
E12	Cfa.3695	NM_001003192	PTEN	Phosphatase and tensin homolog
F01	Cfa.61	NM_001003023	PTGS1	Prostaglandin-endoperoxide synthase 1 (prostaglandin G/H synthase and cyclooxygenase)
F02	Cfa.3449	NM_001003354	PTGS2	Prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)
F03	N/A	XM_003433127	RARB	Retinoic acid receptor, beta
F04	N/A	XM_005632505	RASSF1	Ras association (RalGDS/AF-6) domain family member 1

Position	UniGene	GenBank	Symbol	Description
F05	Cfa.3598	XM_014106270	RB1	Retinoblastoma 1
F06	N/A	XM_003433252	RBM39	RNA binding motif protein 39
F07	N/A	XM_005636950	SCAF11	SR-related CTD-associated factor 11
F08	N/A	XM_005628716	SEPTIN7	Septin 7
F09	Cfa.48687	XM_003639564	SFRP1	Secreted frizzled-related protein 1
F10	N/A	XM_536625	SHBG	Sex hormone-binding globulin
F11	N/A	XM_539743	SLC5A8	Solute carrier family 5 (iodide transporter), member 8
F12	Cfa.3905	NM_001031631	SOCS3	Suppressor of cytokine signaling 3
G01	N/A	XM_005640161	SOX4	SRY (sex determining region Y)-box 4
G02	Cfa.189	NM_001197083	SREBF1	Sterol regulatory element binding transcription factor 1
G03	N/A	XM_542206	STK11	Serine/threonine kinase 11
G04	N/A	XM_532462	TFPI2	Tissue factor pathway inhibitor 2
G05	N/A	XM_005621228	TGFB1I1	Transforming growth factor beta 1 induced transcript 1
G06	Cfa.3497	NM_001003082	TIMP2	TIMP metalloproteinase inhibitor 2
G07	Cfa.39892	NM_001284439	TIMP3	TIMP metalloproteinase inhibitor 3
G08	N/A	XM_014109701	TMPRSS2	Transmembrane protease, serine 2
G09	Cfa.3658	NM_001003210	TP53	Tumor protein p53
G10	N/A	XM_543845	USP5	Ubiquitin specific peptidase 5 (isopeptidase T)
G11	Cfa.3581	NM_001110502	VEGFA	Vascular endothelial growth factor A
G12	N/A	XM_003435547	ZNF185	Zinc finger protein 185 (LIM domain)
H01	Cfa.17735	NM_001195845	ACTB	Actin, beta
H02	N/A	XM_535458	B2M	Beta-2-microglobulin
H03	Cfa.36213	NM_001003142	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
H04	Cfa.4551	NM_001003357	HPRT1	Hypoxanthine phosphoribosyltransferase 1
H05	N/A	XM_014109387	RPLP1	Ribosomal protein, large, P1
H06	N/A	SA_00130	FGDC	Dog 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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