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Product Specification Sheet

RT² Profiler™ PCR Array:

Rat Angiogenesis

Catalog Number	For Real-Time Instruments:
PARN-024A	ABI Standard Blocks; Bio-Rad iCycler, MyiQ, and (MJ Research) Chromo 4; and Stratagene Mx3005p, Mx3000p
PARN-024C	ABI 7500 and 7900HT FAST 96-Well Blocks, ABI StepOnePlus
PARN-024D	Bio-Rad (MJ Research) Opticon and Opticon 2, Stratagene Mx4000
PARN-024E	ABI 7900HT 384-Well Block
PARN-024F	Roche LightCycler 480 96-well Block
PARN-024G	Roche LightCycler 480 384-well Block

Description

The Rat Angiogenesis RT² Profiler PCR Array profiles the expression of 84 genes involved in modulating the biological processes of angiogenesis. This array includes the growth factors and receptors that play a role in angiogenesis. Also included are the adhesion molecules and matrix proteins involved as well as proteases and their inhibitors. Cytokines and chemokines related to angiogenesis are contained in the array along with transcription factors and other related genes. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to angiogenesis with this array.

Functional Gene Groupings

Angiogenic Factors:
Growth Factors and Receptors: Angpt1 (Agpt), Bai1, Col18a1, Ctgf, Ereg, Fgf1, Fgf2, Fgf6, Fgf16, Fgfr3, Figf (Vegf-d), Flt1, Fzd5, Itgav, Jag1, Kdr, Nrp1, Pgf, Tek, Vegfa, Vegfb, Vegfc.

Adhesion Molecules: Col18a1, Ctgf, Eng, Itga5, Itgav, Nrp1, Tek.

Proteases, Inhibitors and Other Matrix Proteins: Anpep, Col4a3, Fn1, Mmp19, Serpinb5, Serpinf1.

Transcription Factors and Others: Angpt2 (Agpt2), Epas1, Mapk14, Tbx4.

Other Factors Involved in Angiogenesis:
Cytokines and Chemokines: Ccl2, Cxcl1 (GRO), Cxcl2 (GRO2), Cxcl9, Ifna1, Ifnb1, Ifng, Il1b, Il6, Tnf.

Other Growth Factors and Receptors: Edg1, Efna5, Egf, Hgf, Igf1, Itgb3, Lep, Mdk, Npr1, Nrp2, Pdgfa, Pdgfb, Tgfa, Tgfb1, Tgfb2, Tgfb3, Tgfbr1.

Adhesion Molecules: Cdh5, Itgb3, Lama5, Nrp2, Pecam, Thbs4.

Proteases, Inhibitors and Other Matrix Proteins: Ecgf1, F2 (CF-2), Mmp2, Mmp3, Mmp9, Plau, Plg, Timp1, Timp2, Timp3.

Transcription Factors and Others: Akt1, Efna1 (Ephrin A1), Efna2, Hif1a, Id1, Id3, Lect1, Ptgs1, Sphk1.

Storage Conditions

Please check the kit components immediately after you receive this package. We are only responsible for missing items reported within two (2) business days of receipt.

Storage Conditions: PCR Arrays are shipped at ambient temperature. Keep plates at -20 ºC for long-term storage.

NOTE: Be sure that you have the correct PCR Array format for your instrument before starting the experiment.

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References

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Array Layout: Rat Angiogenesis RT^2 *Profiler*™ PCR Array

	1	2	3	4	5	6	7	8	9	10	11	12
A	Angpt2	Akt1	Angpt1	Anpep	Bai1	Ccl2	Cdh5	Col18a1	Col4a3	Ctgf	Cxcl1	Cxcl2
B	Cxcl9	Ecgf1	Edg1	Efna1	Efna2	Efna5	Egf	Eng	Epas1	Ereg	F2	Fgf1
C	Fgf16	Fgf2	Fgf6	Fgfr3	Figf	Flt1	Fn1	Fzd5	Hgf	Hif1a	Id1	Id3
D	Ifna1	Ifnb1	Ifng	Igf1	Il1b	Il6	Itga5	Itgav	Itgb3	Jag1	Kdr	Lama5
E	Lect1	Lep	Mapk14	Mdk	Mmp19	Mmp2	Mmp3	Mmp9	Npr1	Nrp1	Nrp2	Pdgfa
F	Pdgfb	Pecam	Pgf	Plau	Plg	Ptgs1	Serpinb5	Serpinf1	Sphk1	Tbx4	Tek	Tgfa
G	Tgfb1	Tgfb2	Tgfb3	Tgfbr1	Thbs4	Timp1	Timp2	Timp3	Tnf	Vegfa	Vegfb	Vegfc
H	Rplp1	Hprt	Rpl13a	Ldha	Actb	RGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene Table

Position	UniGene	GenBank	Symbol	Description
A01	Rn.138360	XM_344544	Angpt2	Angiopoietin 2
A02	Rn.11422	NM_033230	Akt1	Thymoma viral proto-oncogene 1
A03	Rn.161953	NM_053546	Angpt1	Angiopoietin 1
A04	Rn.11132	NM_031012	Anpep	Alanyl (membrane) aminopeptidase
A05	Rn.103502	XM_343260	Bai1_predicted	Brain-specific angiogenesis inhibitor 1 (predicted)
A06	Rn.4772	NM_031530	Ccl2	Chemokine (C-C motif) ligand 2
A07	Rn.164510	XM_226213	Cdh5_predicted	Cadherin 5 (predicted)
A08	Rn.12030	XM_241632	Col18a1	Procollagen, type XVIII, alpha 1
A09	Rn.121139	XM_343607	Col4a3	Procollagen, type IV, alpha 3
A10	Rn.17145	NM_022266	Ctgf	Connective tissue growth factor
A11	Rn.10907	NM_030845	Cxcl1	Chemokine (C-X-C motif) ligand 1
A12	Rn.10230	NM_053647	Cxcl2	Chemokine (C-X-C motif) ligand 2
B01	Rn.7391	NM_145672	Cxcl9	Chemokine (C-X-C motif) ligand 9
B02	Rn.202370	NM_001012122	Ecgf1	Endothelial cell growth factor 1 (platelet-derived)
B03	Rn.109455	NM_017301	Edg1	Endothelial differentiation sphingolipid G-protein-coupled receptor 1
B04	Rn.8427	NM_053599	Efna1	Ephrin A1
B05	Rn.162905	XM_234903	Efna2	Ephrin A2
B06	Rn.10714	NM_053903	Efna5	Ephrin A5
B07	Rn.6075	NM_012842	Egf	Epidermal growth factor
B08	Rn.187025	NM_001010968	Eng	Endoglin
B09	Rn.55138	NM_023090	Epas1	Endothelial PAS domain protein 1
B10	Rn.42897	NM_021689	Ereg	Epiregulin
B11	Rn.54498	NM_022924	F2	Coagulation factor II
B12	Rn.88013	NM_012846	Fgf1	Fibroblast growth factor 1
C01	Rn.44348	NM_021867	Fgf16	Fibroblast growth factor 16
C02	Rn.31808	NM_019305	Fgf2	Fibroblast growth factor 2
C03	Rn.81222	NM_131908	Fgf6	Fibroblast growth factor 6
C04	Rn.23671	NM_053429	Fgfr3	Fibroblast growth factor receptor 3
C05	Rn.10796	NM_031761	Figf	C-fos induced growth factor
C06	Rn.10239	NM_019306	Flt1	FMS-like tyrosine kinase 1
C07	Rn.1604	NM_019143	Fn1	Fibronectin 1
C08	Rn.24792	NM_173838	Fzd5	Frizzled homolog 5 (Drosophila)
C09	Rn.10468	NM_017017	Hgf	Hepatocyte growth factor
C10	Rn.10852	NM_024359	Hif1a	Hypoxia inducible factor 1, alpha subunit
C11	Rn.2113	NM_012797	Id1	Inhibitor of DNA binding 1
C12	Rn.2760	NM_013058	Id3	Inhibitor of DNA binding 3
D01	Rn.196548	NM_001014786	Ifna1	Interferon-alpha 1
D02	Rn.138105	NM_019127	Ifnb1	Interferon beta 1, fibroblast
D03	Rn.10795	NM_138880	Ifng	Interferon gamma

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Position	UniGene	GenBank	Symbol	Description
D04	Rn.6282	NM_178866	Igf1	Insulin-like growth factor 1
D05	Rn.9869	NM_031512	Il1b	Interleukin 1 beta
D06	Rn.9873	NM_012589	Il6	Interleukin 6
D07	Rn.100796	XM_235707	Itga5	Integrin alpha 5 (mapped)
D08	Rn.23339	XM_230950	Itgav_predicted	Integrin alpha V (predicted)
D09	Rn.162202	NM_153720	Itgb3	Integrin beta 3
D10	Rn.88804	NM_019147	Jag1	Jagged 1
D11	Rn.88869	NM_013062	Kdr	Kinase insert domain protein receptor
D12	Rn.62616	XM_215963	Lama5	Laminin, alpha 5
E01	Rn.9900	NM_030854	Lect1	Leukocyte cell derived chemotaxin 1
E02	Rn.44444	NM_013076	Lep	Leptin
E03	Rn.88085	NM_031020	Mapk14	Mitogen activated protein kinase 14
E04	Rn.17447	NM_030859	Mdk	Midkine
E05	Rn.21771	XM_222317	Mmp19_predicted	Matrix metalloproteinase 19 (predicted)
E06	Rn.6422	NM_031054	Mmp2	Matrix metallopeptidase 2
E07	Rn.32086	NM_133523	Mmp3	Matrix metallopeptidase 3
E08	Rn.10209	NM_031055	Mmp9	Matrix metallopeptidase 9
E09	Rn.10463	NM_012613	Npr1	Natriuretic peptide receptor 1
E10	Rn.10815	NM_145098	Nrp1	Neuropilin 1
E11	Rn.10816	NM_030869	Nrp2	Neuropilin 2
E12	Rn.10999	NM_012801	Pdgfa	Platelet derived growth factor, alpha
F01	Rn.198230	XM_343293	Pdgfb	Platelet derived growth factor, B polypeptide
F02	Rn.1878	NM_031591	Pecam	Platelet/endothelial cell adhesion molecule
F03	Rn.6960	NM_053595	Pgf	Placental growth factor
F04	Rn.6064	NM_013085	Plau	Plasminogen activator, urokinase
F05	Rn.20178	NM_053491	Plg	Plasminogen
F06	Rn.44404	NM_017043	Ptgs1	Prostaglandin-endoperoxide synthase 1
F07	Rn.25752	NM_057108	Serpinb5	Serine (or cysteine) peptidase inhibitor, clade B, member 5
F08	Rn.16993	NM_177927	Serpinf1	Serine (or cysteine) peptidase inhibitor, clade F, member 1
F09	Rn.18522	NM_133386	Sphk1	Sphingosine kinase 1
F10	Rn.163159	XM_220811	Tbx4_predicted	T-box 4 (predicted)
F11	Rn.9159	XM_342863	Tek	Endothelial-specific receptor tyrosine kinase
F12	Rn.9952	NM_012671	Tgfa	Transforming growth factor alpha
G01	Rn.40136	NM_021578	Tgfb1	Transforming growth factor, beta 1
G02	Rn.24539	NM_031131	Tgfb2	Transforming growth factor, beta 2
G03	Rn.7018	NM_013174	Tgfb3	Transforming growth factor, beta 3
G04	Rn.44402	NM_012775	Tgfbr1	Transforming growth factor, beta receptor 1
G05	Rn.11207	XM_342172	Thbs4	Thrombospondin 4
G06	Rn.25754	NM_053819	Timp1	Tissue inhibitor of metallopeptidase 1
G07	Rn.10161	NM_021989	Timp2	Tissue inhibitor of metalloproteinase 2
G08	Rn.119634	NM_012886	Timp3	Tissue inhibitor of metalloproteinase 3 (Sorsby fundus dystrophy, pseudoinflammatory)
G09	Rn.2275	NM_012675	Tnf	Tumor necrosis factor (TNF superfamily, member 2)
G10	Rn.1923	NM_031836	Vegfa	Vascular endothelial growth factor A
G11	Rn.198550	NM_053549	Vegfb	Vascular endothelial growth factor B
G12	Rn.6913	NM_053653	Vegfc	Vascular endothelial growth factor C
H01	Rn.973	NM_001007604	Rplp1	Ribosomal protein, large, P1
H02	Rn.47	NM_012583	Hprt	Hypoxanthine guanine phosphoribosyl transferase
H03	Rn.92211	NM_173340	Rpl13a	Ribosomal protein L13A
H04	Rn.107896	NM_017025	Ldha	Lactate dehydrogenase A
H05	Rn.94978	NM_031144	Actb	Actin, beta
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