

RT² Profiler™ PCR Array:

Rat Extracellular Matrix and Adhesion Modules

Catalog Number

PARN-013A

PARN-013C

PARN-013D

PARN-013E

PARN-013F

PARN-013G

For Real-Time Instruments:

ABI Standard Blocks; Bio-Rad iCycler, MyiQ, and (MJ Research) Chromo 4; and Stratagene Mx3005p, Mx3000p

ABI 7500 and 7900HT FAST 96-Well Blocks, ABI StepOnePlus

Bio-Rad (MJ Research) Opticon and Opticon 2, Stratagene Mx4000

ABI 7900HT 384-Well Block

Roche LightCycler 480 96-well Block

Roche LightCycler 480 384-well Block

Description

The Rat Extracellular Matrix and Adhesion Molecules RT² Profiler PCR Array profiles the expression of 84 genes important for cell-cell and cell-matrix interactions. This array contains extracellular matrix (ECM) proteins including basement membrane constituents, collagens, and genes playing a role in ECM structure. Proteases involved in remodeling of the ECM are included as well as their inhibitors. This array also represents molecules important to cell adhesion including molecules involved in cell-cell and cell-matrix adhesion, transmembrane molecules, and others. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to cell adhesion with this array.

Functional Gene Groupings**Cell Adhesion Molecules:**

Transmembrane Molecules: Cd44, Cdh1, Cdh2, Cdh3, Cdh4, Entpd1, Icam1, Itga2, Itga3, Itga4, Itga5, Itgae, Itgal, Itgam, Itgav, Itgb1, Itgb2, Itgb3, Itgb4, Mmp14, Mmp15, Mmp16, Ncam1, Ncam2, Pecam, Sele, Sell, Selp, Sgce, Syt1, Vcam1.

Cell-Cell Adhesion: Cdh1, Icam1, Vcam1.

Cell-Matrix Adhesion: Ctgf, Itga2, Itga3, Itga4, Itga5, Itgad, Itgae, Itgal, Itgam, Itgav, Itgb1, Itgb2, Itgb3, Itgb4, Spp1.

Other Adhesion Molecules: Catna1, Ctnna2 (Catna2), Cntn1, Ctnnb1 (Catnb), Col5a1, Col6a1, Col8a1, Cspg2, Emilin1, Fn1, Hapln1, Lama1, Lama2, Lama3, Lamb2, Lamb3, Lamc1, Postn, Tgfbi, Thbs1, Thbs2, Vtn.

Extracellular Matrix (ECM) Proteins:

Basement Membrane Constituents: Col4a1, Col4a2, Col4a3, Entpd1, Itgb4, Lama1, Lama2, Lama3, Lamb2, Lamb3, Lamc1, Sparc, Timp1, Timp2, Timp3.

Collagens and ECM Structural Constituents: Col1a1, Col2a1, Col3a1, Col4a1, Col4a2, Col4a3, Col5a1, Col6a1, Col8a1, Hapln1, Lama1.

ECM Proteases: Adamts1, RGD1565950 (Adamts2), Adamts5, Adamts8, Mmp10, Mmp11, Mmp12, Mmp13, Mmp14, Mmp15, Mmp16, Mmp1a, Mmp2, Mmp3, Mmp7, Mmp8, Mmp9.

ECM Protease Inhibitors: Col4a3, Timp1, Timp2, Timp3.

Other ECM Molecules: Cspg2, Ctgf, Ecm1, Emilin1, Fbln1, Fn1, Postn, Spock1, Spp1, Tgfbi, Thbs1, Tnc.

Storage Conditions

Product Specification Sheet

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 °C for long-term storage.

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

References

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2. Gumbiner BM (1996). Cell Adhesion: The Molecular Basis Of Tissue Architecture And Morphogenesis. *Cell* **84**: 345–357.
3. Ben-Ze'ev A, Geiger, B (1998) Differential Molecular Interactions Of β -Catenin And Plakoglobin In Adhesion, Signaling And Cancer. *Curr. Opin. Cell Biol.* **10**: 629–639.
4. Ohene-Abuakwa Y, Pignatelli M (2000) Adhesion Molecules In Cancer Biology. *Adv Exp Med Biol* **465**: 115-126.
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8. Werb, Z. (1997) ECM and Cell Surface Proteolysis: Regulating Cellular Ecology. *Cell* **91**: 439–442.
9. Johansson N, et al. (2000) Matrix Metalloproteinases in Tumor Invasion. *Cell Mol Life Sci* **57**: 5-15.
10. Zieske JD (2001) Extracellular Matrix and Wound Healing *Curr Opin Ophthalmol* **12**: 237-41.
11. Sobel RA. (2001) The Extracellular Matrix in Multiple Sclerosis: An Update. *Braz J Med Biol Res* **34**: 603-9.
12. Schonherr E, Hausser HJ (2000) Extracellular Matrix and Cytokines: a Functional Unit. *Dev Immunol* **7**: 89-101.
13. Raines EW. (2000) The Extracellular Matrix Can Regulate Vascular Cell Migration, Proliferation, and Survival: Relationships to Vascular Disease. *Int J Exp Pathol.* **81**: 173-82.
14. Boluyt MO, Bing OH (2000) Matrix Gene Expression and Decompensated Heart Failure: the Aged SHR Model. *Cardiovasc Res.* **46**: 239-49.
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Product Specification Sheet

Array Layout: Rat Extracellular Matrix and Adhesion Molecules PCR Array

	1	2	3	4	5	6	7	8	9	10	11	12
A	Adamts1	Adamts5	Adamts8	Catna1	Ctnna2	Cd44	Cdh1	Cdh2	Cdh3	Cdh4	Cntn1	Col1a1
B	Col2a1	Col3a1	Col4a1	Col4a2	Col4a3	Col5a1	Col6a1	Col8a1	Cspg2	Ctgf	Ctnnb1	Ecm1
C	Emilin1	Entpd1	Fbln1	Fn1	Hapln1	Icam1	Itga2	Itga3	Itga4	Itga5	Itgad	Itgae
D	Itgal	Itgam	Itgav	Itgb1	Itgb2	Itgb3	Itgb4	Lama1	Lama2	Lama3	Lamb2	Lamb3
E	Lamc1	Mmp10	Mmp11	Mmp12	Mmp13	Mmp14	Mmp15	Mmp16	Mmp1a	Mmp2	Mmp3	Mmp7
F	Mmp8	Mmp9	Ncam1	Ncam2	Pecam	Postn	RGD1565950	Sele	Sell	Selp	Sgce	Sparc
G	Spock1	Spp1	Syt1	Tgfb1	Thbs1	Thbs2	Timp1	Timp2	Timp3	Tnc	Vcam1	Vtn
H	Rplp1	Hprt	Rpl13a	Ldha	Actb	RGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene Table

Position	UniGene	GenBank	Symbol	Description
A01	Rn.7897	NM_024400	Adamts1	A disintegrin-like and metallopeptidase (reprolysin type) with thrombospondin type 1 motif, 1
A02	Rn.107051	NM_198761	Adamts5	A disintegrin-like and metallopeptidase (reprolysin type) with thrombospondin type 1 motif, 5 (aggrecanase-2)
A03	Rn.100730	XM_235977	Adamts8_predicted	A disintegrin-like and metallopeptidase (reprolysin type) with thrombospondin type 1 motif, 8 (predicted)
A04	Rn.103790	NM_001007145	Catna1	Catenin (cadherin-associated protein), alpha 1
A05	Rn.161845	XM_232077	Ctnna2_predicted	Catenin (cadherin associated protein), alpha 2 (predicted)
A06	Rn.1120	NM_012924	Cd44	CD44 antigen
A07	Rn.1303	NM_031334	Cdh1	Cadherin 1
A08	Rn.23200	NM_031333	Cdh2	Cadherin 2
A09	Rn.105829	XM_226426	Cdh3	Cadherin 3, type 1, P-cadherin (placental)
A10	Rn.161879	XM_001061943	Cdh4	Cadherin 4
A11	Rn.21397	NM_057118	Cntn1	Contactin 1
A12	Rn.2953	XM_213440	Col1a1	Procollagen, type 1, alpha 1
B01	Rn.10124	NM_012929	Col2a1	Procollagen, type II, alpha 1
B02	Rn.3247	NM_032085	Col3a1	Procollagen, type III, alpha 1
B03	Rn.53801	XM_214400	Col4a1	Procollagen, type IV, alpha 1
B04	Rn.2237	XM_225043	Col4a2_predicted	Procollagen, type IV, alpha 2 (predicted)
B05	Rn.121139	XM_343607	Col4a3	Procollagen, type IV, alpha 3
B06	Rn.117	NM_134452	Col5a1	Procollagen, type V, alpha 1
B07	Rn.107165	XM_215375	Col6a1_predicted	Procollagen, type VI, alpha 1 (predicted)
B08	Rn.53843	XM_221536	Col8a1_predicted	Procollagen, type VIII, alpha 1 (predicted)
B09	Rn.35666	XM_215451	Cspg2	Chondroitin sulfate proteoglycan 2
B10	Rn.17145	NM_022266	Ctgf	Connective tissue growth factor
B11	Rn.112601	NM_053357	Ctnnb1	Catenin (cadherin associated protein), beta 1
B12	Rn.97792	NM_053882	Ecm1	Extracellular matrix protein 1
C01	Rn.99346	XM_238447	Emilin1_predicted	Elastin microfibril interfacier 1 (predicted)
C02	Rn.17491	NM_022587	Entpd1	Ectonucleoside triphosphate diphosphohydrolase 1
C03	Rn.9375	XM_243637	Fbln1_predicted	Fibulin 1 (predicted)
C04	Rn.1604	NM_019143	Fn1	Fibronectin 1
C05	Rn.50531	NM_019189	Hapln1	Hyaluronan and proteoglycan link protein 1
C06	Rn.12	NM_012967	Icam1	Intercellular adhesion molecule 1
C07	Rn.83597	XM_345156	Itga2	Integrin, alpha 2
C08	Rn.154664	XM_340884	Itga3_predicted	Integrin alpha 3 (predicted)
C09	Rn.12704	XM_230033	Itga4	Integrin alpha 4 (mapped)
C10	Rn.100796	XM_235707	Itga5	Integrin alpha 5 (mapped)
C11	Rn.34728	NM_031691	Itgad	Integrin, alpha D
C12	Rn.29975	NM_031768	Itgae	Integrin, alpha E, epithelial-associated
D01	Rn.14655	NM_001033998	Itgal	Integrin alpha L
D02	Rn.54465	NM_012711	Itgam	Integrin alpha M

Product Specification Sheet

Position	UniGene	GenBank	Symbol	Description
D03	Rn.23339	XM_230950	Itgav_predicted	Integrin alpha V (predicted)
D04	Rn.25733	NM_017022	Itgb1	Integrin beta 1 (fibronectin receptor beta)
D05	Rn.42962	XM_001069791	Itgb2	Integrin beta 2
D06	Rn.162202	NM_153720	Itgb3	Integrin beta 3
D07	Rn.198908	NM_013180	Itgb4	Integrin beta 4
D08	Rn.2807	XM_237536	Lama1_predicted	Laminin, alpha 1 (predicted)
D09	Rn.21475	XM_219866	Lama2_predicted	Laminin, alpha 2 (predicted)
D10	Rn.10597	XM_226159	Lama3	Laminin, alpha 3
D11	Rn.774	NM_012974	Lamb2	Laminin, beta 2
D12	Rn.49634	XM_223087	Lamb3	Laminin, beta 3
E01	Rn.7145	XM_341133	Lamc1	Laminin, gamma 1
E02	Rn.9946	NM_133514	Mmp10	Matrix metalloproteinase 10
E03	Rn.11123	NM_012980	Mmp11	Matrix metalloproteinase 11
E04	Rn.33193	NM_053963	Mmp12	Matrix metalloproteinase 12
E05	Rn.10997	XM_343345	Mmp13	Matrix metalloproteinase 13
E06	Rn.10371	NM_031056	Mmp14	Matrix metalloproteinase 14 (membrane-inserted)
E07	Rn.165433	XM_238034	Mmp15_predicted	Matrix metalloproteinase 15 (predicted)
E08	Rn.118859	NM_080776	Mmp16	Matrix metalloproteinase 16
E09	Rn.79007	XM_235794	Mmp1a_predicted	Matrix metalloproteinase 1a (interstitial collagenase) (predicted)
E10	Rn.6422	NM_031054	Mmp2	Matrix metalloproteinase 2
E11	Rn.32086	NM_133523	Mmp3	Matrix metalloproteinase 3
E12	Rn.10282	NM_012864	Mmp7	Matrix metalloproteinase 7
F01	Rn.44474	NM_022221	Mmp8	Matrix metalloproteinase 8
F02	Rn.10209	NM_031055	Mmp9	Matrix metalloproteinase 9
F03	Rn.11283	NM_031521	Ncam1	Neural cell adhesion molecule 1
F04	Rn.138756	NM_203409	Ncam2	Neural cell adhesion molecule 2
F05	Rn.1878	NM_031591	Pecam	Platelet/endothelial cell adhesion molecule
F06	Rn.30516	XM_342245	Postn_predicted	Periostin, osteoblast specific factor (predicted)
F07	Rn.86986	XM_213548	RGD1565950_predicted	Similar to A disintegrin-like and metalloprotease (reprolysin type) with thrombospondin type 1 motif, 2 (predicted)
F08	Rn.10359	NM_138879	Sele	Selectin, endothelial cell
F09	Rn.10461	NM_019177	Sell	Selectin, lymphocyte
F10	Rn.10012	NM_013114	Selp	Selectin, platelet
F11	Rn.185815	NM_001002023	Sgce	Sarcoglycan, epsilon
F12	Rn.98989	NM_012656	Sparc	Secreted acidic cysteine rich glycoprotein
G01	Rn.44057	XM_225160	Spock1	Sparc/osteonectin, cwcv and kazal-like domains proteoglycan 1
G02	Rn.8871	NM_012881	Spp1	Secreted phosphoprotein 1
G03	Rn.7596	NM_001033680	Syt1	Synaptotagmin I
G04	Rn.1046	XM_573983	Tgfb1	Transforming growth factor, beta induced
G05	Rn.185771	NM_001013062	Thbs1	Thrombospondin 1
G06	Rn.165619	XM_214778	Thbs2	Thrombospondin 2
G07	Rn.25754	NM_053819	Timp1	Tissue inhibitor of metalloproteinase 1
G08	Rn.10161	NM_021989	Timp2	Tissue inhibitor of metalloproteinase 2
G09	Rn.119634	NM_012886	Timp3	Tissue inhibitor of metalloproteinase 3 (Sorsby fundus dystrophy, pseudoinflammatory)
G10	Rn.12723	U15550	Tnc	Tenascin C
G11	Rn.11267	NM_012889	Vcam1	Vascular cell adhesion molecule 1
G12	Rn.87493	NM_019156	Vtn	Vitronectin
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