

Table S1. Patients' demographic data.

Patient	sex	Age	Disease	Cyanosis	Total bypass time (min)	Drain Volume (ml)
1	F	11 M	Tetralogy of Fallot (TOF)	Y	97	150
2	M	3 D	Transposition of great arteries (TGA)	Y	95	65
3	M	9 M	Ventricular septal defect (VSD)	N	49	45
4	M	20 M	VSD	N	39	130
5	M	6 M	Pulmonary valve atresia with right ventricle hypoplasia	Y	22	80
6	F	8 M	Partial anomalous pulmonary venous return with ASD	N	36	50
7	M	7 D	TGA	Y	104	85
8	M	4 M	VSD	N	56	20
9	F	2 M	VSD	N	67	47
10	M	7 M	Endocardial cushion defect	N	93	80
11	F	1 M	Total anomalous pulmonary venous return	Y	175	75
12	M	5 M	VSD	N	52	20
13	M	15 M	TOF	Y	103	20
14	M	9 M	Total anomalous pulmonary venous return	Y	105	90
15	M	3 M	VSD	N	44	40
16	F	34 M	TOF	Y	96	35
17	M	26 M	VSD	N	57	105
18	M	27 M	VSD	N	64	90
19	M	8 D	Hypoplastic left heart syndrome	Y	40	70
20	M	10 M	Total anomalous pulmonary venous return	Y	43	78
21	F	10 M	TOF	Y	107	130
22	M	3 M	VSD	N	45	35
23	M	12 M	TOF	Y	99	83
24	M	5 M	VSD	N	66	18
25	M	32 M	Endocardial cushion defect	N	70	50
26	M	3 M	VSD	N	61	10
27	M	12 M	TOF	Y	96	40
28	M	26 M	Endocardial cushion defect	N	64	50
29	M	8 M	TOF	Y	103	75
30	F	13 M	TOF	Y	71	50
31	M	8 M	Right atrial isomerism	Y	64	125
32	M	3 D	Hypoplastic left heart syndrome	Y	50	100
33	M	5 D	TGA	Y	148	20
34	M	2 M	VSD	N	51	70
35	M	43 M	VSD	N	44	50
36	M	19 M	TOF	Y	89	200
37	M	2 M	VSD	N	38	100

Table S2. Differentially expressed genes in PEPCs-treated ischemic heart mice model.

Column number	Column ID	Gene Assignment	Gene Symbol	Fold-Change (PEPCs vs. Fibroblast)	Fold-Change (PEPCs vs. PBS)
30086	10563597	NM_011315//Saa3//serum amyloid A 3//7 B4 7 30.51 cM//20210//ENSMUST000000069	Saa3	3.62	5.86
25495	10521892	NM_011402//Slc34a2//solute carrier family 34 (sodium phosphate), member 2//5 C1 5	Slc34a2	3.65	5.42
23266	10501020	NM_009892//Chil3//chitinase-like 3//3 F2.2 3 46.49 cM//12655//ENSMUST00000006	Chil3	1.67	4.94
13976	10414202	NM_023134//Sftpa1//surfactant associated protein A1//14 B 14 22.36 cM//20387//	Sftpa1	1.60	4.87
7147	10349968	NM_007695//Chil1//chitinase-like 1//1 E4 1 58.15 cM//12654//XM_006529111//	Chil1	1.89	3.92
21198	10481962	NM_010406//Hc//hemolytic complement//2 23.22 cM 2 cen-C1//15139//ENSMUST0000	Hc	2.20	3.32
27253	10539091	NM_001282071//Sftpb//surfactant associated protein B//6 C1 6 32.27 cM//20388//	Sftpb	2.58	2.51
22365	10492964	NM_009690//Cd5l//CD5 antigen-like//3 3 F1//11801//ENSMUST00000015998//Cd5l	Cd5l	2.11	2.47
17862	10450325	NM_001142706//Cfb//complement factor B//17 B1 17 18.41 cM//14962//NM_008198	Cfb	2.76	2.35
7305	10351509	NM_144559//Fcgr4//Fc receptor, IgG, low affinity IV//1 H3 1 78.53 cM//246256//	Fcgr4	3.16	2.20
11211	10389222	NM_009139//Ccl6//chemokine (C-C motif) ligand 6//11 C 11 50.85 cM//20305//EN	Ccl6	1.72	2.14
15686	10429560	NM_020498//Ly6i//lymphocyte antigen 6 complex, locus I//15 15 D3//57248//XM_	Ly6i	1.88	2.13
11210	10389214	NM_011338//Ccl9//chemokine (C-C motif) ligand 9//11 C 11 50.81 cM//20308//EN	Ccl9	1.63	2.05
17222	10444407	NM_001271422//Ager//advanced glycosylation end product-specific receptor//17 17 B	Ager	1.64	2.04
10217	10379535	NM_021443//Ccl8//chemokine (C-C motif) ligand 8//11 C 11 49.91 cM//20307//AB	Ccl8	1.59	1.97
33803	10596014	NM_001194921//Cldn18//claudin 18//9 9 E3-F1//56492//NM_001194922//Cldn18/	Cldn18	1.56	1.97
28220	10547664	NM_019948//Clec4e//C-type lectin domain family 4, member e//6 58.35 cM 6 F3//56	Clec4e	1.93	1.93
26444	10531415	NM_021274//Cxcl10//chemokine (C-X-C motif) ligand 10//5 E2 5 46.57 cM//15945//	Cxcl10	4.01	1.90
32363	10582580	NR_046144//n-R5s136//nuclear encoded rRNA 5S 136//8 E 8 72.1 cM//100861491	n-R5s136	1.52	1.89
33853	10596403	NM_001167923//Col6a5//collagen, type VI, alpha 5//9 F1 9//665033//ENSMUST000	Col6a5	2.58	1.88
8648	10364262	NM_008404//Itgb2//integrin beta 2//10 C1 10 39.72 cM//16414//XM_006513271//	Itgb2	3.03	1.85
22408	10493474	NM_013605//Muc1//mucin 1, transmembrane//3 F1 3 39.02 cM//17829//ENSMUST0000	Muc1	1.62	1.84
12065	10398075	NM_009252//Serpina3n//serine (or cysteine) peptidase inhibitor, clade A, member 3N	Serpina3n	2.26	1.81
18088	10452316	NM_009778//C3//complement component 3//17 29.72 cM 17 E1-E3//12266//XM_01124	C3	3.56	1.81
8190	10360070	NM_010185//Fcer1g//Fc receptor, IgE, high affinity I, gamma polypeptide//1 H3 1 7	Fcer1g	1.97	1.79

26777	10534927	NM_153510//Pilra//paired immunoglobulin-like type 2 receptor alpha//515 G2//23180	Pilra	1.76	1.76
21907	10488804	ENSMUST00000184654//Gm14214//predicted gene 14214 [Source:MGI Symbol;Acc:MGI:364935	Gm14214	1.70	1.74
32023	10579347	NM_023065//Ifi30//interferon gamma inducible protein 30//818 B3.3//65972///EN	Ifi30	1.98	1.71
7303	10351504	XM_011238892//Gm39701//predicted gene, 39701//111//105244006	Gm39701	1.66	1.66
29445	10557862	NM_001082960//Itgam//integrin alpha M//717 F4//16409///NM_008401//Itgam//	Itgam	1.82	1.66
25469	10521667	NM_009763//Bst1//bone marrow stromal cell antigen 1//5 B315 23.84 cM//12182///	Bst1	1.53	1.66
26060	10527638	NM_001308462//Alox5ap//arachidonate 5-lipoxygenase activating protein//515 G3//	Alox5ap	1.64	1.64
34740	10603551	NM_007807//Cybb//cytochrome b-245, beta polypeptide//X1X A1.1//13058///XM_006	Cybb	2.47	1.64
29086	10554789	NM_001311790//Ctsc//cathepsin C//717 D3-E1.1//13032///NM_009982//Ctsc//ca	Ctsc	1.68	1.63
8179	10359999	ENSMUST00000180190//Gm23523//predicted gene, 23523 [Source:MGI Symbol;Acc:MGI:54533	Gm23523	1.63	1.63
30811	10568024	NM_001301374//Coro1a//coronin, actin binding protein 1A//7 69.25 cM17 F3//12721	Coro1a	1.85	1.62
12575	10402406	NM_009245//Serpina1c//serine (or cysteine) peptidase inhibitor, clade A, member 1C	Serpina1c	2.19	1.62
27126	10538150	NM_001098271//Tmem176a//transmembrane protein 176A//616 B2.3//66058///NM_0253	Tmem176a	1.51	1.62
11213	10389231	NM_011337//Ccl3//chemokine (C-C motif) ligand 3//11 C11 51.04 cM//20302///EN	Ccl3	2.39	1.62
25033	10517165	NM_013706//Cd52//CD52 antigen//4 D314 66.5 cM//23833///ENSMUST00000000696//	Cd52	1.85	1.61
12187	10398907	NM_178911//Pld4//phospholipase D family, member 4//12112 F1//104759///XM_0112	Pld4	2.29	1.60
22513	10494271	NM_001267695//Ctss//cathepsin S//3 F2.113 40.74 cM//13040///NM_021281//Ctss	Ctss	1.98	1.59
26588	10532744	NM_009151//Selplg//selectin, platelet (p-selectin) ligand//5 F15 55.59 cM//2034	Selplg	1.91	1.58
32426	10583071	NM_010809//Mmp3//matrix metalloproteinase 3//9 A119 2.46 cM//17392///ENSMUST00	Mmp3	1.52	1.58
29593	10559467	XM_003084682//Gm15448//predicted gene 15448//717 A1//100041146///XM_006540448	Gm15448	2.09	1.56
12262	10399581	XR_868554//3110053B16Rik//RIKEN cDNA 3110053B16 gene//12112 A1.2//382686///XR	3110053B16 Rik	1.54	1.54
27523	10541683	NM_001113356//C1rb//complement component 1, r subcomponent B//6 F216//667277//	C1rb	2.97	1.54
7296	10351477	NM_012009//Sh2d1b1//SH2 domain containing 1B1//111 H2//26904///ENSMUST0000017	Sh2d1b1	1.99	1.54
18459	10456005	NM_001042605//Cd74//CD74 antigen (invariant polypeptide of major histocompatibility	Cd74	2.91	1.54
9097	10368343	NM_007482//Arg1//arginase, liver//10110 A4//11846///ENSMUST00000020161//Arg	Arg1	1.64	1.53

32239	10581434	NM_001301204//Dpep2//dipeptidase 2//8 8 D3//319446//NM_001301205//Dpep2//	Dpep2	2.12	1.53
17214	10444298	NM_010382//H2-Eb1//histocompatibility 2, class II antigen E beta//17 B1 17 17.98	H2-Eb1	2.12	1.52
28657	10551025	NM_007655//Cd79a//CD79A antigen (immunoglobulin-associated alpha)//7 A3 7 13.49 c	Cd79a	1.64	1.51
25067	10517508	NM_009777//C1qb//complement component 1, q subcomponent, beta polypeptide//4 D3 4	C1qb	1.82	1.50
35196	10606868	NM_009052//Bex1//brain expressed gene 1//X F1 X 57.4 cM//19716//ENSMUST000000	Bex1	-1.52	-1.50
22128	10490838	NM_001272097//Fabp5//fatty acid binding protein 5, epidermal//3 3 A1-A3//16592	Fabp5	-2.06	-1.50
16593	10438681	NM_001102409//Kng2//kininogen 2//16 16 B1//385643//NM_001102410//Kng2//k	Kng2	-3.35	-1.51
14574	10419082	NM_001316732//Fam213a//family with sequence similarity 213, member A//14 14 B//	Fam213a	-2.22	-1.52
28686	10551282	NM_007812//Cyp2a5//cytochrome P450, family 2, subfamily a, polypeptide 5//7 A3 7	Cyp2a5	-8.19	-1.52
8442	10362404	NM_029726//Trdn//triadin//10 10 A4//76757//ENSMUST00000095762//Trdn//tri	Trdn	-2.20	-1.53
17353	10445428	ENSMUST00000083809//Gm25008//predicted gene, 25008 [Source:MGI Symbol;Acc:MGI:54547	Gm25008	-4.69	-1.53
34026	10598081	ENSMUST00000082401//mt-Ty//mitochondrially encoded tRNA tyrosine [Source:MGI Symbol	mt-Ty	-1.76	-1.54
6858	10346914	NM_172422//Fastkd2//FAST kinase domains 2//1 1 C2//75619//XM_006496313//Fa	Fastkd2	-2.00	-1.54
30458	10565609	NM_009381//Thrsp//thyroid hormone responsive//7 7 E3//21835//ENSMUST000000043	Thrsp	-5.96	-1.54
16513	10437942	NM_001159351//Ube2v2//ubiquitin-conjugating enzyme E2 variant 2//16 16 A1//7062	Ube2v2	-2.17	-1.55
8455	10362446	NM_029726//Trdn//triadin//10 10 A4//76757//ENSMUST00000095762//Trdn//tri	Trdn	-2.26	-1.58
8447	10362424	NM_029726//Trdn//triadin//10 10 A4//76757//ENSMUST00000095762//Trdn//tri	Trdn	-2.39	-1.59
8446	10362422	NM_029726//Trdn//triadin//10 10 A4//76757//ENSMUST00000095762//Trdn//tri	Trdn	-2.03	-1.60
18750	10458828	NM_033037//Cdo1//cysteine dioxygenase 1, cytosolic//18 C 18 24.75 cM//12583//	Cdo1	-9.66	-1.60
8458	10362454	NM_029726//Trdn//triadin//10 10 A4//76757//ENSMUST00000095762//Trdn//tri	Trdn	-3.73	-1.60
34025	10598079	ENSMUST00000082400//mt-Tc//mitochondrially encoded tRNA cysteine [Source:MGI Symbol	mt-Tc	-2.18	-1.62
8506	10362896	NM_009846//Cd24a//CD24a antigen//10 B2 10 23.01 cM//12484//ENSMUST0000005871	Cd24a	-2.58	-1.63
23780	10505438	NM_008768//Orm1//orosomucoid 1//4 B3 4 33.96 cM//18405//ENSMUST00000030044/	Orm1	-13.17	-1.64
24614	10513504	NM_001199936//Mup16//major urinary protein 16//4 B3 4//100039177//XM_0065374	Mup16	-2.56	-1.64
8444	10362418	NM_029726//Trdn//triadin//10 10 A4//76757//ENSMUST00000095762//Trdn//tri	Trdn	-2.26	-1.66
27682	10542983	NM_011134//Pon1//paraoxonase 1//6 1.99 cM 6 A2//18979//XM_006505011//Pon1	Pon1	-3.94	-1.67
24611	10513467	NM_001134674//Mup13//major urinary protein 13//4 B3 4//100039089//XM_0065374	Mup13	-3.11	-1.79

24609	10513437	NM_001122647//Mup10//major urinary protein 10//4 4 B3//100039008///NM_0011346	Mup10	-3.20	-1.81
24607	10513420	NM_001134675//Mup7//major urinary protein 7//4 B3 4//100041658///XM_006536396	Mup7	-3.58	-1.85
28155	10546929	NM_001301295//Cidec//cell death-inducing DFFA-like effector c//6 6 E3//14311//	Cidec	-3.19	-1.86
24610	10513455	NM_001134676//Mup8//major urinary protein 8//4 B3 4//100041687///NM_001163010	Mup8	-3.58	-1.90
29341	10556769	NM_016870//Acsm3//acyl-CoA synthetase medium-chain family member 3//7 7 F3//202	Acsm3	-7.05	-1.95
31019	10569870	NM_001204959//Retn//resistin//8 1.92 cM 8 A1//57264///NM_022984//Retn//re	Retn	-5.20	-1.97
8457	10362450	NM_029726//Trdn//triadin//10 10 A4//76757///ENSMUST00000095762//Trdn//tri	Trdn	-3.09	-2.02
9512	10372730	NM_054079//Iltifb//interleukin 10-related T cell-derived inducible factor beta//1	Iltifb	-1.75	-2.04
34027	10598083	ENSMUST00000082403//mt-Ts1//mitochondrially encoded tRNA serine 1 [Source:MGI Symbo	mt-Ts1	-3.03	-2.05
8696	10364542	NM_001291915//Cfd//complement factor D (adipsin)//10 C1 10 39.72 cM//11537///	Cfd	-4.21	-2.14
33387	10592044	NM_144936//Tmem45b//transmembrane protein 45b//9 9 A4//235135///XM_011242482	Tmem45b	-19.14	-2.19
7692	10355259	NM_001113387//Myl1//myosin, light polypeptide 1//1 C3 1 33.71 cM//17901///NM_	Myl1	-1.98	-2.21
27956	10545210	K00746//Igkv4-55//immunoglobulin kappa variable 4-55//6 6 C1//385253///OTTMUS	Igkv4-55	-2.26	-2.26
34029	10598087	ENSMUST00000082419//ND6//NADH dehydrogenase subunit 6//---//17722	ND6	-3.22	-2.35
16173	10434747	NM_009605//Adipoq//adiponectin, C1Q and collagen domain containing//16 B3- B4 16 1	Adipoq	-11.39	-3.08
8453	10362440	NM_029726//Trdn//triadin//10 10 A4//76757///ENSMUST00000095762//Trdn//tri	Trdn	-7.02	-3.86
29521	10558673	NM_021282//Cyp2e1//cytochrome P450, family 2, subfamily e, polypeptide 1//7 F5 7	Cyp2e1	-8.03	-6.22
22138	10490913	NM_007606//Car3//carbonic anhydrase 3//3 3.22 cM 3 A2//12350///XM_011248138/	Car3	-26.05	-8.49

