Table 2. Expression Profile of P2 Genes

No.	gene name	abbreviated name	GenBank No.	category	ratio (P2/E13.5)	E13.5 ratio (CR/non-CR)	E13.5 signal CR	E13.5 signal non-CR	P2 ratio (CR/non-CR)	P2 signal CR	P2 signal non-CR
1	basic transcription element binding protein 1	Bteb1	AV354744	transcription regulator/nuclear protein	36	1.7	172	103	2.6	6176	2342
2	thyroid hormone responsive SPOT14 homolog	Thrsp	BC009165	transcription regulator/nuclear protein	10	3.1	187	60	4.3	1915	444
3	FBJ osteosarcoma oncogene	Fos	AV026617	transcription regulator/nuclear protein	7.0	1.0	848	824	0.82	5954	7239
4	cyclin-dependent kinase-like 2	Cdkl2	NM_016912	transcription regulator/nuclear protein	6.9	1.6	144	89	4.3	1001	234
5	peroxisome proliferative activated receptor, gamma, coactivator 1	Ppargc1	BB745167	transcription regulator/nuclear protein	4.5	3.4	266	78	6.0	1203	201
6	purine rich element binding protein A	Pura	NM_008989	transcription regulator/nuclear protein	4.5	0.92	324	353	2.2	1443	653
7	myocyte enhancer factor 2A	Mef2a	BG072973	transcription regulator/nuclear protein	3.4	1.6	596	378	3.5	2026	587
8	transcription elongation factor A (SII)-like 1	Tceal1	BC011290	transcription regulator/nuclear protein	3.2	1.1	391	352	1.5	1253	812
9	RNA binding motif, single stranded interacting protein 1	Rbms1	AW541585	transcription regulator/nuclear protein	3.0	9.2	895	98	5.5	2704	488
10	acetylcholinesterase	Ache	NM_009599	extracellular signaling molecule	93	0.33	22	65	60	2010	33
11	prepronociceptin	Pnoc	D50055	extracellular signaling molecule	66	0.18	18	98	13	1188	91
12	nephronectin	Npnt	AA223007	extracellular signaling molecule	29	0.93	78	84	24	2253	94
13	chemokine (C-X-C motif) ligand 12	Cxcl12	BC006640	extracellular signaling molecule	26	0.43	479	114	41	12676	311
14	neprilysin (enkephalinase)	Nep	AV174022	extracellular signaling molecule	22	1.5	59	40	12	1266	104
15	growth differentiation factor 5	Gdf5	NM_008109	extracellular signaling molecule	20	4.0	161	40	91	3253	36
16	cholecystokinin	Cck	NM_031161	extracellular signaling molecule	15	3.8	86	22	2.0	1295	645
17	carbonic anhydrase 10	Car10	BC017606	extracellular signaling molecule	15	25	146	6	61	2159	35
18	dickkopf homolog 3	Dkk3	AK004853	extracellular signaling molecule	13	1.3	318	240	4.2	4255	1010
19	protein related to DAN and cerberus	Prdc	NM_011825	extracellular signaling molecule	9.2	1.1	300	268	11	2765	241
20	plasticity-related gene 1	Prg1	BB238462	extracellular signaling molecule	8.6	1.4	172	122	2.7	1473	542
21	procollagen, type VI, alpha 2	Col6a2	BI455189	extracellular signaling molecule	8.5	0.53	334	626	6.5	2825	432
22	elastin	Eln	BB229377	extracellular signaling molecule	6.7	0.92	358	389	4.8	2414	501
23	cystatin C	Cst3	AF483486	extracellular signaling molecule	5.3	1.1	1823	1625	1.5	9698	6462
24	melanoma inhibitory activity	Mia	NM_019394	extracellular signaling molecule	5.1	2.2	267	120	9.1	1367	150
25	mammalian ependymin related protein- 2	Merp2	BM231893	extracellular signaling molecule	4.5	0.57	236	412	2.0	1055	525
26	chromogranin B	Chgb	NM_007694	extracellular signaling molecule	4.4	3.7	752	205	4.7	3298	697
27	tissue inhibitor of metalloproteinase 2	Timp2	C81601	extracellular signaling molecule	3.9	2.6	2078	806	3.3	8046	2475
28	carbonic anhydrase 11	Car11	BC019393	extracellular signaling molecule	3.5	1.8	346	196	5.5	1216	223
29	GTL2, imprinted maternally expressed untranslated mRNA	Gtl2	BM117428	extracellular signaling molecule	3.3	1.6	308	192	4.5	1002	220
30	tuftelin 1	Tuft1	NM_011656	extracellular signaling molecule	3.2	2.7	528	193	8.6	1702	199
31	latent transforming growth factor beta binding protein 3	Ltbp3	BB324823	extracellular signaling molecule	3.0	0.50	548	1096	1.4	1657	1184
32	receptor (calcitonin) activity modifying protein 1	Ramp1	NM_016894	receptor/channel/transmembrane protein	32	1.9	193	100	16	6234	395
33	thymus cell antigen 1, theta	Thy-1	AV028402	receptor/channel/transmembrane protein	27	0.97	115	119	10	3087	299
34	programmed cell death 1 ligand 1	PD-L1	NM_021893	receptor/channel/transmembrane protein	25	12	75	6	237	1892	8
35	glutamate receptor, ionotropic, AMPA1 (alpha 1)	Gria1	NM_008165	receptor/channel/transmembrane protein	12	0.63	84	133	2.4	1040	430
36	CD47 antigen	Cd47	BQ256022	receptor/channel/transmembrane protein	7.3	1.5	523	350	6.7	3811	569
37	transmembrane 4 superfamily member 10	Tm4sf10	AI505784	receptor/channel/transmembrane protein	7.3	1.2	270	224	3.1	1970	643
38	calcium channel, voltage-dependent, gamma subunit 5	Cacng5	BQ174680	receptor/channel/transmembrane protein	7.3	4.0	398	101	4.3	2889	676
39	integral membrane protein 2A	Itm2a	AA275072	receptor/channel/transmembrane protein	6.4	0.62	195	313	0.83	1257	1510
40	protein tyrosine phosphatase, receptor type, E	Ptpre	U35368	receptor/channel/transmembrane protein	6.2	1.2	205	174	3.3	1281	394
41	purinergic receptor P2X, ligand-gated ion channel, 5	P2x5	NM_033321	receptor/channel/transmembrane protein	4.3	2.7	445	168	18	1906	104
42	tumor necrosis factor receptor superfamily, member 19	Tnfrsf19	NM_013869	receptor/channel/transmembrane protein	3.9	0.45	645	1433	1.5	2509	1623
43	Eph receptor B6	Ephb6	NM_007680	receptor/channel/transmembrane protein	3.8	4.0	446	113	6.6	1678	255
44	calsyntenin 2	Clstn2	NM_022319	receptor/channel/transmembrane protein	3.7	4.2	496	119	7.6	1851	244
45	protein tyrosine phosphatase, receptor type, N	Ptprn	NM_008985	receptor/channel/transmembrane protein	3.4	5.2	499	95	13	1710	128
46	Kv channel-interacting protein 1	Kcnip1	NM_027398	receptor/channel/transmembrane protein	3.4	2.4	485	200	4.1	1643	404
47	crystallin, alpha B	Cryab	AV016515	trafficking/organellar protein	351	1.2	6	5	23	2249	98
48	ATPase, H+ transporting, V1 subunit G isoform 2	Atp6v1g2	BC020190	trafficking/organellar protein	9.7	1.6	301	184	7.1	2930	410
49	SEC24 related gene family, member D	Sec24d	AK009425	trafficking/organellar protein	7.2	1.2	274	236	5.1	1985	392
50	t-complex-associated-testis-expressed 1-like	Tcte1l	AK010186	trafficking/organellar protein	4.8	0.64	454	711	1.8	2163	1182
51	ATPase, Na+/K+ transporting, alpha 3 polypeptide	Atp1a3	BC027114	trafficking/organellar protein	4.4	1.8	287	157	4.2	1271	301
52	solute carrier family 20, member 2	Slc20a2	BB765719	trafficking/organellar protein	4.4	0.81	332	408	2.1	1464	700
53	ATPase, Na+/K+ transporting, beta 2 polypeptide	Atp1b2	BG261955	trafficking/organellar protein	4.4	6.7	365	55	0.93	1600	1730
54	ATPase, Na+/K+ transporting, beta 1 polypeptide	Atp1b1	BC027319	trafficking/organellar protein	3.9	4.0	653	165	0.75	2526	3387
55	solute carrier family 24 (sodium/potassium/calcium exchanger), member 3	Slc24a3	BC017615	trafficking/organellar protein	3.5	1.9	500	259	2.7	1728	644
56	SH3-domain GRB2-like 2	Sh3gl2	BC018385	trafficking/organellar protein	3.3	1.3	1027	819	2.9	3351	1170
57	visinin-like 1	Vsnl1	AK005091	intracellular signaling molecule	21	1.3	104	82	5.2	2197	422
58	spleen tyrosine kinase	Syk	NM_011518	intracellular signaling molecule	16	1.7	68	40	7.2	1070	148
59	ankyrin repeat domain 3	Ankrd3	AF302127	intracellular signaling molecule	14	4.8	156	33	269	2155	8
60	regulator of G-protein signaling 4	Rgs4	BC003882	intracellular signaling molecule	11	2.2	494	223	12	5189	427
61	Ras-like without CAAX 2	Rit2	NM_009065	intracellular signaling molecule	9.1	2.5	191	76	11	1733	156
62	Rho GDP dissociation inhibitor (GDI) gamma	Arhgdig	NM_008113	intracellular signaling molecule	8.5	1.7	346	203	3.7	2937	789
63	hippocalcin	Hpca	AK002992	intracellular signaling molecule	6.9	1.3	341	258	6.4	2342	366
64	regulator of G-protein signaling 5	Rgs5	NM_133736	intracellular signaling molecule	6.8	0.91	373	411	1.1	2526	2229
65	Purkinje cell protein 4	Pcp4	NM_008791	intracellular signaling molecule	5.8	1.5	1514	1025	14	8716	608
66	dedicator of cyto-kinesis 1	Dock1	BQ175788	intracellular signaling molecule	4.9	0.33	271	831	1.4	1338	928
67	diablo homolog	Diablo	NM_023232	intracellular signaling molecule	4.1	1.4	1087	784	7.3	4509	619
68	regulator of G protein signaling 7	Rgs7	NM_011880	intracellular signaling molecule	4.1	6.3	498	79	1.8	2063	1178
69	N-myc downstream regulated 4	Ndr4	AI837704	intracellular signaling molecule	4.0	2.7	1698	636	3.8	6749	1768
70	tumor protein D52	Tpd52	NM_009412	intracellular signaling molecule	3.7	1.1	683	612	2.6	2503	979
71	phosphoinositol 3-phosphate-binding protein-3 homolog	pbp3h	BI905111	intracellular signaling molecule	3.6	1.4	578	409	11	2093	196
72	protein phosphatase 1, regulatory (inhibitor) subunit 2	Ppp1r2	NM_025800	intracellular signaling molecule	3.2	1.5	781	514	2.9	2537	860
73	N-myc downstream regulated 1	Ndr1	NM_008681	intracellular signaling molecule	3.1	0.81	343	422	0.95	1056	118
74	FK506 binding protein 9	Fkbp9	BB026630	intracellular signaling molecule	3.1	3.0	3950	1321	4.1	12077	2937
75	protein kinase, cAMP dependent regulatory, type I, alpha	Prkar1a	BC005697	intracellular signaling molecule	3.0	0.93	491	529	1.7	1453	840
76	protein kinase, cAMP dependent regulatory, type I beta	Prkar1b	BC011424	intracellular signaling molecule	3.0	1.7	893	521	1.8	2640	1470
77	dynein, cytoplasmic, intermediate chain 1	Dncic1	NM_010063	cytoskeletal protein	16	3.0	316	105	3.4	5200	1534
78	synapsin II	Syn2	NM_013681	cytoskeletal protein	6.5	1.3	624	483	9.6	4030	421
79	erythrocyte protein band 4.1-like 2	Epb4.1l2	BG075070	cytoskeletal protein	5.5	0.40	185	458	2.3	1019	435
80	dynamin	Dnm	L31397	cytoskeletal protein	5.0	4.9	914	188	7.2	4581	637
81	synaptosomal-associated protein 25	Snap25	BC018249	cytoskeletal protein	4.8	3.8	688	183	4.0	3334	837
82	plakophilin 4	Pkp4	AW764208	cytoskeletal protein	4.4	0.77	610	789	4.4	2661	602
83	complexin 1	Cplx1	BC014803	cytoskeletal protein	4.3	2.0	1600	789	3.6	6955	1929
84	protein kinase C and casein kinase substrate in neurons 1	Pacsin1	NM_011861	cytoskeletal protein	3.8	2.9	384	134	4.3	1449	339
85	microtubule-associated protein 4	Mtap4	BB280360	cytoskeletal protein	3.7	7.8	730	94	5.9	2669	454
86	tubulin, alpha 4	Tuba4	NM_009447	cytoskeletal protein	3.1	0.29	681	2315	2.5	2117	841
87	acylphosphatase 2, muscle type	Acyp2	BI730288	metabolism	7.9	1.3	169	135	4.9	1330	270
88	enolase 2, gamma neuronal	Eno2	NM_013509	metabolism	4.9	1.9	268	143	5.8	1313	225
89	degenerative spermatocyte homolog	Degs	AV286991	metabolism	4.1	1.2	678	571	2.3	2754	1199
90	phosphofructokinase, platelet	Pfkp	NM_019703	metabolism	3.8	4.1	543	132	5.7	2051	357
91	thioesterase superfamily member 2	Them2	NM_025790	metabolism	3.7	0.71	274	386	2.1	1010	490
92	glucose phosphate isomerase 1	Gpi1	NM_008155	metabolism	3.7	0.70	1836	2623	5.1	6737	1320
93	galactosidase, beta 1	Glb1	NM_009752	metabolism	3.5	2.9	403	137	9.5	1417	149
94	aldolase 1, A isoform	Aldo1	NM_007438	metabolism	3.4	0.91	2844	3114	4.2	9622	2312
95	glucosidase, alpha, acid	Gaa	BB357227	metabolism	3.0	1.1	709	657	3.6	2148	590
96	triosephosphate isomerase	Tpi	NM_009415	metabolism	3.0	0.40	1711	4239	3.3	5147	1556
97	4-aminobutyrate aminotransferase	Abat	BF462185	metabolism	4.7	35	466	13	7.9	2210	280
98	isochorismatase family hydrolase homolog	Ihh	BC016576	others/undefined	7.1	0.70	501	720	4.6	3536	763
99	eukaryotic translation elongation factor 1 alpha 2	Eef1a2	NM_007906	others/undefined	6.5	2.8	1161	417	9.7	7530	779
100	histidyl tRNA synthetase 2	Hars2	AI451865	others/undefined	4.9	0.82	216	262	3.2	1048	324
101	cytochrome P450, family 46, subfamily a, polypeptide 1	Cyp46a1	NM_010010	others/undefined	4.5	0.67	339	508	2.5	1527	613
102	imprinted and ancient	Impact	NM_008378	others/undefined	3.9	1.3	374	294	2.7	1453	544
103	prion protein	Prnp	BE630020	others/undefined	3.8	2.32	1255	541	4.0	4818	1202
104	deleted in polyposis 1	Dp1	BG069654	others/undefined	3.6	1.7	400	238	5.8	1440	251
105	cytochrome c oxidase, subunit Vb	Cox5b	AA960638	others/undefined	3.2	0.89	1320	1487	1.6	4249	2697
106	apoptosis related protein APR-3	Arp3	AK002276	others/undefined	3.2	1.2	489	400	1.4	1560	1086
107	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 2	Ndufb2	NM_026612	others/undefined	3.2	1.8	514	288	4.0	1626	411
108	peroxiredoxin 1	Prdx1	AI120393	others/undefined	3.2	0.37	833	2230	1.1	2633	2442
109	fibroblast growth factor inducible 15	Fin15	NM_008016	others/undefined	3.1	0.94	469	501	0.97	1467	1510
110	oxidation resistance 1	Oxr1	NM_130885	others/undefined	3.0	1.14	804	706	2.6	2430	946
111	BM88 antigen	Bm88a	BC023032	others/undefined	3.0	3.1	517	169	6.8	1543	227

One hundred eleven genes which showed more than 3 times decrease in hybridization signals at E13.5 CR cells over P2 CR cells are listed. For other explanations, see Fig. 2.