

Table 1. Astrocyte genes upregulated because of time of day (3 am) (fold change>30%, p<0.01)

Probeset ID	Gene Name	Gene Title	W vs. S+SD (3 am vs. 3 pm)		W vs. S			W vs. SD		
			Average Log Fold Change	Average Expression	Log Fold Change	t	adj.P.Val	Log Fold Change	t	adj.P.Val
1444559_at	Phtf2	Putative homeodomain transcription factor 2	-1.79	4.06	-1.80	-6.62	0.0005	-1.79	-6.59	0.0007
1447552_s_at	Unknown	Unknown	-1.75	3.24	-1.97	-6.77	0.0004	-1.53	-5.24	0.0043
1446761_at	D8Ertd56e	DUnknown segment, Chr 8, ERATO Doi 56, expressed	-1.74	3.33	-1.80	-8.84	0.0000	-1.68	-8.23	0.0001
1458620_at	Gm5129	predicted gene 5129	-1.65	5.38	-1.69	-7.26	0.0002	-1.60	-6.85	0.0005
1422530_at	Prph	peripherin	-1.62	4.06	-1.78	-6.87	0.0003	-1.45	-5.58	0.0028
1435560_at	Itgal	integrin alpha L	-1.60	3.85	-2.10	-12.95	0.0000	-1.10	-6.79	0.0005
1429955_at	5031434O11Rik	RIKEN cDNA 5031434O11 gene	-1.57	4.48	-1.12	-5.72	0.0016	-2.03	-10.41	0.0000
1445505_at	Ndst1	N-deacetylase/N-sulfotransferase (heparan glucosaminyl) 1	-1.47	3.59	-1.64	-7.27	0.0002	-1.29	-5.71	0.0023
1444207_at	Alms1	Alstrom syndrome 1 homolog (human)	-1.46	3.63	-1.67	-7.03	0.0003	-1.24	-5.20	0.0046
1440862_at	Unknown	Unknown	-1.42	4.48	-1.46	-5.96	0.0012	-1.39	-5.65	0.0025
1459255_at	Unknown	Unknown	-1.39	3.17	-1.44	-7.70	0.0001	-1.35	-7.19	0.0003
1438515_at	Zfp207	zinc finger protein 207	-1.30	4.67	-1.36	-5.69	0.0017	-1.25	-5.24	0.0043
1456681_at	Ptchd1	patched domain containing 1	-1.28	6.05	-1.40	-7.75	0.0001	-1.17	-6.49	0.0008
1430330_at	Wiz	widely-interspaced zinc finger motifs	-1.27	3.53	-1.33	-6.76	0.0004	-1.20	-6.07	0.0013
1446175_at	Unknown	Unknown	-1.22	3.48	-1.32	-10.50	0.0000	-1.12	-8.90	0.0001
1425669_at	Mobk12b	MOB1, Mps One Binder kinase activator-like 2B (yeast)	-1.19	3.94	-0.77	-4.73	0.0063	-1.61	-9.92	0.0000
1444269_at	Unknown	Unknown	-1.18	3.68	-0.86	-4.69	0.0067	-1.49	-8.11	0.0001
1431362_a_at	Smoc2	SPARC related modular calcium binding 2	-1.17	4.61	-1.07	-5.30	0.0028	-1.27	-6.29	0.0010
1453395_at	5330403D14Rik	RIKEN cDNA 5330403D14 gene	-1.17	3.82	-1.10	-7.28	0.0002	-1.24	-8.22	0.0001
1437370_at	Sgol2	shugoshin-like 2 (S. pombe)	-1.17	4.15	-1.16	-4.97	0.0045	-1.17	-5.01	0.0062
1421686_at	Npvf	neuropeptide VF precursor	-1.16	4.43	-1.21	-9.95	0.0000	-1.11	-9.11	0.0000
1427618_at	Cdh9	cadherin 9	-1.15	3.61	-1.07	-5.59	0.0019	-1.23	-6.43	0.0008
1458755_at	Unknown	Unknown	-1.14	3.04	-1.29	-9.21	0.0000	-0.99	-7.06	0.0004
1444308_at	Unknown	Unknown	-1.13	4.78	-1.17	-6.17	0.0009	-1.09	-5.74	0.0022
1441074_at	Unknown	Unknown	-1.12	4.40	-1.05	-6.86	0.0004	-1.19	-7.74	0.0002
1460073_at	Unknown	Unknown	-1.09	3.90	-0.89	-4.54	0.0084	-1.29	-6.57	0.0007
1420991_at	Ankrd1	ankyrin repeat domain 1 (cardiac muscle)	-1.08	3.67	-1.36	-12.30	0.0000	-0.80	-7.20	0.0003
1435794_at	BC050254	cDNA sequence BC050254	-1.08	5.84	-0.98	-4.77	0.0060	-1.18	-5.75	0.0021
1427497_at	2610015P09Rik	RIKEN cDNA 2610015P09 gene	-1.05	4.38	-1.00	-7.96	0.0001	-1.10	-8.77	0.0001
1448577_x_at	Syngn2	synaptogyrin 2	-1.04	7.39	-0.93	-4.52	0.0086	-1.15	-5.61	0.0026
1419717_at	Sema3e	sema domain, immunoglobulin domain (Ig), short basic domain, secreted	-1.03	3.23	-1.16	-6.24	0.0008	-0.91	-4.90	0.0073
1440048_at	Smarca5	SWI/SNF related, matrix associated, actin dependent regulator of chromatin	-1.02	3.19	-1.05	-7.11	0.0003	-1.00	-6.72	0.0006
1439929_at	Unknown	Unknown	-1.02	2.96	-1.18	-11.05	0.0000	-0.87	-8.16	0.0001
1423473_at	Sept2	septin 2	-1.02	2.96	-1.06	-6.23	0.0008	-0.98	-5.77	0.0020
1457093_at	Gapvd1	GTPase activating protein and VPS9 domains 1	-1.02	3.58	-0.88	-6.14	0.0009	-1.15	-7.98	0.0002
1454361_at	9230106L01Rik	RIKEN cDNA 9230106L01 gene	-1.01	3.28	-0.87	-5.10	0.0038	-1.16	-6.81	0.0005
1437326_x_at	Cela3b	chymotrypsin-like elastase family, member 3B	-1.00	3.86	-1.30	-11.87	0.0000	-0.69	-6.34	0.0009
1429402_at	Glt8d2	glycosyltransferase 8 domain containing 2	-0.99	5.41	-1.12	-6.26	0.0008	-0.86	-4.82	0.0082
1431038_at	Rassf4	Ras association (RalGDS/AF-6) domain family member 4	-0.97	3.34	-0.98	-5.66	0.0017	-0.97	-5.59	0.0027
1447080_at	Aco1	aconitase 1	-0.97	4.50	-1.13	-7.79	0.0001	-0.81	-5.60	0.0027
1427756_x_at	Igh-6	Immunoglobulin heavy chain 6 (heavy chain of IgM)	-0.97	3.68	-1.13	-7.48	0.0002	-0.81	-5.39	0.0035
1444354_at	Unknown	Unknown	-0.97	4.69	-1.06	-10.52	0.0000	-0.87	-8.66	0.0001
1430436_at	Fam115a	family with sequence similarity 115, member A	-0.96	3.09	-0.82	-5.08	0.0038	-1.10	-6.78	0.0005
1431564_at	Bcar3	breast cancer anti-estrogen resistance 3	-0.95	3.60	-1.02	-6.53	0.0005	-0.89	-5.73	0.0022
1446628_at	Unknown	Unknown	-0.95	4.08	-1.08	-10.53	0.0000	-0.83	-8.08	0.0001
1449572_at	Trhr	thyrotropin releasing hormone receptor	-0.94	3.24	-1.03	-5.97	0.0012	-0.85	-4.92	0.0070
1423714_at	Asf1b	ASF1 anti-silencing function 1 homolog B (S. cerevisiae)	-0.91	5.10	-1.09	-7.33	0.0002	-0.74	-5.01	0.0061
1431263_at	Prkag2	protein kinase, AMP-activated, gamma 2 non-catalytic subunit	-0.91	3.09	-0.84	-6.35	0.0007	-0.99	-7.51	0.0002
1440711_at	C630001G18Rik	RIKEN cDNA C630001G18 gene	-0.90	3.22	-0.79	-5.12	0.0036	-1.01	-6.58	0.0007
1445149_at	Pvr	Poliiovirus receptor	-0.89	4.11	-0.98	-8.43	0.0001	-0.80	-6.87	0.0005
1422942_at	Galr2	galanin receptor 2	-0.88	3.97	-0.77	-4.51	0.0088	-0.99	-5.83	0.0019
1417878_at	E2f1	E2F transcription factor 1	-0.88	6.82	-0.87	-4.58	0.0080	-0.89	-4.72	0.0093
1447851_x_at	Atp10a	ATPase, class V, type 10A	-0.88	4.62	-0.85	-5.18	0.0033	-0.90	-5.50	0.0030
1430299_at	Tsc22d4	TSC22 domain family, member 4	-0.87	6.75	-0.94	-5.88	0.0013	-0.79	-4.95	0.0068

1442467_at	Nav2	neuron navigator 2
1441155_at	Unknown	Unknown
1443121_at	Calcoco1	Calcium binding and coiled coil domain 1
1441441_at	Prg1	proline rich Gla (G-carboxyglutamic acid) 1
1447642_x_at	Dmwd	dystrophia myotonica-containing WD repeat motif
1446751_s_at	Impact	imprinted and ancient
1418286_a_at	Efnb1	ephrin B1
1442331_at	Unknown	Unknown
1432578_at	Naif1	nuclear apoptosis inducing factor 1
1458058_at	7030407E18Rik	RIKEN cDNA 7030407E18 gene
1449866_at	Syt2	synaptotagmin II
1432626_at	5730507A11Rik	RIKEN cDNA 5730507A11 gene
1424493_s_at	Ugt3a1	UDP glycosyltransferases 3 family, polypeptide A1
1442081_at	Gm4632	Predicted gene 4632
1432500_at	2410006F04Rik	RIKEN cDNA 2410006F04 gene
1451534_at	Scgn	secretagogin, EF-hand calcium binding protein
1442573_at	Unknown	Unknown
1422802_at	Defa3	defensin, alpha, 3
1432281_a_at	Itgb6	integrin beta 6
1417852_x_at	Clca1	chloride channel calcium activated 1
1455838_at	Slnf1	schlafen like 1
1451951_at	Igkv14-111	Immunoglobulin kappa chain variable 14-111
1446813_s_at	D5Ert0560e	DUnknown segment, Chr 5, ERATO Doi 560, expressed
1442405_at	Csrp2bp	Cysteine and glycine-rich protein 2 binding protein
1442228_at	Unknown	Unknown
1436932_at	Grlh3	grainyhead-like 3 (Drosophila)
1459892_at	Psg19	pregnancy specific glycoprotein 19
1430653_at	A930026B05Rik	RIKEN cDNA A930026B05 gene
1444932_at	4732419C18Rik	RIKEN cDNA 4732419C18 gene
1443025_at	Unknown	Unknown
1420061_s_at	AA675344	expressed sequence AA675344
1440124_at	B230334C09Rik	RIKEN cDNA B230334C09 gene
1438779_at	Col4a3	collagen, type IV, alpha 3
1458495_at	Unknown	Unknown
1432751_at	4930403O18Rik	RIKEN cDNA 4930403O18 gene
1447245_at	Unknown	Unknown
1420784_at	Scn11a	sodium channel, voltage-gated, type XI, alpha
1459735_at	Fkbp15	FK506 binding protein 15
1444747_at	Unknown	Unknown
1447134_at	Unknown	Unknown
1442629_at	Unknown	Unknown
1429858_at	1700011E24Rik	RIKEN cDNA 1700011E24 gene
1444536_at	Unknown	Unknown
1446027_at	Unknown	Unknown
1450578_at	Sry	sex determining region of Chr Y
1442485_at	Unknown	Unknown
1449081_at	Ces3	carboxylesterase 3
1454129_at	4933416M06Rik	RIKEN cDNA 4933416M06 gene
1423147_at	Mat1a	methionine adenosyltransferase I, alpha

-0.86	3.90	-1.05	-8.60	0.0001	-0.68	-5.58	0.0028
-0.86	3.24	-0.99	-8.64	0.0001	-0.72	-6.30	0.0010
-0.84	4.47	-1.02	-7.90	0.0001	-0.67	-5.24	0.0043
-0.84	3.33	-0.78	-4.75	0.0062	-0.91	-5.57	0.0028
-0.84	3.13	-0.94	-7.20	0.0002	-0.75	-5.73	0.0022
-0.84	6.55	-0.80	-5.20	0.0032	-0.89	-5.81	0.0019
-0.82	6.97	-0.93	-6.29	0.0008	-0.70	-4.73	0.0092
-0.81	3.72	-0.73	-6.67	0.0005	-0.88	-8.01	0.0001
-0.79	5.89	-0.88	-7.81	0.0001	-0.71	-6.30	0.0010
-0.79	3.76	-0.90	-6.64	0.0005	-0.68	-5.01	0.0062
-0.78	4.90	-0.77	-5.22	0.0031	-0.78	-5.27	0.0041
-0.77	4.00	-0.75	-7.43	0.0002	-0.79	-7.80	0.0002
-0.77	4.08	-0.97	-9.78	0.0000	-0.56	-5.61	0.0026
-0.77	4.51	-0.66	-5.15	0.0035	-0.87	-6.75	0.0005
-0.75	2.93	-0.71	-6.57	0.0005	-0.79	-7.27	0.0003
-0.75	4.47	-0.90	-7.19	0.0002	-0.60	-4.82	0.0082
-0.75	3.22	-0.77	-7.40	0.0002	-0.72	-6.95	0.0004
-0.75	3.77	-0.73	-5.29	0.0029	-0.76	-5.55	0.0029
-0.74	2.94	-0.95	-9.99	0.0000	-0.53	-5.56	0.0028
-0.74	2.81	-0.63	-5.73	0.0016	-0.85	-7.79	0.0002
-0.74	4.99	-0.96	-8.81	0.0000	-0.52	-4.72	0.0093
-0.74	3.84	-0.74	-7.59	0.0001	-0.73	-7.46	0.0003
-0.74	3.09	-0.79	-8.26	0.0001	-0.68	-7.04	0.0004
-0.73	3.62	-0.84	-7.73	0.0001	-0.62	-5.68	0.0023
-0.73	3.45	-0.44	-4.45	0.0095	-1.02	-10.26	0.0000
-0.71	3.55	-0.72	-4.90	0.0049	-0.70	-4.76	0.0089
-0.71	2.57	-0.72	-6.97	0.0003	-0.69	-6.68	0.0006
-0.71	4.61	-0.61	-4.49	0.0090	-0.81	-5.97	0.0015
-0.71	4.83	-0.73	-5.07	0.0038	-0.68	-4.67	0.0100
-0.70	3.31	-0.70	-4.98	0.0044	-0.70	-4.99	0.0064
-0.70	2.64	-0.79	-6.51	0.0006	-0.62	-5.09	0.0054
-0.70	3.42	-0.75	-5.95	0.0012	-0.65	-5.16	0.0049
-0.70	3.44	-0.70	-5.52	0.0021	-0.70	-5.50	0.0030
-0.69	4.20	-0.93	-9.54	0.0000	-0.46	-4.74	0.0091
-0.69	3.59	-0.79	-6.75	0.0004	-0.59	-5.04	0.0059
-0.69	4.19	-0.84	-7.78	0.0001	-0.54	-4.96	0.0066
-0.67	3.84	-0.68	-4.91	0.0048	-0.66	-4.77	0.0087
-0.66	4.03	-0.74	-6.22	0.0008	-0.58	-4.82	0.0082
-0.66	2.76	-0.78	-8.43	0.0001	-0.54	-5.87	0.0018
-0.66	3.59	-0.59	-4.53	0.0085	-0.72	-5.51	0.0030
-0.66	3.61	-0.74	-6.14	0.0009	-0.58	-4.78	0.0086
-0.62	4.39	-0.57	-5.66	0.0017	-0.67	-6.61	0.0007
-0.61	3.65	-0.68	-5.91	0.0013	-0.54	-4.70	0.0096
-0.61	4.45	-0.56	-4.48	0.0091	-0.67	-5.37	0.0036
-0.60	3.14	-0.65	-5.85	0.0014	-0.54	-4.89	0.0074
-0.58	3.45	-0.45	-4.54	0.0084	-0.71	-7.11	0.0004
-0.57	2.57	-0.56	-6.02	0.0011	-0.58	-6.24	0.0011
-0.54	4.67	-0.54	-4.89	0.0049	-0.53	-4.84	0.0081
-0.53	3.38	-0.62	-6.92	0.0003	-0.44	-4.96	0.0067