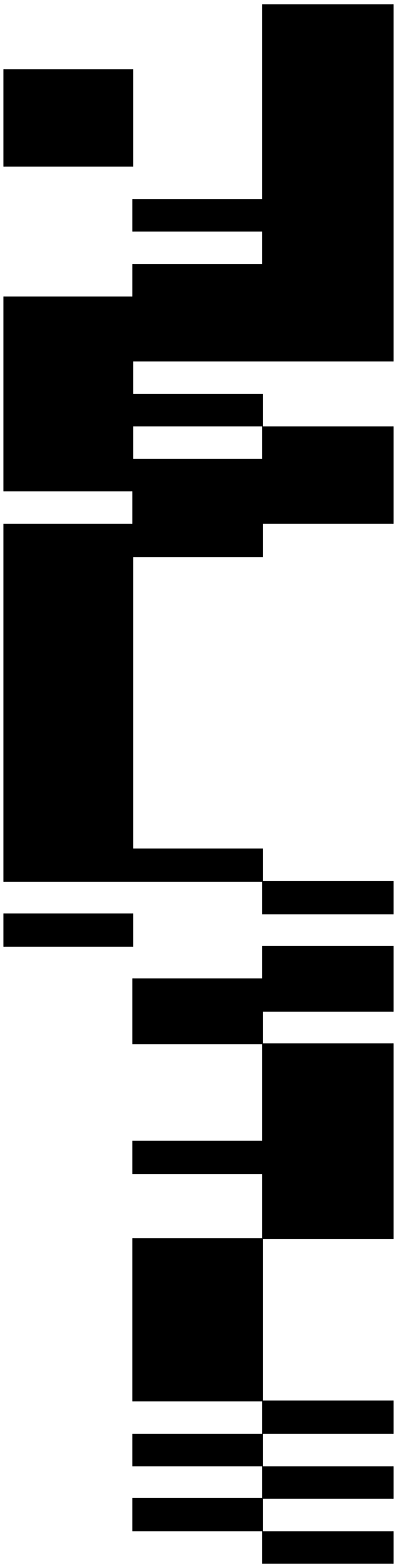
Table S1. **Selection criteria for 121 microRNAs used in GBM classification**

miRNAs	Neuro-development	Highly variable (MAD > 1)	Survival (univariate Cox *P* < 0.1)	Univariate Cox *P*	Exp (coef.)	S.E. (coef.)
hsa-let-7a	■			0.77771	0.97621	0.08527
hsa-let-7b	■			0.42139	1.05692	0.06886
hsa-let-7c	■			0.31007	1.07914	0.07503
hsa-let-7d	■			0.4134	1.06466	0.0766
hsa-let-7e			■	0.0833	1.135	0.07312
hsa-let-7i	■			0.94184	1.00375	0.05133
hsa-mir-100	■			0.35745	1.05397	0.05712
hsa-mir-106a			■	0.04631	0.90093	0.05236
hsa-mir-10b		■		0.23695	1.03396	0.02824
hsa-mir-124a	■	■		0.3175	1.02191	0.02168
hsa-mir-125a	■			0.81168	1.01449	0.06038
hsa-mir-125b	■			0.27059	1.07133	0.06254
hsa-mir-126		■		0.81701	1.01006	0.04325
hsa-mir-126*		■		0.7715	1.01006	0.04325
hsa-mir-127		■		0.79928	1.00985	0.03855
hsa-mir-128a	■			0.73562	0.98037	0.05871
hsa-mir-128b	■	■		0.82188	0.98887	0.04972
hsa-mir-130a	■			0.30722	0.92643	0.07484
hsa-mir-135a	■	■		0.96171	1.00195	0.04056
hsa-mir-135b	■			0.12169	1.19032	0.11257
hsa-mir-136		■		0.63126	1.01994	0.04113
hsa-mir-137			■	0.06828	1.10274	0.05364
hsa-mir-142-3p		■	■	0.09863	1.06816	0.03992
hsa-mir-143	■			0.8458	0.99058	0.04869
hsa-mir-145	■			0.5648	0.97386	0.04601
hsa-mir-146a	■			0.68383	1.03031	0.07332
hsa-mir-146b	■	■	■	0.00812	1.11863	0.04235
hsa-mir-148a		■	■	2.7E-05	1.15147	0.03357
hsa-mir-149		■		0.13561	1.06139	0.03992
hsa-mir-155	■		■	0.05758	1.08826	0.04454
hsa-mir-17-3p	■		■	0.01362	0.81648	0.08219
hsa-mir-17-5p	■		■	0.01069	0.86967	0.05471
hsa-mir-181a	■		■	0.06218	0.89591	0.05893
hsa-mir-181b	■			0.15325	0.91077	0.06545
hsa-mir-182	■	■	■	0.07638	0.95545	0.02572
hsa-mir-182*		■		0.07638	0.95545	0.02572
hsa-mir-183	■			0.15705	0.933	0.04901
hsa-mir-18a			■	0.06739	0.88152	0.06895
hsa-mir-191	■			0.30016	1.11282	0.10317
hsa-mir-192			■	0.05473	1.18421	0.08802
hsa-mir-193a	■			0.12126	1.09221	0.05692
hsa-mir-193b	■			0.16561	1.07398	0.05148
hsa-mir-195		■		0.70454	1.01587	0.04151



hsa-mir-196a	0.00799	1.13723	0.04848
hsa-mir-196b	0.07287	1.09672	0.05147
hsa-mir-19a	0.01489	0.89489	0.0456
hsa-mir-19b	0.03647	0.91017	0.045
hsa-mir-200a	0.01121	1.50213	0.16043
hsa-mir-200b	0.03248	1.29539	0.12102
hsa-mir-204	0.01135	1.05991	0.02298
hsa-mir-206	0.06575	0.66793	0.21932
hsa-mir-20a	0.03758	0.90463	0.0482
hsa-mir-21	0.05936	1.06825	0.03501
hsa-mir-210	0.01615	1.09525	0.03782
hsa-mir-218	0.17308	1.09911	0.06936
hsa-mir-219	0.71885	0.99203	0.02223
hsa-mir-22	0.05999	1.10087	0.05109
hsa-mir-221	0.00031	1.1511	0.03904
hsa-mir-222	1.1E-05	1.1286	0.02757
hsa-mir-223	0.36143	1.03793	0.04079
hsa-mir-23a	0.72916	1.01978	0.05658
hsa-mir-23b	0.11757	1.09921	0.06044
hsa-mir-24	0.13146	1.12864	0.08023
hsa-mir-25	0.30899	0.94102	0.05975
hsa-mir-26a	0.12495	1.06536	0.04126
hsa-mir-26b	0.32377	0.93938	0.06338
hsa-mir-27a	0.81219	0.98763	0.0524
hsa-mir-27b	0.30332	1.05589	0.05284
hsa-mir-29a	0.1248	1.09252	0.05765
hsa-mir-29b	0.11261	1.07242	0.04407
hsa-mir-29c	0.03431	1.1272	0.05658
hsa-mir-30a-5p	0.13913	1.08106	0.0527
hsa-mir-31	2.9E-05	1.30289	0.0633
hsa-mir-335	0.01355	1.11745	0.04498
hsa-mir-338	0.83133	0.994	0.02825
hsa-mir-339	0.0374	1.13656	0.0615
hsa-mir-340	0.01345	0.78054	0.10024
hsa-mir-345	0.06495	0.81711	0.10944
hsa-mir-34a	0.00271	1.09391	0.02993
hsa-mir-34b	0.0412	1.08863	0.0416
hsa-mir-362	0.03455	0.76664	0.12573
hsa-mir-370	0.17164	0.96975	0.02247
hsa-mir-376a	0.96693	1.00156	0.03765
hsa-mir-376a*	0.85639	1.00156	0.03765
hsa-mir-377	0.47876	1.0293	0.04077
hsa-mir-424	0.92656	0.99571	0.04669
hsa-mir-425-5p	0.00551	1.36523	0.11217
hsa-mir-451	0.61227	1.01375	0.02694
hsa-mir-452	0.06402	0.90048	0.0566
hsa-mir-486	0.64347	1.02142	0.04579
hsa-mir-487b	0.0737	1.11374	0.06023

hsa-mir-490	0.03345	0.55447	0.27731
hsa-mir-492	0.01609	0.62793	0.19334
hsa-mir-493-3p	0.09419	0.88844	0.07067
hsa-mir-494	0.36601	0.96408	0.04047
hsa-mir-504	0.0338	0.73557	0.1447
hsa-mir-505	0.00459	0.38504	0.33668
hsa-mir-513	0.24702	0.95275	0.04181
hsa-mir-565	0.01923	1.09829	0.04005
hsa-mir-572	0.01686	0.87961	0.05368
hsa-mir-575	0.84624	0.99236	0.03955
hsa-mir-582	0.08389	1.392	0.19134
hsa-mir-584	0.02842	0.69839	0.1638
hsa-mir-623	0.03877	0.82447	0.0934
hsa-mir-629	0.07803	0.81958	0.1129
hsa-mir-630	0.30423	0.97363	0.02601
hsa-mir-638	0.16088	0.95452	0.0332
hsa-mir-663	0.08975	0.9233	0.04703
hsa-mir-671	0.07737	0.92145	0.04632
hsa-mir-7	0.25157	1.04076	0.03484
hsa-mir-765	0.07292	0.92444	0.04381
hsa-mir-769-3p	0.07866	0.82608	0.10865
hsa-mir-801	0.01038	0.9051	0.0389
hsa-mir-9	0.01214	0.91466	0.03557
hsa-mir-9*	0.01214	0.94183	0.03378
hsa-mir-92	0.19118	0.93426	0.05203
hsa-mir-92b	0.42488	1.03983	0.04894
hsa-mir-96	0.08349	0.82521	0.111
hsa-mir-98	0.46754	0.94952	0.0713
hsa-mir-99a	0.82105	0.98896	0.0491
hsa-mir-99b	0.4432	1.05575	0.07075

The *P* value from a univariate Cox regression model is shown, along with the exponential and standard error of the regression coefficient for individual microRNAs.

Table S2. Neurodevelopment-related microRNAs.

Wang WX *et al.* Biochim Biophys Acta. 2008, 1779:749-57.	
neuron signature	astrocyte signature
miR-124b	miR-143
miR-124a	mir-143a
mir-128	miR-22
let-7a	miR-27
	miR-193
	miR-23a
	miR-23b
	miR-24-1,2
	miR-29
	miR-221
	miR-21

Lau P *et al.* J Neurosci. 2008, 28:11720-30.	
oligo signature	pre-oligo signature
miR-219	miR-9
miR-145	miR-125b
miR-23b	let-7c
miR-146	miR-100
miR-223	miR-99a
miR-21	miR-130a
miR-30a-5p	miR-25
miR-17	miR-19b
miR-191	miR-17
	miR-124a

Sempere LF *et al*. Genome Biol. 2004, 5:R13.	
neuron signature	pre-neuron signature
miR-125a	miR-125a
miR-125b	miR-125b
miR-9	miR-9
miR-9*	miR-9*
miR-124b	miR-124a
miR-124a	miR-124b
let-7a	miR-92
miR-100	
miR-98	
let-7b	
miR-155	
miR-218	

Kapsimali M *et al*. Genome Biol. 2007, 8:R173.			
neuron signature	pre-oligo signature	pre-neuro signature	pre-astro signature
miR-124	miR-92b	miR-92b	miR-92b
miR-218a	miR-9	let-7b	
miR-181a	miR-124	miR-124	
miR-181b		miR-9	
miR-182			
miR-183			
miR-96			
miR-200a			

Krichevsky AM *et al*.Stem Cells. 2006, 24:857-64.		
neuron signature	pre-oligo signature	pre-neuro signature
miR-143		miR-143
miR-9*		miR-19
miR-125b	miR-124a	miR-124a
let-7b	miR-9	miR-9
let-7d		
miR-135		
miR-181a		
miR-210		
miR-100		
let-7i		

Smirnova L *et al*. Eur J Neurosci. 2005, 21:1469-77	
neuron signature	astrocyte signature

miR-124	miR-23
miR-125	miR-26
	miR-29

Nielsen JA *et al*. BMC Neurosci. 2009; 10:98.	
neural stem cell signature	pre-neuro signature
miR-292-3p	miR-9
miR-126	miR-125b
miR-200c	miR-125a
miR-20b	miR-181b
miR-291-3p	miR-99a
miR-20b*	miR-100
miR-363-3p	miR-99b
miR-199a	miR-181c
miR-145	miR-218
miR-183	miR-7
miR-143	miR-124a
miR-92	
miR-200b	
miR-19a	
miR-222	
miR-205	
miR-18	
miR-219	
miR-210	
miR-214	
miR-290	

Table S3. **Mutation frequency of genes in glioblastoma subclasses**

Gene	Oligoneural (*n* = 27)	Radial glial (*n* = 22)	Neural (*n* = 19)	Neuro-mesenchymal (*n* = 44)	Astrocytic (*n* = 21)	Total (*n* = 133)
TP53	11	3	6	9	11	40
PTEN	5	7	6	7	9	34
EGFR	1	8	3	5	3	20
NF1	0	1	4	7	4	16
RB1	2	0	2	0	6	10
PIK3R1	5	2	0	3	0	10
ERBB2	2	1	1	3	0	7
IDH1	6	0	1	0	0	7
PIK3CA	1	2	1	2	0	6
FKBP9	1	1	0	4	0	6
PIK3C2G	1	2	0	0	1	4
PIK3CG	1	1	1	0	1	4
CHEK2	2	0	1	0	1	4
PRKDC	0	1	0	3	0	4
DST	0	3	0	0	0	3
FGFR1	2	0	1	0	0	3
BCL11A	1	0	0	1	1	3
GSTM5	0	0	0	2	1	3
PDGFRA	1	0	1	1	0	3
RHPN2	1	0	0	1	1	3
LUM	0	1	0	1	0	2
COL1A1	1	0	0	0	1	2
CYP27B1	1	0	0	1	0	2

The number of cases with non-silent somatic mutations is shown as mutation frequency for each glioblastoma subclass. The top 23 most frequently mutated genes are shown. The study was limited to a total of 140 glioblastoma samples for which sequencing data was available, and the mutations occurring in the 7 hypermutator cases were excluded from this analysis. The sample number for each glioblastoma subclass is shown in parentheses at the top of each column. Significant genes (two-sided Fisher exact, $P < 0.1$) are shaded.

Table S4. **Subclass-specific genomic alterations in glioblastoma.**

GBM class	Type	Coordinates (genes)
Oligoneural	Amp	chr1:143832901-144003054 (NOTCH2NL) chr1:147386917-148002693 chr1:154454677-154762076 (PMF1, BGLAP, PAQR6, SMG5, TMEM79, C1orf85, VHLL, CCT3, C1orf61, MEF2D, C1orf182, RHBG, IQGAP3) chr3:164101775-164101775 chr4:39131094-39168937 (RPL9, LIAS) chr4:52383857-53524123 (DCUN1D4, SPATA18, LOC339977, SGCB, USP46, RASL11B, SCFD2) chr4:69057734-69057734 chr4:190899522-190899522 chr5:786454-786454 chr6:32586130-32654431 (HLA-DRB5) chr6:36408317-37029708 (C6orf89, ETV7, PXT1, KCTD20, STK38, SFRS3, CDKN1A, CPNE5, PPIL1, DKFZp779B1540) chr6:41954740-42083351 (USP49, MED20, BYSL, CCND3) chr6:42826226-42869372 chr6:44061202-44322873 (SLC29A1, MRPL14, TMEM63B, CAPN11, HSP90AB1, MGC45491) chr6:47567276-48143862 (C6orf138, GPR115, OPN5, CD2AP, GPR111) chr6:57468297-57583340 (PRIM2) chr7:57650105-57650105 chr8:108857996-109243246 (RSPO2) chr8:117807518-125483828 (SAMD12, TNFRSF11B, TAF2, FER1L6, EIF3H, C8orf53, RAD21, LOC441376, SLC30A8, MED30, EXT1, COLEC10, NOV, DCC1, DEPDC6, COL14A1, MRPL13, SNTB1, HAS2, ZHX2, DERL1, FAM83A, C8orf76, ZHX1, ATAD2, C8orf32, FBXO32, ANXA13, FAM91A1, ENPP2, MAL2, C8ORFK36, MTBP, WDR67, TMEM65) chr8:126979808-143793103 (PHF20L1, FLJ43860, SLA, FAM135B, JRK, BAI1, FAM84B, MYC, FAM49B, DDEF1, ADCY8, KCNQ3, LRRC6, TMEM71, TG, WISP1, NDRG1, ST3GAL1, ZFAT1, KHDRBS3, COL22A1, KCNK9, CHRAC1, EIF2C2, PTK2, DENND3, GPR20, PTP4A3, TSNARE1, ARC, PSCA, LY6K, MLZE, OC90, SLC45A4, NIBP, KIAA0143) chr9:140042631-140145682 (CACNA1B) chr10:735709-5812743 (LARP5, GTPBP4, IDI2, IDI1, WDR37, ADARB2, PFKP, PITRM1, KLF6, AKR1C1, AKR1C2, AKR1C3, AKR1C4, UCN3, TUBAL3, CALML5, CALML3, ASB13, C10orf109, C10orf18, AKR1CL1, AKR1CL2, NET1) chr10:6458556-29915507 (PRKCQ, SFMBT2, ITIH5, ITIH2, KIN, ATP5C1, FLJ45983, GATA3, C10orf47, UPF2, SEC61A2, NUDT5, CDC123, CAMK1D, CCDC3, OPTN, MCM10, C10orf49, PHYH, SEPHS1, FAM107B, ARMETL1, HSPA14, SUV39H2, DCLRE1C, OLAH, C10orf111, C10orf38, ITGA8, C10orf97, PTER, C1QL3, RSU1, VIM, ST8SIA6, PTPLA, STAM, MRC1L1, FAM23B, NSUN6, ARL5B, PLXDC2, NEBL, C10orf113, C10orf114, MLLT10, COMMD3, BMI1, SPAG6, C10orf67, ARHGAP21, PRTFDC1, C10orf63, GAD2, APBB1IP, PDSS1, ABI1, YME1L1, MASTL, RAB18, MKX, ARMC4, WAC, BAMBI, LYZL1, ARMC3, FAM23A, SVIL, CACNB2, CUGBP2, DHTKD1, MYO3A, C10orf30, MPP7, TAF3, KIAA1217, PTCHD3, MEIG1, CUBN, ACBD5, USP6NL, SLC39A12, NMT2, MRC1, C10orf140, FRMD4A, TRDMT1, DNAJC1, PTF1A, RPP38, ACBD7, PRPF18, MSRB2, ECHDC3, THNSL1, GPR158, ANKRD26, PIP4K2A) chr12:2326791-2371642 (CACNA1C) chr12:50667209-51630592 (KRT3, KRT75, KRT85, C12orf44, KRT6B, ACVR1B, NR4A1, KRT7, KRT81, KRT83, KRT82, KRT71, KRT72, KRT73, KRT2, KRT77, KRT79, KRT78, KRT8, KRT18, KRT1, GRASP, KRT5, KRT76, KRT86, KRT6A, KRT80, KRT74, KRT84, KRT4, KRT6C) chr12:52640271-52749265 (HOXC11, HOXC10, HOXC9, HOXC8, HOXC5, HOXC6, HOXC4) chr12:53468470-54075488 (KIAA0748, MUCL1, OR9K2, OR10A7, OR6C74, OR6C6, OR6C1, OR6C3, OR6C75, NEUROD4) chr12:55520173-55962880 (NXPH4, SDR-O, ADMR, ZBTB39, TAC3, MYO1A, KIAA0286, STAT6, SHMT2, NDUFA4L2, STAC3, R3HDM2, NAB2, LRP1, RDH16) chr12:56765442-56765442 chr12:58485532-58591160 chr12:64187507-64187507 chr12:68751182-68975957 (CNOT2)

	chr15:18741715-18752130 chr15:19537034-20079934 (OR4M2, OR4N4, LOC650137) chr16:69417986-69423956 chr20:28266112-28266112 chr21:10062377-10062377 (BAGE2, BAGE4, BAGE3, BAGE5)
Del	chr5:75148-725941 (AHRR, PDCD6, KIAA1909, LOC116349, CCDC127, EXOC3, SLC9A3, TPPP, CEP72, LOC389257, SDHA) chr5:24702254-24943772 chr5:165192475-166161433 chr11:192957-46538637 (SAA1, SBF2, TNNT3, CTR9, GYLTL1B, ZNF214, PHF21A, CYB5R2, DCDC1, HSD17B12, UBQLNL, RIC8A, SIRT3, PSMD13, NLRP6, IFITM5, B4GALNT4, PKP3, SIGIRR, PTDSS2, RNH1, HRAS, C11orf35, RASSF7, KIAA1542, SCT, DRD4, DEAF1, EPS8L2, TALDO1, SLC25A22, LRDD, RPLP2, PNPLA2, CD151, POLR2L, TSPAN4, CHID1, AP2A2, TOLLIP, KRTAP5-1, KRTAP5-2, KRTAP5-4, KRTAP5-6, CTSD, TNNI2, LSP1, MRPL23, TH, ASCL2, TSPAN32, CD81, TSSC4, TRPM5, KCNQ1, CDKN1C, SLC22A18, PHLDA2, NAP1L4, CARS, OSBPL5, ART5, ART1, CHRNA10, NUP98, FRAG1, STIM1, TRIM21, OR52K2, OR52K1, OR52M1, C11orf40, OR52I2, OR52I1, TRIM68, OR51D1, OR51E1, OR51E2, OR51F1, OR51F2, OR51S1, OR51T1, OR51A7, OR51G2, OR51G1, OR51A4, OR51A2, MMP26, OR51L1, OR52E2, OR52A4, OR52A5, HBB, HBD, HBG1, HBG2, HBE1, OR51B4, OR51B5, OR51B6, OR51M1, OR51Q1, OR51I1, OR51I2, OR52D1, UBQLN3, OR52H1, TRIM6, TRIM6-TRIM34, TRIM34, TRIM5, OR56B1, OR52N4, OR52N5, OR52N1, OR52N2, OR52E6, OR52E8, OR52E4, OR52L1, OR56A1, OR56B4, OR52B2, OR52W1, C11orf42, CNGA4, CCKBR, PRKCDBP, SMPD1, APBB1, HPX, TRIM3, ARFIP2, BET1L, C11orf47, DNHD1, KIAA0409, ILK, TAF10, DCHS1, MRPL17, OR2AG2, OR2AG1, OR6A2, OR10A5, OR10A2, OR10A4, OR2D2, OR2D3, NLRP14, SYT9, OLFML1, PPFIBP2, OR5P2, OR5P3, OR10A6, OR10A3, NLRP10, EIF3F, TUB, RIC3, LMO1, STK33, RPL27A, ST5, ASCL3, TMEM9B, NRIP3, SCUBE2, RAB6IP1, TMEM41B, IPO7, WEE1, ADM, AMPD3, RNF141, GALNTL4, USP47, DKK3, MICAL2, ARNTL, PTH, MLSTD2, COPB1, PSMA1, PDE3B, CYP2R1, CALCA, CALCB, SOX6, PLEKHA7, RPS13, PIK3C2A, KCNJ11, USH1C, MYOD1, SERGEF, TPH1, MRGPRX3, MRGPRX4, SAA4, SAA2, HPS5, GTF2H1, LDHA, LDHC, LDHAL6A, TSG101, SPTY2D1, TMEM86A, MRGPRX2, ZDHHC13, CSRP3, E2F8, NAV2, DBX1, ZNF215, NELL1, TMEM16E, SLC17A6, FANCF, GAS2, LUZP2, MUC15, SLC5A12, LOC387758, CCDC34, LGR4, LIN7C, BDNF, METT5D1, KCNA4, FSHB, C11orf46, MPPED2, DCDC5, DPH4, IMMP1L, PAX6, RCN1, WT1, WIT1, EIF3M, CCDC73, PRRG4, TCP11L1, CSTF3, CD59, FBXO3, LMO2, CAPRIN1, NAT10, ABTB2, CAT, ELF5, EHF, APIP, PDHX, CD44, TRIM22, DKFZP586H2123, FJX1, TRIM44, LDLRAD3, TRAF6, RAG1, C11orf74, LRRC4C, API5, EXT2, ALX4, CD82, TSPAN18, PRDM11, SYT13, SLC35C1, MAPK8IP1, PEX16, DEPDC7, DGKZ, MDK, CHRM4, FLJ20294, ATHL1, PRMT3, PTPN5, IGF2, MRVI1, OR56A3, KRTAP5-5, HIPK3, IRF7, TPP1, ABCC8, INSC, OR51B2, OR52B4, OR56A4, SWAP70, MUC2, HTATIP2, MUC6, MUPCDH, C11orf56, C11orf16, ALKBH3, CRY2, RHOG, UEVLD, HCCA2, LOC644943, NUCB2, EIF4G2, IFITM2, TMEM80, TMEM16C, FLJ14213, CHST1, RRAS2, MICALCL, MRGPRE, BTBD10, SPON1, CREB3L1, RBMXL2, C11orf41, KCNC1, LOC143678, OR51V1, OR52B6, OVCH2, IGSF22, SLC6A5, PARVA, TEAD1, BRSK2, FXC1, TTC17, IGF2AS, C11orf55, OR52R1, IFITM3, KIF18A, CEND1, ZNF195, ZNF143, LRRC56, INS, RRM1, ELP4, KRTAP5-3, DUSP8, SYT8, SLC1A2, RAG2, SAAL1, BBOX1, QSER1, TP53I11, LYVE1, C11orf58, PHACS, INS-IGF2, PDDC1, SVIP, OR52A1, C11orf17, MRGPRX1, TMEM16J, LOC390110, IFITM1, EFCAB4A, MUC5B, COMMD9, OR52J3) chr11:121944923-134432264 (ACAD8, CHEK1, KCNJ1, STS-1, CRTAM, C11orf63, HSPA8, ASAM, ZNF202, OR6X1, OR6M1, PMP22CD, OR8D4, OR4D5, OR6T1, OR10S1, OR10G4, OR10G9, OR10G8, OR10G7, LOH11CR2A, OR8G2, OR8G1, OR8G5, OR8D1, OR8D2, OR8B2, OR8B3, OR8B4, OR8B8, OR8B12, OR8A1, PANX3, TBRG1, SIAE, SPA17, NRGN, VSIG2, C11orf61, ROBO3, ROBO4, SLC37A2, FEZ1, EI24, STT3A, ACRV1, PATE, C11orf38, HYLS1, PUS3, DDX25, RPUSD4, SRPR, FOXRED1, TIRAP, DCPS, ST3GAL4, KIRREL3, ETS1, FLI1, KCNJ5, C11orf45, P53AIP1, RICS, NFRKB, PRDM10, APLP2, ST14, BSX, ADAMTS15, SNX19, HNT, OPCML, SPATA19, JAM3, NCAPD3, VPS26B, THYN1, LOC89944, B3GAT1, CDON, ESAM, FAM118B, BARX2, ADAMTS8, SCN3B, HEPN1, HEPACAM, CCDC15, LOC219854, GLB1L3, TMEM45B, PKNOX2, ZBTB44, IGSF9B, GRAMD1B) chr12:66312545-66343836 (DYRK2) chr15:18362554-18454049 chr15:20316991-32511474 (SLC12A6, HERC2, MTMR10, PGBD4, GABRG3, FMN1,

		RYR3, CYFIP1, NIPA2, NIPA1, GOLGA8E, MKRN3, NDN, SNRPN, SNURF, UBE3A, ATP10A, GABRB3, GABRA5, GOLGA8G, FLJ32679, APBA2, NDNL2, TJP1, CHRFAM7A, MTMR15, KLF13, OTUD7A, CHRNA7, ARHGAP11A, GREM1, AVEN, CHRM5, C15orf24, C15orf29, TMEM85, NOLA3, NUT, AGPAT7, GOLGA8A, SCG5, TRPM1, C15orf2, TUBGCP5, OCA2, ARHGAP11B, MAGEL2) chr15:36871682-41112019 (FSIP1, CCDC32, PLA2G4B, SPTBN5, CAPN3, TTBK2, CASC5, FLJ39531, THBS1, GPR176, EIF2AK4, BMF, BUB1B, PAK6, DISP2, C15orf23, IVD, CHST14, RPUSD2, FAM82C, GCHFR, DNAJC17, PPP1R14D, SPINT1, RHOV, VPS18, DLL4, CHAC1, INOC1, EXDL1, OIP5, NUSAP1, NDUFAF1, RTF1, ITPKA, LTK, RPAP1, TYRO3, MAPKBP1, EHD4, PLA2G4F, VPS39, TMEM87A, GANC, ZFP106, SNAP23, LRRC57, CEP27, CDAN1, UBR1, PLCB2, ZFYVE19, C15orf52, PLA2G4D, BAHD1, RAD51, CHP, FLJ38596, MGA, PLA2G4E, SRP14) chr15:41776052-49479760 (GLDN, SPPL2A, CTDSPL2, C15orf33, GATM, CKMT1A, PDIA3, ELL3, SERINC4, HYPK, MFAP1, WDR76, CASC4, EIF3J, B2M, TRIM69, C15orf43, DUOXA1, DUOX1, SPATA5L1, C15orf48, SLC30A4, C15orf21, PLDN, SQRDL, SEMA6D, SLC24A5, DUT, SHC4, EID1, KIAA0256, GALK2, FGF7, ATP8B4, SLC27A2, GABPB2, USP8, AP4E1, TNFAIP8L3, CYP19A1, SORD, SLC12A1, COPS2, CEP152, FRMD5, DTWD1, DUOXA2, SERF2, SLC28A2, SHF, TRPM7, MYEF2, USP50, DUOX2, FBN1, HDC, SPG11) chr15:50521219-50631642 (ARPP-19, MYO5A) chr15:52533226-59327182 (RFXDC2, PIGB, C15orf15, RAB27A, CCPG1, DYX1C1, PYGO1, PRTG, NEDD4, TEX9, MNS1, SUHW4, TCF12, CGNL1, Gcom1, GRINL1A, ALDH1A2, LIPC, ADAM10, SLTM, RNF111, CCNB2, MYO1E, LDHAL6B, FAM81A, GCNT3, GTF2A2, BNIP2, ANXA2, NARG2, RORA, AQP9, FAM63B, FOXB1, UNC13C) chr15:71515922-73540322 (ARID3B, CYP11A1, NPTN, CD276, LOC388135, TBC1D21, LOXL1, STOML1, PML, GOLGA6, ISLR2, ISLR, STRA6, UBL7, CLK3, EDC3, CYP1A1, CYP1A2, CSK, LMAN1L, CPLX3, SCAMP2, MPI, COX5A, SCAMP5, PPCDC, COMMD4, NEIL1, MAN2C1, SIN3A, C15orf39, C15orf17, SEMA7A, RPP25, CCDC33, LOC283677, ULK3) chr15:75298293-76951824 (PSMA4, LOC123688, IREB2, ADAMTS7, SGK269, HMG20A, LINGO1, TBC1D2B, CIB2, IDH3A, ACSBG1, DNAJA4, WDR61, CRABP1, CHRNA5, CHRNA3, CHRNB4) chr15:78481126-80231768 (ARNT2, KIAA1199, MESDC2, MESDC1, STARD5, MEX3B, IL16, C15orf26, FAM108C1, EFTUD1, TMC3) chr15:81496906-83408660 (BNC1, BTBD1, HDGFRP3, SH3GL3, ZSCAN2, NMB, SEC11A, SLC28A1, PDE8A, ALPK3, TM6SF1, ADAMTSL3, WDR73, ZNF592) chr15:91750531-91777912 chr15:92377240-94389111 (MCTP2) chr19:47952688-48449547 (PSG6, PSG8, PSG1, PSG7, PSG11, PSG5, PSG4, PSG2, PSG9) chr19:61031766-63492214 (GALP, ZNF417, ZNF552, ZNF419, ZNF749, ZNF787, NLRP4, NLRP8, ZNF444, ZSCAN5, ZNF582, ZNF583, ZNF667, ZFP28, ZNF71, BC37295_3, ZIM2, PEG3, USP29, ZIM3, DUXA, AURKC, ZNF543, ZNF304, ZNF547, ZNF548, VN1R1, ZNF772, ZNF773, ZNF549, ZNF550, ZNF416, ZIK1, ZNF530, ZNF211, ZSCAN4, ZNF551, ZNF671, ZNF776, ZNF587, ZNF418, ZNF256, ZNF606, ZNF135, ZSCAN18, ZNF329, ZNF274, ZNF8, ZNF544, NLRP5, ZNF470, C19orf18, ZNF586, NLRP13, ZNF17, NLRP11, ZNF460, ZNF134, ZSCAN1, ZNF264, LOC342933, ZNF154, ZNF471)
Radial glial	Amp	chr1:16964266-16964266 chr1:143832901-144003054 (NOTCH2NL) chr1:238967344-241494130 (FH, KMO, OPN3, EXO1, MAP1LC3C, PLD5, CEP170, SDCCAG8, RGS7, CHML, WDR64) chr2:90982929-91435968 chr2:94892169-94892169 chr3:179287256-182340788 (ACTL6A, GNB4, KCNMB2, ZMAT3, PIK3CA, KCNMB3, ZNF639, MFN1, MRPL47, NDUFB5, USP13, PEX5L, FXR1, DNAJC19, TTC14) chr3:182889728-183652765 (SOX2) chr3:185918731-187248733 (VPS8, LOC285382, EHHADH, MAP3K13, TMEM41A, LIPH, SENP2, IGF2BP2, SFRS10, ETV5, C3orf65) chr4:69057734-69057734 chr4:190780238-190907864 chr6:57377958-57648020 (PRIM2) chr7:54673961-54839437 (SEC61G) chr7:57629889-57668499 chr7:127884251-127884251 (HIG2)

		chr7:143705424-143705424 (ARHGEF5) chr9:134572632-135109698 (GBGT1, CEL, C9orf98, C9orf9, TSC1, RALGDS, OBP2B, GFI1B, GTF3C5) chr12:61001540-61154818 (USP15, MON2) chr12:61699723-61874934 (AVPR1A) chr14:21529815-22046096 chr14:104059563-104509602 (PLD4, AHNAK2, LOC400258, TMEM179, C14orf151, ADSSL1, AKT1, KIAA0284, SIVA1, C14orf173) chr15:18884435-18884435 (LOC283755) chr15:19537034-20079934 (OR4M2, OR4N4, LOC650137) chr16:32512851-32553401 chr17:41577519-41577519 (KIAA1267) chr19:39110460-39110460 chr19:48433090-48562609 (CD177, PSG9) chr19:55941448-60623758 (ZNF808, SIGLEC7, GP6, ZNF761, ZNF331, EPS8L1, ZNF677, TFPT, COX6B2, KIR2DS4, NDUFA3, FLJ16287, VN1R2, LILRA6, SIGLEC8, KLK5, KIR3DL3, KIR3DX1, SAPS1, PPP1R12C, LILRB1, KIR3DL2, KIR2DL1, CD33, GPR32, ACPT, C19orf48, KLK1, KLK15, KLK3, KLK2, KLK4, KLK6, KLK7, KLK8, KLK9, KLK11, KLK12, KLK13, ATPBD3, SIGLEC9, FLJ40235, ETFB, CLDND2, NKG7, LIM2, SIGLEC12, SIGLEC6, ZNF175, SIGLEC5, HAS1, FPR1, FPRL1, FPRL2, ZNF577, ZNF649, ZNF613, ZNF350, ZNF615, ZNF614, ZNF432, ZNF616, PPP2R1A, ZNF766, ZNF480, ZNF610, ZNF528, ZNF701, ZNF83, ZNF611, ZNF28, ZNF468, ZNF320, ZNF321, ZNF816A, ZNF160, ZNF415, ZNF347, VN1R4, BIRC8, DPRX, NLRP12, MYADM, PRKCG, CACNG7, CACNG8, CACNG6, OSCAR, PRPF31, CNOT3, LENG1, TMC4, LENG4, RPS9, LILRA3, LILRA5, LILRA4, TTYH1, LENG8, LENG9, CDC42EP5, LAIR2, LILRA2, LILRA1, KIR3DP1, KIR2DL3, FCAR, NCR1, NLRP7, RDH13, TNNT1, C19orf51, PTPRH, TMEM86B, TNNI3, BRSK1, SUV420H2, IL11, TMEM190, RPL28, LILRB5, LILRB4, ZNF600, LILRB2, LILRB3, LAIR1, SIGLEC10, ZNF765, LOC284417, HSPBP1, UBE2S, SIGLEC14, SYT5, ZNF578, TSEN34, VSTM1, NLRP2, ZNF665, KIR3DL1, ZNF137, KLK10, KLK14, ZNF813, LOC729767, KIR2DL4) chr20:25680494-26156025 chr20:28080969-28266112
	Del	chr1:3009360-4138999 (PRDM16, ARHGEF16, FAM79A, WDR8, TP73, CCDC27, LRRC47, DFFB, C1orf174, MEGF6, KIAA0495, KIAA0562) chr6:112536987-112593029 (LAMA4)
Neural	Amp	chr1:143832901-143832901 chr1:200264248-201057463 (ARL8A, PTPN7, LGR6, PPP1R12B, SYT2, JARID1B, UBE2T, GPR37L1) chr2:89895565-89895565 chr3:25625771-25658840 (TOP2B) chr3:164101775-164101775 chr3:196933316-196933316 chr5:848743-848743 (ZDHHC11) chr6:314419-314419 chr6:57583340-57648020 (PRIM2) chr6:65075924-65983561 chr6:66553013-67178674 chr7:54705681-54705681 chr7:55349636-55383641 chr7:57650105-57650105 chr7:61469274-61469274 chr7:128069356-128069356 chr7:141438503-141438503 (MGAM) chr8:39505255-39505255 chr12:61942895-62402775 (DPY19L2) chr12:69855883-70779251 (LGR5, CCDC131, TMEM19, TBC1D15, TPH2, THAP2, RAB21) chr12:71395861-71553628 chr15:18741715-18752130 chr15:19786654-19786654 chr20:26156025-26156025
	Del	chr8:137802110-137919307 chr15:18683109-18683109 chr16:21482408-21501072
Neuromesenchymal	Amp	chr1:16666759-16678604

		chr1:103909052-103965273 (AMY2B, AMY2A) chr1:120826825-120826825 chr1:143658180-144003054 (NOTCH2NL, SEC22B) chr1:147499045-147946904 chr1:199137130-199517897 (C1orf106, KIF21B, TMEM9, CACNA1S, DKFZp434B1231) chr2:90982929-90982929 chr2:94892169-94892169 chr3:164101775-164101775 chr3:196911054-196958466 (MUC20) chr4:9296945-9410428 (DRD5) chr5:848743-848743 (ZDHHC11) chr6:252938-314419 (DUSP22) chr6:57468297-57648020 (PRIM2) chr7:54673961-54839437 (SEC61G) chr7:55349636-55680712 (ECOP, LANCL2) chr7:57629889-57668499 chr7:61469274-61469274 chr7:128069356-128069356 chr7:141408012-141408012 (MGAM) chr9:41970427-41970427 chr9:44199400-44199400 chr9:44810116-44810116 chr9:69214231-69214231 chr9:79301133-79504123 (GNA14) chr9:85770106-85791620 (HNRPK, RMI1) chr9:101725072-101888212 (STX17, TXNDC4) chr9:103199829-103253408 (MRPL50, ZNF189, ALDOB) chr11:23401583-23725984 chr11:26737076-26886053 chr11:31357671-31613026 (DPH4, IMMP1L, ELP4) chr11:32395675-32464668 (WT1, WIT1) chr12:38537104-38570141 (SLC2A13) chr12:42467345-42507136 (IRAK4, TWF1) chr12:44755744-44909594 (SLC38A1) chr12:56765442-56765442 chr12:86964661-87092571 (C12orf29, CEP290, TMTC3) chr15:18741715-18884435 (LOC283755) chr15:19537034-20079934 (OR4M2, OR4N4, LOC650137) chr16:33495500-33495500 chr19:48433090-48562609 (CD177, PSG9) chr20:25680494-26156025 chr20:28080969-28266112 chr21:10022305-10022305
	Del	chr1:5390816-5390816 chr1:6442188-7484427 (TNFRSF25, PLEKHG5, NOL9, TAS1R1, ZBTB48, KLHL21, PHF13, THAP3, CAMTA1, ESPN, DNAJC11) chr1:147307636-147475853 chr3:196958466-196958466 chr4:13319160-13359520 chr4:185471347-186082412 (CASP3, CCDC111, MLF1IP, ACSL1, IRF2) chr4:186737676-188492119 (F11, SORBS2, TLR3, CYP4V2, KLKB1, MTNR1A, FAT, DKFZP564J102) chr16:31974467-32553401 chr16:33495500-33517366
Astrocytic	Amp	chr1:16666759-17148591 (CROCC, NBPF1) chr1:86944804-87201107 (SEP15, HS2ST1, SH3GLB1) chr1:110323227-110416530 (AHCYL1, FAM40A, ALX3) chr1:120303591-120331192 (NOTCH2) chr1:144003054-144003054 chr1:153456191-153472127 (GBA) chr2:14365595-16976772 (FAM49A, FAM84A, NAG, DDX1, MYCN) chr2:89895565-89895565 chr2:90982929-90982929 chr2:94892169-94892169

	chr2:132489752-132778588
	chr3:75653843-75945889
	chr3:121595871-121611051 (FSTL1)
	chr3:196904348-196958466 (MUC20)
	chr4:3873352-4246909 (OTOP1)
	chr4:9296945-9296945
	chr4:69057734-69057734
	chr4:190907864-190907864
	chr5:763493-873415 (ZDHHC11)
	chr6:57468297-57683388 (PRIM2)
	chr7:54705681-54705681
	chr7:55349636-55383641
	chr7:57650105-57650105
	chr7:61469274-61469274
	chr7:133414696-133414696
	chr7:141408012-141408012 (MGAM)
	chr8:39356594-39356594
	chr10:38682264-42150758
	chr12:55276694-55323470 (ATP5B, BAZ2A)
	chr12:58891104-58989664
	chr12:80008507-80146557 (FLJ21963)
	chr12:109940482-109986039 (CUTL2)
	chr15:18741715-18884435 (LOC283755)
	chr15:19786654-20079934 (OR4M2, OR4N4, LOC650137)
	chr16:33495500-33495500
	chr18:14210765-14567615
	chr19:48433090-48433090
	chr20:25821064-26156025
	chr20:28080969-28080969
	chr21:10022305-10022305
	chr22:22720194-22720194
Del	chr3:117396297-117492665 (LSAMP)
	chr3:152996120-153028962 (AADAC)
	chr4:70184189-70184189 (UGT2B28)
	chr6:29962848-30010233
	chr6:32732763-32738442 (HLA-DQB1)
	chr6:71156045-95726037 (LYRM2, SRrp35, SNX14, FAM46A, C6orf150, C6orf162, ANKRD6, SMAP1, SENP6, RNGTT, C6orf148, KIAA1009, COL12A1, ME1, RRAGD, SLC35A1, RIMS1, FAM135A, C6orf57, OGFRL1, KCNQ5, DPPA5, ECAT1, DDX43, MTO1, EEF1A1, SLC17A5, COX7A2, TMEM30A, FILIP1, IMPG1, HTR1B, IRAK1BP1, PHIP, HMGN3, LCA5, ELOVL4, TTK, BCKDHB, IBTK, TPBG, C6orf157, DOPEY1, PGM3, PRSS35, SNAP91, C6orf159, CYB5R4, NT5E, SYNCRIP, HTR1E, CGA, GJB7, C6orf165, RARS2, ORC3L, C6orf166, SPACA1, CNR1, PNRC1, ACY1L2, GABRR1, UBE2J1, MDN1, CASP8AP2, CX62, BACH2, MAP3K7, EPHA7, SH3BGRL2, MYO6, CD109, B3GAT2, C6orf156, TBX18, ZNF292, GABRR2, RWDD2A, C6orf117)
	chr6:102173151-102454306 (GRIK2)
	chr9:39146894-39146894 (CNTNAP3)
	chr11:55118213-55225135 (OR4C11, OR4P4, OR4C6, OR4S2)
	chr11:79781212-79858759
	chr17:26546112-26663306 (NF1, OMG, EVI2B)

Amp and Del represent the significantly (FDR < 0.25) amplified or deleted loci in each glioblastoma subclass. Subclass unique alterations are shown with chromosomal coordinates (Human Build 36) and associated genes.