

Table SI. The Cancer Genome Atlas glioma patient characteristics.

Characteristic	Low expression of S100A6	High expression of S100A6	P-value
Number of patients	348	348	-
World Health Organization grade, n (%)			
G2	170 (26.8)	54 (8.5)	<0.001
G3	132 (20.8)	111 (17.5)	
G4	10 (1.6)	158 (24.9)	
Isocitrate dehydrogenase status, n (%)			
Wild type	35 (5.1)	211 (30.8)	<0.001
Mutant	311 (45.3)	129 (18.8)	
1p/19q codeletion, n (%)			
Codel	153 (22.2)	18 (2.6)	<0.001
Non-codel	195 (28.3)	323 (46.9)	
Primary therapy outcome, n (%)			
Progressive disease	61 (13.2)	51 (11)	0.110
Stable disease	100 (21.6)	47 (10.2)	
Partial response	43 (9.3)	21 (4.5)	
Complete response	92 (19.9)	47 (10.2)	
Sex, n (%)			
Female	161 (23.1)	137 (19.7)	0.078
Male	187 (26.9)	211 (30.3)	
Ethnicity, n (%)			
Asian	7 (1)	6 (0.9)	0.959
Black or African American	17 (2.5)	16 (2.3)	
White	320 (46.9)	317 (46.4)	
Years of age, n (%)			
≤60	315 (45.3)	238 (34.2)	<0.001
>60	33 (4.7)	110 (15.8)	

Histological type, n (%)			
Astrocytoma	86 (12.4)	109 (15.7)	<0.001
Glioblastoma	10 (1.4)	158 (22.7)	
Oligoastrocytoma	87 (12.5)	47 (6.8)	
Oligodendroglioma	165 (23.7)	34 (4.9)	
Overall survival event, n (%)			
Alive	275 (39.5)	149 (21.4)	<0.001
Dead	73 (10.5)	199 (28.6)	
Disease-specific survival event, n (%)			
Alive	277 (41)	154 (22.8)	<0.001
Dead	65 (9.6)	179 (26.5)	
Progression-free interval event, n (%)			
Alive	229 (32.9)	121 (17.4)	<0.001
Dead	119 (17.1)	227 (32.6)	
Median age (interquartile range), years	39 (31-49)	54 (41-63)	<0.001

Table SII. S100A6 expression correlated with clinical pathological characteristics (logistic regression).

Characteristics	Comparisons	Total, n	Odds ratio	P-value
World Health Organization grade	G3 + G4 vs. G2	635	5.964 (4.154-8.671)	<0.001
1p/19q codeletion	Non-codel vs. codel	689	14.079 (8.587-24.418)	<0.001
Primary therapy outcome	Partial response + complete response vs. progressive disease + stable disease	462	0.828 (0.562-1.214)	0.335
Isocitrate dehydrogenase status	Mutant vs. wild type	686	0.069 (0.045-0.103)	<0.001
Sex	Male vs. female	696	1.326 (0.982-1.793)	0.066
Ethnicity	Black or African American and White vs. Asian	683	1.153 (0.379-3.615)	0.800
Years of age	>60 vs. ≤60	696	4.412 (2.918-6.827)	<0.001
Histological type	Oligoastrocytoma + oligodendroglioma vs. astrocytoma + glioblastoma	696	0.116 (0.082-0.162)	<0.001

Table SIII. Univariate analysis and multivariate analyses of glioma patient overall survival.

Characteristics	Total (N)	Univariate analysis		Multivariate analysis	
		HR (95% CI)	P-value	HR (95% CI)	P-value
World Health Organization grade	634	-	-	-	-
G2	223	Reference	-	-	-
G3	243	2.999 (2.007-4.480)	<0.001	1.802 (1.137-2.857)	0.012
G4	168	18.615 (12.460-27.812)	<0.001	4.759 (1.485-15.253)	0.009
1p/19q codeletion	688	-	-	-	-
Codel	170	Reference	-	-	-
Non-codel	518	4.428 (2.885-6.799)	<0.001	0.870 (0.445-1.700)	0.684
Primary therapy outcome	461	-	-	-	-
Progressive disease	112	Reference	-	-	-
Stable disease	147	0.440 (0.294-0.658)	<0.001	0.345 (0.207-0.575)	<0.001
Partial response	64	0.170 (0.074-0.391)	<0.001	0.175 (0.062-0.493)	<0.001
Complete response	138	0.133 (0.064-0.278)	<0.001	0.155 (0.072-0.334)	<0.001
Isocitrate dehydrogenase status	685	-	-	-	-
Wild-type	246	Reference	-	-	-

Mutant	439	0.117 (0.090-0.152)	<0.001	0.374 (0.218-0.642)	<0.001
Sex	695	-	-	-	-
Female	297	Reference			
Male	398	1.262 (0.988-1.610)	0.062	1.551 (0.980-2.454)	0.061
Years of age	695	-	-	-	-
≤60	552	Reference	-	-	-
>60	143	4.668 (3.598-6.056)	<0.001	3.387 (2.021-5.676)	<0.001
Histological type	695	-	-	-	-
Astrocytoma	195	Reference	-	-	-
Glioblastoma	168	6.791 (4.932-9.352)	<0.001		
Oligoastrocytoma	134	0.657 (0.419-1.031)	0.068	1.369 (0.787-2.380)	0.266
Oligodendroglioma	198	0.580 (0.395-0.853)	0.006	0.768 (0.437-1.350)	0.359
S100A6 expression	695	-	-	-	-
Low	347	Reference	-	-	-
High	348	4.914 (3.716-6.496)	<0.001	2.155 (1.358-3.419)	0.001

HR, hazard ratio.

Table SIV. Gene set enrichment analysis of S100A6 related enriched gene set with high expression of S100A6 from The Cancer Genome Atlas database.

ID	NES	P.adjust	False discovery rate
c2 enrichment analysis			
Reactome scavenging of heme from plasma	2.685	0.002	0.001
Reactome creation of c4 and c2 activators	2.640	0.002	0.001
Reactome fcgr activation	2.632	0.002	0.001
Reactome initial triggering of complement	2.630	0.002	0.001
Reactome role of phospholipids in phagocytosis	2.616	0.002	0.001
c5 enrichment analysis			
Go immunoglobulin complex	2.747	0.002	0.002
Go immunoglobulin complex circulating	2.690	0.002	0.002
Go humoral immune response mediated by circulat	2.658	0.002	0.002
Go immunoglobulin receptor binding	2.626	0.002	0.002
Go complement activation	2.570	0.002	0.002