

Supplementary Table 3. Patient Characteristics for Multi-Institution Cohort. Tumor volume calculated by taking three measurements and using the following formula: $4\pi/3 * R1 * R2 * R3$. GBM = Glioblastoma, WT= Wildtype, N/A = Not Available, M=Male, F=Female

Cohort	Study ID	Age	Sex	WHO Grade	Diagnosis	IDH1 Status	Location	Volume (cm ³)	Contrast Enhancement	Duration (weeks)	Recurrent	TERT Status (MGH)	Mutant Allele Frequency
Operator	1820	50	M	IV	GBM w Small primitive neuronal component	UKN	R Temporal	106.85	YES	2	NO	C228A	0.235
Operator	2083	55	M	III	Anaplastic Astrocytoma	WT	L Occipital	53.82	YES	4	NO	C228T	0.609
Multi-institutional	2416	38	M	III	Anaplastic Oligodendroglioma	IDH1 R132H	L Frontal	29.4	YES	N/A	NO	C228T	2.369289
Multi-institutional	2760	45	M	III	Anaplastic Oligodendroglioma	IDH1 R132H	L Frontal	56.7	YES	28	NO	C228T	0.32967
Multi-institutional	743	40	F	N/A	Astrocytoma with Elevated Proliferation Index	WT	optic pathway	80.69	YES	8	NO	C228T	0.683761
Multi-institutional	2750	68	M	IV	Diffuse Astrocytic Glioma with Molecular Features of GBM	WT	R Frontoparietal	16.53	NO	6	NO	C228T	0.857143
Multi-institutional	2854	68	M	IV	Diffuse Astrocytic Glioma with Molecular Features of GBM	WT	Midline	83.55	YES	16	NO	C228T	0.491259
Operator	2341	77	M	IV	Diffuse Astrocytoma	WT	L temporo-occipital	unknown	unknown	5	NO	C228T	0.52
Operator	79	45	F	II	Diffuse Astrocytoma	WT	L Parietal	172.65	NO	78	NO	C228T	2.83
Operator	1214	70	M	IV	GBM	WT	L Frontal	134.95	YES	4	NO	C228T	0.896
Operator	1784	56	M	IV	GBM	WT	R Temporal	2.7	YES	38	YES	C228T	0.949
Operator	2191	41	M	IV	GBM	WT	R temporal	85.99	YES	3	NO	C228T	0.599
Operator	2208	58	M	IV	GBM	WT	Multifocal; L Frontotemporal	103.36	YES	5	NO	C228T	0.545
Operator	2230	63	F	IV	GBM	WT	R Temporal	127.92	YES	N/A	NO	C228T	0.657
Multi-institutional	2279	75	M	IV	GBM	WT	L Frontal	29.6	YES	6	NO	C228T	0.458716
Multi-institutional	2632	72	M	IV	GBM	WT	L temporal	29.41	YES	1	NO	C228T	0.637349
Operator	2933	54	M	IV	GBM	WT	R Parieto-Occipital	104.65	YES	3	NO	C228T	0.766
Operator	2299	50	M	IV	GBM	WT	R Occipital	N/A	YES	8	NO	C228T	0.906
Multi-institutional	56	65	M	N/A	Recurrent GBM	Negative	Left Temporal	29.51	YES	247	YES	C228T	0.608273
Multi-institutional	1983	41	F	N/A	Recurrent/Residual Diffuse Astrocytoma with Treatment Effects	WT	Occipital	38.08	YES	65	YES	C228T	1.856148
Multi-institutional	1805	52	F	IV	Recurrent/Residual Glioma	WT	L Temporo-parietal	28.59	YES	33	YES	C228T	0.248679
Operator	1810	74	F	IV	Residual GBM	WT	L Temporal	5.52	YES	3	NO	C228T	0.25
Operator	1799	58	F	IV	GBM	WT	Multifocal; R Thalamic	129.65	YES	0	NO	C228T	0.041
Operator	1218	77	F	III	Anaplastic Astrocytoma	WT	L Fronto-temporal	100.5	NO	24	NO	C250T	0.593
Multi-institutional	2676	85	F	IV	GBM	WT	R Temporal	47.52	YES	3	NO	C250T	0.221484
Multi-institutional	2309	60	F	IV	GBM	WT	Midline	29.29	YES	59	YES	C250T	0.88
Operator	1834	73	M	N/A	Recurrent/Residual GBM	WT	L Temporal	81.18	YES	33	YES	C250T	1.113
Multi-institutional	2062	56	F	IV	GBM	WT	L Temporal	Unknown	Unknown	Unknown	NO	MT, Unknown Variant	2.504817
Multi-institutional	2502	74	M	IV	GBM	IDH1 R132H	L Parietal	106.85	Unknown	Unknown	NO	MT, Unknown Variant	2.654867
Multi-institutional	2511	62	M	IV	GBM	Negative	R Frontoparietal	47.52	Unknown	Unknown	NO	MT, Unknown Variant	0.653061
Multi-institutional	2521	64	M	IV	GBM	Negative	R Frontal	Unknown	Unknown	Unknown	NO	MT, Unknown Variant	1.381215
Multi-institutional	2535	46	M	IV	GBM	IDH1 R132H	R Parietal	Unknown	Unknown	Unknown	NO	MT, Unknown Variant	1.473684
Multi-institutional	2540	48	M	IV	GBM	Negative	R Parietal	Unknown	Unknown	Unknown	NO	MT, Unknown Variant	0.565553
Multi-institutional	2526	60	F	IV	GBM	WT	L Temporal	Unknown	Unknown	Unknown	YES	MT, Unknown Variant	0.518135
Multi-institutional	2531	69	F	IV	GBM	WT	L Frontal	Unknown	Unknown	Unknown	YES	MT, Unknown Variant	0.35524
Multi-institutional	2492	67	M	IV	Recurrent GBM	WT	R Frontal	Unknown	Unknown	Unknown	YES	MT, Unknown Variant	0.318269
Multi-institutional	2497	60	F	IV	Recurrent GBM	WT	R Occipital	19.97	Unknown	Unknown	YES	MT, Unknown Variant	0.325071
Multi-institutional	2545	66	M	IV	Recurrent GBM	WT	R Frontoparietal	7.58	Unknown	Unknown	YES	MT, Unknown Variant	0.30248
Multi-institutional	2517	62	M	IV	Recurrent Gliosarcoma with Treatment Related Changes	IDH1 R132H	L Temporal	29.4	Unknown	Unknown	YES	MT, Unknown Variant	2.771619
Multi-institutional	2055	56	F	IV	Recurrens/Residual GBM	WT	L Temporo-parietal	Unknown	Unknown	Unknown	YES	MT, Unknown Variant	1.766304
Multi-institutional	2514	44	M	N/A	Recurrent/Residual GBM with Treatment Related Changes	WT	R parietal	86	Unknown	Unknown	YES	MT, Unknown Variant	0.906149
Operator	1906	31	M	N/A	Recurrent/Residual Oligodendroglioma	IDH1 R132H	L Parietal	79.56	NO	113	YES	MT, Unknown Variant	1.141
Operator	3093	24	F	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.171
Multi-institutional	3098	64	M	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.397614
Operator	3100	85	M	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.086
Operator	3116	76	F	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.594
Operator & Multi-institutional	3127	47	M	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.25
Operator	3129	42	M	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.384
Multi-institutional	3135	57	F	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.17679
Operator	3144	23	F	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.152
Operator	3150	56	F	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.457
Multi-institutional	3162	67	F	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.43
Multi-institutional	3163	61	M	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.403226
Multi-institutional	3170	55	F	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.32
Multi-institutional	3172	53	M	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.229568
Multi-institutional	3229	54	M	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.310752
Multi-institutional	89	66	M	N/A	Non Tumor; Biopsy Inconclusive	WT	R Frontotemporal	77.9	NO	4	NO	N/A	0.104932
Multi-institutional	2293	72	M	N/A	Non Tumor; Brain parenchyma with Demyelination, Macrophage and Lymphocyte-rich Infiltrates, and Gliosis	WT	R Frontoparietal	13.23	YES	4	NO	N/A	0.18
Multi-institutional	1134	55	M	0	Non Tumor; Brain with Necrosis as well as Reactive and Inflammatory Changes	N/A	Midline	8.4	YES	0	NO	N/A	0
Multi-institutional	2624	44	F	0	Non Tumor; Demyelinating Lesion	N/A	L Frontal	19.49	YES	3	NO	N/A	0.191113
Multi-institutional	2866	63	M	0	Non Tumor; Fungal Abscess	N/A	L Frontal	7.85	YES	0	NO	N/A	0.42
Multi-institutional	2732	62	F	0	Non Tumor; Hydrocephalus	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.242522
Multi-institutional	2821	67	M	0	Non Tumor; Normal Pressure Hydrocephalus	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.49
Multi-institutional	2275	46	M	III	Anaplastic Astrocytoma	IDH1 R132H	L Frontal	97.24	NO	4	NO	WT	0
Operator	2321	29	F	III	Anaplastic Astrocytoma	IDH1 R132H	L Temporal	223.61	NO	0	NO	WT	0.340
Multi-institutional	2354	51	F	III	Anaplastic Astrocytoma	WT	R Temporal	20.88	YES	0	NO	WT	0.635124
Multi-institutional	1816	31	M	III	Anaplastic Astrocytoma	IDH1 R132H	R Temporal	2.7	NO	164	YES	WT	0.09
Operator	2312	38	M	II	Diffuse Astrocytoma	WT	R Frontal	36.56	NO	N/A	NO	WT	0.151
Multi-institutional	153	54	M	IV	GBM	WT	R Occipital	7.58	YES	3	NO	WT	0.24
Multi-institutional	2399	56	M	IV	GBM	WT	R Parietal	19.97	YES	3	NO	WT	0.719424
Multi-institutional	2797	66	M	N/A	Non Tumor; Normal Pressure Hydrocephalus	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.438917
Multi-institutional	1175	78	F	N/A	Non Tumor; Subacute Intraparenchymal Hemorrhage	N/A	R Frontal	131.67	N/A	5	NO	WT	0.29
Multi-institutional	1558	53	F	III	Recurrent/Residual Anaplastic Astrocytoma	IDH1 R132H	L Frontal	175.22	YES	249	YES	WT	0.171024
Operator	1655	38	M	III	Recurrent/Residual Infiltrating Astrocytoma	IDH1 R132G	Midline	14.87	YES	321	YES	WT	0.458