

Supplementary Information for “Consensus scHPF Identifies Cell Type-Specific Drug Responses in Glioma by Integrating Large-Scale scRNA-seq”

Supplementary Figures

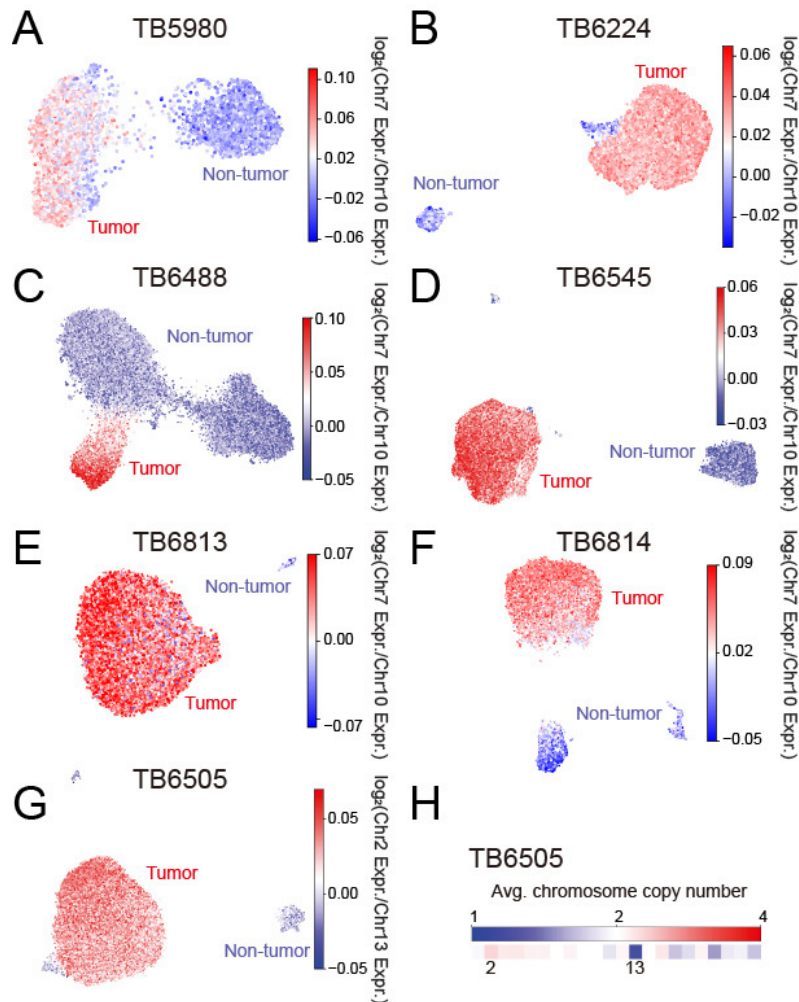


Figure S1. A)-F) UMAP embeddings of scRNA-seq data from GBM patient slice cultures that were not reported in previous publications colored by the log-ratio of the average expression of genes on Chr. 7 to Chr. 10. Chrs. 7 and 10 are pervasively amplified and deleted, respectively, in GBM, and so their expression ratio can be used to identify clusters that correspond to transformed glioma cells. G) UMAP embedding of scRNA-seq data from slice cultures from an IDH1mt Grade IV astrocytoma, which does not harbor amplification of Chr. 7 and loss of Chr. 10. Based on low-pass WGS of the corresponding tumor tissue, which identified amplification of Chr. 2 and loss of Chr. 13, as shown in the heatmap in H), we used the expression ratio of these two chromosomes to identify transformed glioma cells in this patient.

Supplementary Tables

Table S1. Summary of patients, specimens, and culture conditions.

Tissue ID	Age Range	Sex	Location	Diagnosis	IDH1 Status	EGFR status	Samples	Reference
TB6488	50-60	F	Left temporal	Glioblastoma, WHO Grade IV	Wildtype	Amplified	7 vehicle slices, 1 givinostat slice	This study
TB6140	60-70	M	Right temporal	Glioblastoma, WHO grade IV	Wildtype	Amplified	6 vehicle slices, 1 panobinostat slice	PW040, Zhao <i>et al.</i> , 2021
TB5884	60-70	M	Right parietal	Glioblastoma, WHO grade IV	Wildtype	Unamplified	2 vehicle slices, 1 etoposide, 1 panobinostat, 1 Ana12, 1 ispinesib, and 1 RO492997 slice	PW030, Zhao <i>et al.</i> , 2021
TB5966	60-70	F	Left parieto-occipital	Glioblastoma, WHO grade IV	Wildtype	Unamplified	2 vehicle slices, 1 etoposide and 1 panobinostat slice	PW034, Zhao <i>et al.</i> , 2021
							1 Topotecan, 1 ispinesib, and 1 RO4929097 slice	This study
TB6505	30-40	M	Left frontal	Astrocytoma, WHO Grade IV	Mutant	Unamplified	7 vehicle slice, 1 givinostat slice	This study
TB6528	60-70	F	Left temporal	Glioblastoma, WHO Grade IV	Wildtype	Unamplified	1 vehicle slice, 1 RSL3 slice	Banu <i>et al.</i> , 2023
TB5944	60-70	M	Left frontal	Glioblastoma, WHO grade IV	Wildtype	Amplified	3 vehicle slices, 1 etoposide and 1 panobinostat slice	PW032, Zhao <i>et al.</i> , 2021
							1 Topotecan, 1 Ana12 and 1 ispinesib slice	This study
TB5974	50-60	M	Right temporal	Glioblastoma, WHO grade IV	Wildtype	Amplified	2 vehicle slices, 1 etoposide and 1 panobinostat slice	PW036, Zhao <i>et al.</i> , 2021
							1 Topotecan, 1 RO4929097, 1 ispinesib, and 1 Ana12 slice	This study

TB6328	70-80	F	Left frontal	Glioblastoma, WHO Grade IV	Wildtype	Amplified	2 vehicle slices, 2 RSL3 slices, and 2 RSL3+Ferostatine slices	Banu <i>et al.</i> , 2023
TB6458	50-60	M	Right frontal	Glioblastoma, WHO Grade IV	Wildtype	Amplified	2 vehicle slices, 1 RSL3 slice, and 1 RSL3+Ferostatine slice	Banu <i>et al.</i> , 2023
TB6813	70-80	F	Left parietal	Glioblastoma, WHO Grade IV	Wildtype	Amplified	1 vehicle slice, 1 RSL3 slice	This study
TB5886	50-60	F	Splenic glioma extension into left parietal	Glioblastoma, WHO grade IV	Wildtype	Amplified	1 vehicle slice, 1 etoposide slice	PW029, Zhao <i>et al.</i> , 2021
							1 ispinesib slice	This study
TB6545	30-40	M	Right frontal	Glioblastoma, WHO Grade IV	Wildtype	Unamplified	1 vehicle slice, 1 RSL3 slice	Banu <i>et al.</i> , 2023
							7 vehicle slices, 1 givinostat slice	This study
TB6224	60-70	M	Right posterior frontal lobe	Glioblastoma, WHO Grade IV	Wildtype	Amplified	7 vehicle slices, 1 givinostat slice	This study
TB6814	60-70	M	Right temporal	Glioblastoma, WHO Grade IV	Wildtype	Amplified	1 vehicle slice, 1 RSL3 slice, 1 Topotecan	This study
TB6534	50-60	F	Right temporal	Glioblastoma, WHO Grade IV	Wildtype	Unamplified	1 vehicle slice, 1 RSL3 slice	Banu <i>et al.</i> , 2023
TB5980	60-70	M	Right medial temporal	Glioblastoma, WHO Grade IV	Wildtype	Amplified	1 vehicle slice, 1 Topotecan slice	This study
TB6181	30-40	F	Frontal and temporal	Anaplastic Astrocytoma, WHO Grade III	Mutant	Unamplified	2 vehicle slices, 1 RSL3 slice, 1 RSL3+Ferostatine slices	Banu <i>et al.</i> , 2023
TB6393	70-80	F	Right frontal	Glioblastoma, WHO grade IV	Wildtype	Unamplified	4 vehicle slices, 3 etoposide slices, 3 panobinostat slices	Zhao <i>et al.</i> , 2021

Table S2. Summary of drugs and concentrations (including newly and previously reported studies).

Drug Name	Resource	Working Concentration	Reference
Etoposide	Tocris Bioscience (Cat# 1226/100)	2.5 μ M	Zhao <i>et al.</i> , 2021
Panobinostat (LBH589)	Selleck Chem (Cat # S1030)	0.2 μ M	Zhao <i>et al.</i> , 2021
Ana12	TOCRIS (Cat #4781 - 10 mg)	40 nM	Zhao <i>et al.</i> , 2021
Ispinesib	Selleck Chem (Cat# S1452)	1.8 nM	Zhao <i>et al.</i> , 2021
RO492997	Selleck Chem (Cat# S1575)	50 nM	Zhao <i>et al.</i> , 2021
RSL3	Brent Stockwell Lab	50 nM	Banu <i>et al.</i> , 2023
Ferrostatin	Brent Stockwell Lab	10 μ M	Banu <i>et al.</i> , 2023
Givinostat	Sigma-Aldrich (Cat# SML1772-25MG)	0.23 μ M	This study
Topotecan	Selleckchem (Cat# S1231)	20 μ M	This study