**Supplementary Table S2.** Summary of immune cell infiltration and clinical information for each GBM sample.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample ID** | **Subtype** | **IBA1-positive area (%)** | **CD3+ T cells/mm2** | **CD8+ T cells/mm2** | **CD4+ T cells/mm2** | **FOXP3+ T cells/mm2** | **Age at diagnosis (years)** | **Overall survival (days)** | **Sex** | **Initial/Recurrent GBM** | **Treatment** |
| S02 39737 | **CL** | 8.45 | 41.8 | 6.53 | 35.27 | 0 | 56 | 863 | F | Initial | –a) |
| S03 22562 | **CL** | 15.8 | 45.27 | 18.52 | 26.75 | 1.83 | 67 | 426 | M | Initial | – |
| S04 44689 | **CL** | 2.95 | 13.06 | 0.52 | 12.54 | 0 | 54 | 566 | M | Initial | – |
| S04 23150 | **CL** | 9.87 | 15.31 | 10.45 | 4.86 | 0.37 | 70 | 1367 | F | Initial | – |
| S05 26492 | **CL** | 6.15 | 28.21 | 28.21 | 1.31 | 1.31 | 62 | 1866 | M | Recurrent | – |
| S15 15261 | **CL** | 8.18 | 4.36 | 0.37 | 4 | 0 | 51 | – | M | Initial | – |
| S15 2690 | **CL** | 5.81 | 3.35 | 3 | 0.35 | 0 | 54 | – | F | Initial | – |
| S15 35352b) | **CL** | 18.56 | 39.55 | 54.65 | 5.22 | 5.22 | 62 | – | M | Initial | – |
| S15 4330 | **CL** | 22.65 | 33.54 | 23.17 | 10.37 | 1.96 | 56 | 1185c) | F | Initial | RT, TMZ, Bevacizumab |
| S16 28151 | **CL** | 11.35 | 47.5 | 20.82 | 26.68 | 4.69 | 50 | 613c) | F | Initial | RT, TMZ |
| S16 20334 | **CL** | 14.5 | 93.16 | 14.07 | 79.09 | 6.45 | 80 | 563 | M | Initial | RT, TMZ, Bevacizumab |
| S16 71 | **CL** | 14.19 | 42.73 | 27.65 | 15.08 | 1.25 | 56 | – | F | Initial | RT, TMZ, Lomustine, Bevacizumab |
| S16 22109 | **CL** | 15.56 | 45.98 | 15.01 | 30.96 | 5.16 | 68 | – | F | Initial | – |
| S16 16752 | **CL** | 13.38 | 83.14 | 47.13 | 36.02 | 3.44 | 57 | – | M | Initial | RT, TMZ, Lomustine, Bevacizumab, Irinotecan |
| S16 815 | **CL** | 7.64 | 37.53 | 17.36 | 20.17 | 0.94 | 61 | – | M | Initial | none |
| U3086MG 120223 | **CL** | 11.99 | 9.98 | 3.55 | 6.43 | 0.44 | 72 | 444 | M | Initial | RT, TMZ |
| U3039MG 101202 | **CL** | 15.11 | 42.32 | 7.84 | 34.48 | 3.66 | 38 | 994 | M | Initial | RT, TMZ |
| U3004MG 100222 | **CL** | 12.13 | 31.35 | 11.49 | 19.85 | 1.57 | 70 | 134 | M | Initial | – |
| U3042MG 101222 | **CL** | 13.35 | 83.07 | 43.36 | 39.71 | 3.13 | 67 | 202 | M | Initial | RT |
| S15 22748 d) | **G-CIMP**e) | 17.03 | 3.28 | 8.36 | 0.49 | 0.49 | 46 | – | M | Initial | – |
| S15 1411f) | **G-CIMP** | 9.29 | 7.67 | 5.98 | 1.69 | 1.92 | 63 | – | M | Initial | RT, TMZ |
| S15 34821 g) | **G-CIMP** | 6.81 | 0.94 | 1.57 | 0 | 0 | 44 | – | M | Initial | – |
| S15 6484h) | **G-CIMP** | 21.62 | 16.09 | 11.49 | 4.6 | 1.12 | 35 | – | F | Initial | RT, TMZ, Lomustine, Bevacizumab, unknowni) |
| S16 37144 | **G-CIMP** | 5.81 | 7.43 | 4.3 | 3.13 | 0.47 | 31 | 567c) | F | Initial | RT, TMZ |
| S15 12729 | **G-CIMP** | 26.06 | 85.48 | 38.61 | 46.87 | 6.14 | 43 | 618 | F | Initial | RT, TMZ |
| S03 37482 | **MES** | 16.9 | 58.78 | 20.14 | 38.64 | 2.61 | 46 | 382 | M | Initial | – |
| S03 19706 | **MES** | 16.81 | 61.52 | 16.33 | 45.19 | 1.9 | 73 | 306 | F | Initial | – |
| S03 24475 | **MES** | 22.79 | 25.08 | 11.49 | 13.58 | 1.57 | 78 | 278 | F | Initial | – |
| S05 24069 | **MES** | 27.74 | 46.5 | 29.78 | 16.72 | 3.13 | 71 | 1054 | M | Initial | – |
| S15 20710 | **MES** | 28.7 | 101.9 | 73.8 | 28.1 | 11.94 | 73 | – | M | Initial | – |
| S16 31092 | **MES** | 15.83 | 78.75 | 13.49 | 65.26 | 10.56 | 52 | – | F | Initial | no adjuvant treatment |
| S16 18865/ 18015 | **MES** | 20.12 | 85.86 | 34.72 | 51.14 | 4.69 | 67 | – | M | Initial | TMZ |
| S16 18411 | **MES** | 19.26 | 125.89 | 40.27 | 85.62 | 9.38 | 70 | – | F | Initial | unknown |
| S16 13050 | **MES** | 13.54 | 78.82 | 30.03 | 48.79 | 4.69 | 44 | 350 | F | Initial | RT, TMZ |
| S16 736 | **MES** | 17.53 | 79.05 | 23.03 | 56.02 | 5.63 | 56 | 349 | F | Initial | none |
| S16 29448 | **MES** | 7.53 | 17.36 | 4.69 | 12.67 | 0.47 | 76 | – | M | Initial | RT, TMZ |
| MES A | **MES** | 23.61 | 65.05 | 22.99 | 42.06 | 1.31 | 32 | 724 | M | Initial | RT, TMZ, I-I25 seeds, Carmustine wafers, Thalidomide, Cisplatin, Cyclophosphamide, Vincristine |
| MES B | **MES** | 14.73 | 45.35 | 12.41 | 32.94 | 8.05 | 38 | 2232 | M | Recurrent | RT, TMZ, Hypericin, I-I25 seeds, Carmustine wafers, Carboplatin |
| MES C | **MES** | 14.02 | 12.07 | 7.03 | 5.04 | 1.1 | 49 | 1400 | M | Recurrent | RT, TMZ, Carmustine wafers, Imatinib |
| MES D | **MES** | 26.88 | 156.74 | 37.72 | 119.02 | 11.31 | 54 | 2745 | M | Recurrent | RT, TMZ, Carmustine wafers, Etoposide |
| MES E | **MES** | 18.5 | 98.04 | 46.37 | 51.67 | 2.09 | 72 | 501 | M | Recurrent | RT, TMZ, Carmustine wafers, Carboplatin |
| MES G | **MES** | 26.31 | 124.53 | 119.57 | 4.96 | 10.06 | 52 | 596 | F | Initial | RT, TMZ |
| MES H | **MES** | 15.06 | 108.8 | 47.88 | 60.92 | 23.25 | 35 | 589 | M | Initial | RT, TMZ |
| S01 47642/ S07 47642 | **PN** | 12.57 | 8.65 | 7.84 | 0.81 | 0.86 | 63 | 604 | M | Initial | – |
| S03 40585 | **PN** | 6.32 | 16.33 | 4.89 | 11.44 | 0.47 | 71 | 1923 | M | Initial | – |
| S05 33310 | **PN** | 19.69 | 58.78 | 30.49 | 28.29 | 3.48 | 65 | 431 | M | Initial | – |
| S05 21202 | **PN** | 4.28 | 10.97 | 6.53 | 4.44 | 0 | 90 | 283 | M | Initial | – |
| S06 22621 | **PN** | 8.94 | 36.05 | 6.27 | 29.78 | 0.52 | 74 | 320 | F | Initial | – |
| S08-33034 j) | **PN** | 9.68 | 32.31 | 11.31 | 21 | 0.84 | 51 | 795 | M | Recurrent | – |
| S10 7474 | **PN** | 6.6 | 1.57 | 4.21 | 0.63 | 0.63 | 58 | 722 | M | Recurrent | – |
| S15 35549 k) | **PN** | 9.54 | 1.41 | 2.98 | 0.24 | 0.24 | 57 | – | M | Recurrent | RT, unknown |
| S15 16225 | **PN** | 7.76 | 3.75 | 2.61 | 1.14 | 0 | 59 | – | M | Initial | – |
| S15 29903 | **PN** | 6.42 | 18.51 | 14.37 | 4.14 | 0 | 78 | 357 | M | Initial | RT, TMZ, Bevacizumab |
| S16 24 | **PN** | 9.65 | 3.81 | 2.35 | 1.47 | 0 | 74 | – | F | Initial | RT, TMZ |
| U3065MG 110902 | **PN** | 11.39 | 38.14 | 16.2 | 21.94 | 1.57 | 77 | 127 | M | Initial | RT |
| U3088MG 120228 | **PN** | 4.59 | 32.65 | 11.76 | 20.9 | 0.65 | 67 | 464 | F | Initial | RT, TMZ |
|  |  |  |  |  |  |  |  |  |  |  |  |

a) Information not available

b) Previous diagnosis of Anaplastic Astrocytoma WHO grade III 16 months earlier, treated with chemoradiation. Progression to GBM (this case)

c) Patient was still alive at time of last follow-up

d) Original diagnosis of WHO grade II astrocytoma

e) G-CIMP-positive tumors harbor mutations in isocitrate dehydrogenase 1 (IDH1)

f) Original diagnosis of brain tumor in 2010 without treatment

g) Previous diagnosis of Anaplastic Astrocytoma, WHO grade III, treated with RT, TMZ, Pembrolizumab, Avastin. Progression to GBM (this case)

h) Previous diagnosis of Diffuse astrocytoma, WHO grade II

i) Treatment at different institution

j) Previous diagnosis of low-grade glioma in 1984

k) Original diagnosis of WHO grade II-III astrocytoma

IBA1: ionized calcium-binding adapter molecule 1, GBM: glioblastoma, PN: Proneural, CL: Classical, MES: Mesenchymal, G-CIMP: glioma-CpG island methylator phenotype,

RT: radiation therapy, TMZ: Temozolomide