**Table S1.** Detailed report of patient characteristics, imaging findings and survival

| Case | Age at diagnosis | Sex | Histological and molecular diagnosis | Ring enhancement (Y/N) | T/S | T/N | Pre-treatment MRI tumor volume (cc) | Pre-treatment PET tumor volume (cc) | Post-treatment MRI tumor volume (cc) | OS |
|------|------------------|-----|-------------------------------------|------------------------|-----|-----|-----------------------------------|-----------------------------------|-----------------------------------|-----|
| 1    | 3                | M   | AA, H3K27M-m                         | N                      | 1.50| 2.20| 18.58                             | 17.20                             | 17.90                             | 5   |
| 2    | 3                | F   | ND                                   | N                      | 0.24| 0.47| 34.03                             | no increased uptake               | 11.49                             | 18  |
| 3    | 4                | F   | ND                                   | Y                      | 1.09| 2.09| 40.00                             | 21.00                             | 28.90                             | 9   |
| 4    | 5                | M   | ND                                   | N                      | 1.24| 1.76| 27.21                             | 7.50                              | 16.00                             | 10  |
| 5    | 5                | F   | ND                                   | Y                      | 1.10| 1.71| 22.78                             | 5.00                              | 21.25                             | 10  |
| 6    | 5                | F   | ND                                   | N                      | 0.93| 1.62| 25.03                             | 8.00                              | 11.27                             | 28  |
| 7    | 6                | F   | GB, H3K27M-m                         | Y                      | 1.55| 2.85| 46.35                             | 29.00                             | 32.00                             | 8   |
| 8    | 6                | F   | ND                                   | N                      | 1.06| 1.89| 21.80                             | 0.86                              | 11.18                             | 12  |
| 9    | 6                | F   | ND                                   | N                      | 0.55| 0.95| 55.63                             | no increased uptake               | 20.54                             | 17  |
| 10   | 7                | F   | AA, H3K27M-m                         | N                      | 1.48| 2.73| 27.64                             | 22.00                             | 22.12                             | 6   |
| 11   | 7                | M   | AA, H3K27M-m                         | N                      | 1.27| 2.18| 34.06                             | 25.00                             | 33.70                             | 10  |
| 12   | 7                | M   | GB, H3K27M-m                         | Y                      | 1.10| 1.91| 24.03                             | 21.00                             | 22.00                             | 10  |
| 13   | 7                | F   | ND                                   | N                      | 0.70| 1.10| 25.06                             | 4.00                              | 8.35                              | 16  |
| 14   | 7                | M   | DA, H3K27M-wt                        | N                      | 0.45| 0.75| 45.00                             | no increased uptake               | 16.00                             | 38  |
| 15   | 8                | M   | AA, H3K27M-wt                        | N                      | 0.44| 0.67| 31.46                             | no increased uptake               | 7.00                              | 27  |
| 16   | 9                | F   | AA, H3K27M-m                         | N                      | 1.22| 2.49| 26.69                             | 13.91                             | 15.08                             | 12  |
| 17   | 10               | M   | GB, H3K27M-m                         | Y                      | 2.32| 3.78| 46.00                             | 31.00                             | 42.00                             | 6   |
| 18   | 10               | F   | GB, H3K27M-m                         | N                      | 1.73| 2.52| 27.77                             | 8.61                              | 26.00                             | 9   |
| 19   | 10               | F   | ND                                   | Y                      | 1.70| 2.89| 26.00                             | 18.00                             | 20.00                             | 6   |

*OS* overall survival, *M* male, *F* female, *DA* diffuse astrocytoma, *AA* anaplastic astrocytoma, *GB* glioblastoma, *wt* wildtype, *m* mutant, *ND* not done, *Y* yes, *N* no