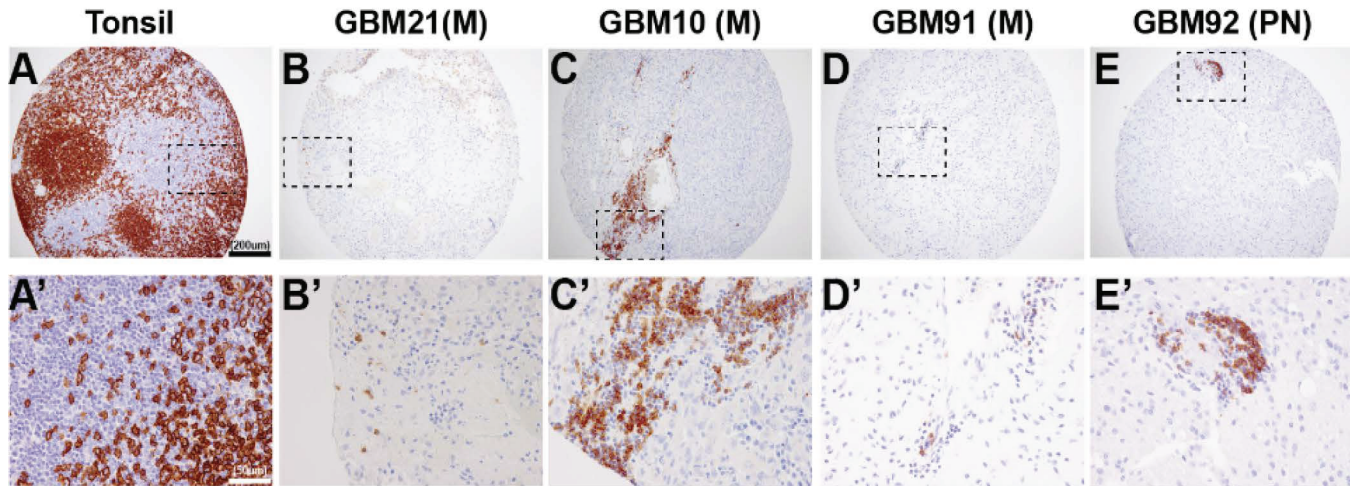


## Supplementary Materials

### Supplementary Figure S1. GBM tumors contain few B cells.

The panel above shows representative images (B-E; B'-E') from GBM stained for CD20 (in brown). Among all our cohort, CD20 positive B cells were only found in four cases. On the left, samples of Tonsil are used as controls (A, A').

# CD20



Supplementary Figure S1

**Supplementary Table S1. Clinical data and patient classification.**

| TMA number | Subtype | Survival in months | IDH1 R132H      |
|------------|---------|--------------------|-----------------|
| TMA1GBM1   | PN      | 7                  |                 |
| TMA1GBM2   | M       | 4                  |                 |
| TMA1GBM3   | PN      | >120               | <b>POSITIVE</b> |
| TMA1GBM4   | M       | 11                 |                 |
| TMA1GBM5   | CL      | 11                 |                 |
| TMA1GBM6   | M       | 4                  |                 |
| TMA1GBM7   | CL      | 12                 |                 |
| TMA1GBM8   | M       | 8                  |                 |
| TMA1GBM9   | PN      | 4                  |                 |
| TMA1GBM10  | M       | 12                 |                 |
| TMA1GBM11  | CL      | 13                 |                 |
| TMA1GBM12  | M       | 1                  |                 |
| TMA1GBM13  | CL      | 20                 |                 |
| TMA1GBM14  | N       | >120               |                 |
| TMA1GBM15  | N       | 4                  |                 |
| TMA1GBM16  | CL      | 3                  |                 |
| TMA1GBM17  | CL      | 1                  |                 |
| TMA1GBM18  | PN      | 7                  |                 |
| TMA1GBM19  | M       | 28                 |                 |
| TMA1GBM20  | CL      | 11                 |                 |
| TMA1GBM21  | M       | 5                  |                 |
| TMA1GBM22  | N       | 16                 |                 |
| TMA1GBM23  | N       | 15                 |                 |
| TMA1GBM24  | CL      | 22                 |                 |
| TMA1GBM25  | CL      | 11                 |                 |
| TMA1GBM26  | M       | 13                 |                 |
| TMA1GBM27  | CL      | 28                 |                 |
| TMA1GBM28  | N       | >100               | <b>POSITIVE</b> |
| TMA1GBM29  | PN      | 4                  |                 |
| TMA1GBM30  | N       | 24                 |                 |
| TMA1GBM31  | N       | 74                 |                 |
| TMA1GBM32  | CL      | 10                 |                 |
| TMA1GBM33  | N       | 21                 |                 |
| TMA1GBM34  | M       | 11                 |                 |
| TMA1GBM35  | PN      | 6                  |                 |
| TMA1GBM36  | PN      | 17                 |                 |
| TMA1GBM37  | N       | 16                 |                 |
| TMA1GBM38  | PN      | >88                |                 |
| TMA1GBM39  | N       | 7                  |                 |
| TMA1GBM40  | PN      | >77                |                 |
| TMA1GBM41  | CL      | 16                 |                 |
| TMA1GBM42  | CL      | 19                 |                 |
| TMA1GBM43  | PN      | 12                 |                 |
| TMA1GBM44  | N       | 15                 |                 |
| TMA1GBM45  | PN      | 23                 |                 |
| TMA1GBM46  | CL      | 12                 |                 |
| TMA1GBM47  | CL      | 20                 |                 |
| TMA1GBM48  | M       | 4                  |                 |
| TMA1GBM49  | PN      | >88                |                 |
| TMA1GBM50  | PN      | 0                  |                 |
| TMA1GBM51  | M       | 6                  |                 |
| TMA1GBM52  | PN      | 2                  |                 |

**Supplementary Table S1. Clinical data and patient classification.**

| TMA number | Subtype | Survival in months | IDH1 R132H |
|------------|---------|--------------------|------------|
| TMA1GBM53  | M       | 4                  |            |
| TMA1GBM54  | PN      | 2                  |            |
| TMA1GBM55  | N       | 45                 |            |
| TMA1GBM56  | CL      | 13                 |            |
| TMA2GBM57  | M       | 19                 |            |
| TMA2GBM58  | M       | 12                 |            |
| TMA2GBM59  | PN      | >70                |            |
| TMA2GBM60  | N       | 3                  |            |
| TMA2GBM61  | N       | 8                  |            |
| TMA2GBM62  | N       | 12                 |            |
| TMA2GBM63  | CL      | 15                 |            |
| TMA2GBM64  | PN      | 4                  |            |
| TMA2GBM65  | N       | >43                |            |
| TMA2GBM66  | M       | 1                  |            |
| TMA2GBM67  | N       | 0                  |            |
| TMA2GBM68  | M       | 0                  |            |
| TMA2GBM69  | N       | 18                 |            |
| TMA2GBM70  | PN      | 13                 |            |
| TMA2GBM71  | M       | 1                  |            |
| TMA2GBM72  | M       | 12                 |            |
| TMA2GBM73  | PN      | 8                  |            |
| TMA2GBM74  | M       | 2                  |            |
| TMA2GBM75  | M       | 22                 |            |
| TMA2GBM76  | CL      | 22                 |            |
| TMA2GBM77  | PN      | 4                  |            |
| TMA2GBM78  | PN      | 12                 |            |
| TMA2GBM79  | PN      | 12                 |            |
| TMA2GBM80  | CL      | 13                 |            |
| TMA2GBM81  | PN      | 4                  |            |
| TMA2GBM82  | PN      | 4                  |            |
| TMA2GBM83  | N       | 10                 |            |
| TMA2GBM84  | N       | 13                 |            |
| TMA2GBM85  | N       | 33                 |            |
| TMA2GBM86  | PN      | 47                 |            |
| TMA2GBM87  | N       | 14                 |            |
| TMA2GBM88  | M       | 8                  |            |
| TMA2GBM89  | CL      | 4                  |            |
| TMA2GBM90  | M       | 60                 |            |
| TMA2GBM91  | M       | 32                 |            |
| TMA2GBM92  | PN      | 16                 |            |
| TMA2GBM93  | CL      | 5                  |            |
| TMA2GBM94  | M       | 11                 |            |
| TMA2GBM95  | CL      | 9                  |            |
| TMA2GBM96  | M       | 22                 |            |
| TMA2GBM97  | CL      | 15                 |            |
| TMA2GBM98  | CL      | 12                 |            |

**Supplementary Table S1**

**Supplementary Table S2: List of antibodies used in the study.**

| <b>Antibody</b> | <b>Company</b> | <b>Catalog #</b> | <b>Clone</b> | <b>Diluton</b> |
|-----------------|----------------|------------------|--------------|----------------|
| CD3             | LEICA          | PA0553           | LN10         | RTU            |
| CD5             | LEICA          | PA0168           |              | RTU            |
| CD4             | LEICA          | PA0427           | 4B12         | RTU            |
| CD8             | DAKO           | M7103            | C8/144B      | 1:40           |
| CD68            | LEICA          | PA0273           | 514H12       | RTU            |
| CD163           | LEICA          | NCL-L-CD163      |              | 1:50           |
| IDH             | DIANOVA        | DIA-H09          | R132H        | 1:100          |
| CD20            | DAKO           | IR60461          | L26          | RTU            |

**Supplementary Table S3: Results from Inform for each immune marker.**

| TMA ID   | CD68<br>Positivity | CD68<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD163<br>Positivity | CD163<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD3<br>Positivity | CD3<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD4<br>Positivity | CD5<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD8<br>Positivity | CD8<br>Tissue<br>Category<br>Area<br>(Tumor %) |
|----------|--------------------|---|---------------------|--|-------------------|--|-------------------|--|-------------------|--|
| TMA1GMB1 | 0.271              | 0.6117  | 0.9645              | 0.4144   | 0.0034            | 0.6509   | 0.0022            | 0.6275   | 0.0027            | 0.6406   |
| TMA1GMB1 | 0.0219             | 0.5748  | 0.9845              | 0.5104   | 0.0131            | 0.5831   | 0.003             | 0.523  | 0.0092            | 0.5544   |
| TMA1GMB1 | 0.034              | 0.6136  | 0.8504              | 0.5394   | 0.013             | 0.635  |                   |  |                   |  |
| TMA1GMB2 | 0.0715             | 0.6313  | 0.1441              | 0.4159   | 0.0025            | 0.6393   | 0.0044            | 0.641  | 0.0016            | 0.6357   |
| TMA1GMB2 | 0.0959             | 0.6273  | 0.182               | 0.6024   | 0.0162            | 0.6327   | 0.0035            | 0.6164   | 0.0122            | 0.6159   |
| TMA1GMB2 | 0.078              | 0.6323  | 0.216               | 0.5097   | 0.002             | 0.6394   | 0.0035            | 0.6144   | 0.007             | 0.5789   |
| TMA1GMB3 | 0.0057             | 0.5717  | 0.013               | 0.5966   | 0.0066            | 0.5868   | 0.0024            | 0.6082   | 0.0062            | 0.5838   |
| TMA1GMB3 | 0.003              | 0.4301  | 0.0369              | 0.5214   | 0.0018            | 0.4412   | 0.0005            | 0.5957   | 0.0023            | 0.5798   |
| TMA1GMB3 | 0.0201             | 0.6627  | 0.2399              | 0.6217   | 0.0326            | 0.6704   | 0.0013            | 0.6802   | 0.0075            | 0.6924   |
| TMA1GMB4 | 0.4983             | 0.5893  | 0.9528              | 0.2444   | 0.0662            | 0.6478   | 0.0094            | 0.6301   | 0.0072            | 0.5448   |
| TMA1GMB4 | 0.0398             | 0.701   | 0.302               | 0.6397   | 0.0018            | 0.7014   | 0.0006            | 0.6985   | 0.0006            | 0.7018   |
| TMA1GMB4 | 0.0314             | 0.6881  | 0.4751              | 0.5678   | 0.0044            | 0.6893   | 0.0006            | 0.6797   | 0.0048            | 0.6754   |
| TMA1GMB5 | 0.1713             | 0.3959  | 0.3451              | 0.1098   | 0.0154            | 0.3082   | 0.0035            | 0.5507   | 0.0013            | 0.2893   |
| TMA1GMB5 | 0.4699             | 0.1952  | 0.4559              | 0.1934   | 0.0122            | 0.187  | 0.0023            | 0.5789   | 0.0015            | 0.5875   |
| TMA1GMB6 | 0.0921             | 0.6891  | 0.1868              | 0.6394   | 0.0051            | 0.6986   | 0.0015            | 0.7161   | 0.0007            | 0.7076   |
| TMA1GMB6 | 0.3193             | 0.4973  | 0.6269              | 0.6368   | 0.0439            | 0.7143   | 0.0101            | 0.7121   | 0.0196            | 0.6341   |
| TMA1GMB6 | 0.0451             | 0.6932  | 0.0358              | 0.6595   | 0.0024            | 0.7013   | 0.0001            | 0.7039   | 0.0006            | 0.6488   |
| TMA1GMB6 | 0.0391             | 0.7033  | 0.0417              | 0.7067   | 0.002             | 0.707  | 0.0003            | 0.6772   | 0.0012            | 0.6685   |
| TMA1GMB6 | 0.004              | 0.5353  | 0.0912              | 0.2419   | 0.0054            | 0.4767   | 0.0081            | 0.4035   | 0.0025            | 0.2731   |
| TMA1GMB7 | 0.1344             | 0.7026  | 0.1011              | 0.7153   | 0.0391            | 0.7258   | 0.0055            | 0.7178   | 0.0348            | 0.7283   |
| TMA1GMB7 | 0.0546             | 0.5547  | 0.1015              | 0.5641   | 0.0076            | 0.605  | 0.0023            | 0.6656   | 0.004             | 0.6432   |
| TMA1GMB7 | 0.067              | 0.729   | 0.0101              | 0.7399   | 0.0157            | 0.7446   | 0.0063            | 0.7255   | 0.0116            | 0.7268   |
| TMA1GMB8 | 0.2034             | 0.4094  | 0.6109              | 0.5218   | 0.0135            | 0.6759   | 0.0011            | 0.6866   | 0                 | 0.6711   |
| TMA1GMB8 | 0.0881             | 0.6816  | 0.1431              | 0.6661   | 0.0031            | 0.6973   | 0.0037            | 0.682  | 0.0004            | 0.6891   |
| TMA1GMB8 | 0.0505             | 0.6755  | 0.0503              | 0.5286   | 0.0007            | 0.6586   | 0.0005            | 0.6957   | 0.0002            | 0.6921   |
| TMA1GMB9 | 0.0577             | 0.6701  | 0.1115              | 0.6704   | 0.0015            | 0.6803   | 0.0021            | 0.5694   | 0.0003            | 0.557  |
| TMA1GMB9 | 0.1321             | 0.6781  | 0.4841              | 0.6393   | 0.0023            | 0.6787   | 0.0045            | 0.5301   | 0.0019            | 0.585  |
| TMAGBM10 | 0.5326             | 0.4901  | 0.9685              | 0.3653   | 0.0548            | 0.6434   | 0.0067            | 0.6399   | 0.0172            | 0.636  |
| TMAGBM10 | 0.4269             | 0.3848  | 0.9685              | 0.2299   | 0.0721            | 0.5874   | 0.0115            | 0.6394   | 0.0318            | 0.6295   |
| TMAGBM10 | 0.4727             | 0.5342  | 0.9071              | 0.5447   | 0.2073            | 0.6532   | 0.0326            | 0.6533   | 0.1202            | 0.624  |
| TMAGBM11 | 0.0217             | 0.7046  | 0.0044              | 0.7046   | 0.0017            | 0.6981   | 0.0002            | 0.6987   | 0.0006            | 0.6964   |
| TMAGBM11 | 0.0163             | 0.6066  | 0.0183              | 0.614  | 0.0036            | 0.6213   | 0.0054            | 0.6244   | 0.0124            | 0.6094   |
| TMAGBM11 | 0.0379             | 0.1613  | 0.1133              | 0.4801   | 0.013             | 0.3612   | 0.009             | 0.3662   | 0.0009            | 0.2744   |
| TMAGBM12 | 0.0154             | 0.6212  | 0.2692              | 0.5545   | 0.0064            | 0.6554   | 0.0041            | 0.6397   | 0.0003            | 0.6048   |
| TMAGBM12 | 0.0201             | 0.3753  | 0.2081              | 0.4175   | 0.0128            | 0.4646   | 0.0046            | 0.5009   | 0.0009            | 0.4783   |
| TMAGBM12 | 0.0411             | 0.6538  | 0.2633              | 0.6127   | 0.0032            | 0.6709   | 0.0057            | 0.6687   | 0.0003            | 0.5956   |

**Supplementary Table S3: Results from Inform for each immune marker.**

| TMA ID   | CD68<br>Positivity | CD68<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD163<br>Positivity | CD163<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD3<br>Positivity | CD3<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD4<br>Positivity | CD5<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD8<br>Positivity | CD8<br>Tissue<br>Category<br>Area<br>(Tumor %) |
|----------|--------------------|---|---------------------|--|-------------------|--|-------------------|--|-------------------|--|
| TMAGBM13 | 0.0547             | 0.6636  | 0.0109              | 0.6726   | 0.0009            | 0.6666   | 0.0001            | 0.6795   | 0.0002            | 0.6877   |
| TMAGBM13 | 0.1059             | 0.6235  | 0.0499              | 0.6387   | 0.0036            | 0.6372   | 0.0018            | 0.6356   | 0.0007            | 0.6342   |
| TMAGBM13 | 0.1294             | 0.5001  | 0.0806              | 0.6114   | 0.0022            | 0.613  | 0.0007            | 0.6314   | 0.0001            | 0.6406   |
| TMAGBM14 | 0.0682             | 0.6869  | 0.208               | 0.6008   | 0.02              | 0.6907   | 0.0035            | 0.6869   | 0.0112            | 0.6953   |
| TMAGBM14 | 0.0311             | 0.5341  | 0.1474              | 0.5226   | 0.0085            | 0.5862   | 0.0046            | 0.5246   | 0.0042            | 0.5285   |
| TMAGBM14 | 0.0666             | 0.6883  | 0.0577              | 0.6716   | 0.0051            | 0.6952   | 0.0043            | 0.6362   | 0.006             | 0.6701   |
| TMAGBM15 | 0.0102             | 0.6214  | 0.0078              | 0.5441   | 0.008             | 0.3584   | 0.0001            | 0.5534   | 0.0017            | 0.3589   |
| TMAGBM15 | 0.0006             | 0.6004  | 0.0087              | 0.614  | 0.003             | 0.6163   | 0.0028            | 0.4238   | 0                 | 0.4651   |
| TMAGBM15 | 0.1406             | 0.6032  | 0.9739              | 0.4563   | 0.0314            | 0.5833   | 0.0082            | 0.6267   | 0                 | 0.6464   |
| TMAGBM16 | 0.0906             | 0.6118  | 0.3708              | 0.6002   | 0.0008            | 0.6485   | 0.0004            | 0.6441   | 0.0011            | 0.6204   |
| TMAGBM16 | 0.1364             | 0.3569  | 0.4532              | 0.1222   | 0.0047            | 0.2249   | 0.003             | 0.5283   | 0.0012            | 0.2135   |
| TMAGBM16 | 0.0934             | 0.5101  | 0.2533              | 0.1371   | 0.056             | 0.1939   | 0.0037            | 0.4841   | 0.0034            | 0.2455   |
| TMAGBM16 | 0.0381             | 0.7323  | 0.1584              | 0.7069   | 0.0001            | 0.7273   | 0                 | 0.7077   | 0.0003            | 0.7075   |
| TMAGBM16 | 0.025              | 0.7236  | 0.0465              | 0.6968   | 0.002             | 0.7341   | 0                 | 0.7094   | 0.0017            | 0.704  |
| TMAGBM16 | 0.0333             | 0.6738  | 0.2155              | 0.6152   | 0.0025            | 0.6752   | 0.0011            | 0.5937   | 0.0019            | 0.5852   |
| TMAGBM17 | 0.1638             | 0.4824  | 0.3018              | 0.3727   | 0.0198            | 0.5523   | 0.0023            | 0.6376   | 0.0024            | 0.6329   |
| TMAGBM17 | 0.1445             | 0.5745  | 0.79                | 0.5255   | 0.0047            | 0.5957   | 0.0009            | 0.5871   | 0                 | 0.6109   |
| TMAGBM17 | 0.168              | 0.5287  | 0.615               | 0.4996   | 0.0077            | 0.5692   | 0.0121            | 0.5753   | 0                 | 0.5655   |
| TMAGBM18 | 0.1915             | 0.1912  | 0.4751              | 0.2474   | 0.0413            | 0.2616   | 0.0185            | 0.596  | 0.0459            | 0.5951   |
| TMAGBM18 | 0.0512             | 0.6325  | 0.0118              | 0.6399   | 0.0019            | 0.6358   | 0.0018            | 0.6543   | 0.0039            | 0.6575   |
| TMAGBM18 | 0.0296             | 0.4818  | 0.1357              | 0.5113   | 0.004             | 0.5044   | 0.0116            | 0.6008   | 0.003             | 0.5903   |
| TMAGBM19 | 0.3716             | 0.5878  | 0.7323              | 0.5281   | 0.0903            | 0.6259   | 0.0093            | 0.6034   | 0.0427            | 0.6124   |
| TMAGBM19 | 0.3452             | 0.5289  | 0.9596              | 0.4525   | 0.1786            | 0.6187   | 0.0133            | 0.6207   | 0.1172            | 0.6277   |
| TMAGBM19 | 0.5644             | 0.5048  | 0.7873              | 0.57   | 0.0466            | 0.6005   | 0.021             | 0.5799   | 0.0161            | 0.5971   |
| TMAGBM19 | 0.5344             | 0.5851  | 0.7813              | 0.5782   | 0.0319            | 0.6177   | 0.0057            | 0.6118   | 0.0312            | 0.6322   |
| TMAGBM20 | 0.1031             | 0.5988  | 0.0054              | 0.5876   | 0.0018            | 0.6032   | 0.0015            | 0.5888   | 0.0019            | 0.6082   |
| TMAGBM20 | 0.0056             | 0.6213  | 0.0112              | 0.6306   | 0.0039            | 0.6289   | 0.0015            | 0.6208   | 0.002             | 0.6427   |
| TMAGBM20 | 0.0611             | 0.5943  | 0.0853              | 0.9819   | 0.0017            | 0.693  | 0.0008            | 0.6754   | 0.0008            | 0.6935   |
| TMAGBM21 | 0.8151             | 0.3243  | 0.782               | 0.6983   | 0.0156            | 0.7161   | 0.0251            | 0.6986   | 0.0021            | 0.7113   |
| TMAGBM21 | 0.8505             | 0.0615  | 0.8261              | 0.4132   | 0.0246            | 0.6459   | 0.0164            | 0.628  | 0.0024            | 0.5871   |
| TMAGBM21 | 0.8792             | 0.1382  | 0.8671              | 0.6077   | 0.0464            | 0.6655   | 0.0215            | 0.6335   | 0.0044            | 0.6137   |
| TMAGBM22 | 0.667              | 0.398   | 0.4183              | 0.9783   | 0.0257            | 0.6848   | 0.014             | 0.6637   | 0.0037            | 0.6807   |
| TMAGBM22 | 0.6088             | 0.2737  | 0.2441              | 0.9728   | 0.0398            | 0.6651   | 0.0208            | 0.6582   | 0.0066            | 0.6583   |
| TMAGBM22 | 0.5082             | 0.375   | 0.6281              | 0.9232   | 0.0339            | 0.6814   | 0.0238            | 0.6692   | 0.0062            | 0.6787   |
| TMAGBM23 | 0.8103             | 0.655   | 0.1393              | 0.9929   | 0.0094            | 0.748  | 0.0024            | 0.7595   | 0.0068            | 0.7364   |
| TMAGBM23 | 0.0526             | 0.1317  | 0.0936              | 0.9937   | 0.0048            | 0.7372   | 0.0075            | 0.7419   | 0.0178            | 0.7297   |
| TMAGBM23 | 0.2579             | 0.5625  | 0.2026              | 0.8991   | 0.0082            | 0.713  | 0.0024            | 0.6829   | 0.0043            | 0.6957   |

**Supplementary Table S3: Results from Inform for each immune marker.**

| TMA ID   | CD68<br>Positivity | CD68<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD163<br>Positivity | CD163<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD3<br>Positivity | CD3<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD4<br>Positivity | CD5<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD8<br>Positivity | CD8<br>Tissue<br>Category<br>Area<br>(Tumor %) |
|----------|--------------------|---|---------------------|--|-------------------|--|-------------------|--|-------------------|--|
| TMAGBM24 | 0.0862             | 0.5821  | 0.0672              | 0.9458   | 0.004             | 0.6602   | 0.0117            | 0.627  | 0.001             | 0.6364   |
| TMAGBM24 | 0.1547             | 0.6553  | 0.1508              | 0.9925   | 0.0051            | 0.6855   | 0.0028            | 0.652  | 0.0031            | 0.6705   |
| TMAGBM24 | 0.1359             | 0.6444  | 0.129               | 0.9895   | 0.0016            | 0.6697   | 0.001             | 0.629  | 0.0027            | 0.6507   |
| TMAGBM25 | 0.0781             | 0.5654  | 0.0094              | 0.9918   | 0.0014            | 0.6966   | 0                 | 0.6727   | 0.0051            | 0.6716   |
| TMAGBM25 | 0.0845             | 0.6172  | 0.0334              | 0.9929   | 0.0003            | 0.6821   | 0.0005            | 0.6656   | 0.0031            | 0.6759   |
| TMAGBM25 | 0.1467             | 0.6439  | 0.0032              | 0.9971   | 0.0007            | 0.6865   | 0.0004            | 0.6469   | 0.0032            | 0.6818   |
| TMAGBM26 | 0.3801             | 0.2089  | 0.5373              | 0.9007   | 0.0034            | 0.6706   | 0.0014            | 0.6392   | 0.0015            | 0.4543   |
| TMAGBM26 | 0.3378             | 0.3529  | 0.645               | 0.8958   | 0.0063            | 0.6458   | 0.0098            | 0.6244   | 0.0013            | 0.4151   |
| TMAGBM26 | 0.7826             | 0.0889  | 0.6155              | 0.7876   | 0.0039            | 0.6381   | 0                 | 0.5311   | 0.0053            | 0.5268   |
| TMAGBM27 | 0.1443             | 0.7142  | 0.344               | 0.9887   | 0.0117            | 0.7466   | 0.0048            | 0.7457   | 0.0102            | 0.7359   |
| TMAGBM27 | 0.0278             | 0.7062  | 0.0226              | 0.9985   | 0.002             | 0.7399   | 0.001             | 0.7268   | 0.0099            | 0.7309   |
| TMAGBM27 | 0.1015             | 0.6765  | 0.0466              | 0.9886   | 0.0021            | 0.7222   | 0.0006            | 0.7086   | 0.0126            | 0.7132   |
| TMAGBM28 | 0.2314             | 0.5643  | 0.1396              | 0.9848   | 0.0023            | 0.6659   | 0.0005            | 0.6561   | 0.0035            | 0.6039   |
| TMAGBM28 | 0.3324             | 0.4351  | 0.2417              | 0.9363   | 0.0059            | 0.6138   | 0.0043            | 0.5784   | 0.0013            | 0.5604   |
| TMAGBM28 | 0.6799             | 0.2128  | 0.125               | 0.874  | 0.0044            | 0.4468   | 0.0045            | 0.5102   | 0.0026            | 0.4456   |
| TMAGBM29 | 0.1797             | 0.6561  | 0.6763              | 0.9186   | 0.0015            | 0.6857   | 0.0013            | 0.6771   | 0.0009            | 0.6991   |
| TMAGBM29 | 0.1025             | 0.6102  | 0.3771              | 0.9295   | 0.0101            | 0.6796   | 0.0016            | 0.6728   | 0.0021            | 0.6951   |
| TMAGBM29 | 0.0829             | 0.6471  | 0.2231              | 0.9805   | 0.0003            | 0.6757   | 0                 | 0.6429   |                   |  |
| TMAGBM30 | 0.0267             | 0.5783  | 0.1219              | 0.9447   | 0.0016            | 0.6649   | 0.0017            | 0.6479   | 0.0212            | 0.676  |
| TMAGBM30 | 0.2348             | 0.4946  | 0.0112              | 0.992  | 0.0029            | 0.3394   |                   |  |                   |  |
| TMAGBM30 | 0.0253             | 0.4799  | 0.0225              | 0.9745   | 0.0111            | 0.639  | 0                 | 0.3654   | 0.0226            | 0.6268   |
| TMAGBM30 | 0.282              | 0.6131  | 0.0278              | 0.993  | 0.0066            | 0.6604   | 0.0029            | 0.6523   | 0.0059            | 0.6583   |
| TMAGBM31 | 0.396              | 0.3177  | 0.959               | 0.4228   | 0.028             | 0.667  | 0.025             | 0.647  | 0.0131            | 0.4874   |
| TMAGBM31 | 0.1423             | 0.5956  | 0.9639              | 0.6973   | 0.0277            | 0.6782   | 0.0325            | 0.6686   | 0.0101            | 0.6074   |
| TMAGBM31 | 0.3009             | 0.566   | 0.8654              | 0.6165   | 0.0125            | 0.6881   | 0.0099            | 0.6706   | 0.0041            | 0.6209   |
| TMAGBM31 | 0                  | 0.3226  | 0.1678              | 0.9387   | 0.0022            | 0.718  | 0.0007            | 0.6913   | 0.0002            | 0.7164   |
| TMAGBM32 | 0.0846             | 0.6434  | 0.0545              | 0.9969   | 0.0035            | 0.6771   | 0.0005            | 0.6507   | 0.0024            | 0.6791   |
| TMAGBM32 | 0.0903             | 0.651   | 0.0671              | 0.9955   | 0.0079            | 0.6855   | 0.0017            | 0.6572   | 0.0033            | 0.6828   |
| TMAGBM32 | 0.0554             | 0.1755  | 0.0564              | 0.8497   | 0.0364            | 0.3703   | 0.0025            | 0.4855   | 0.0063            | 0.3702   |
| TMAGBM33 | 0.1046             | 0.5791  | 0.0055              | 0.9854   | 0.0039            | 0.6347   | 0.0017            | 0.5894   | 0.0019            | 0.459  |
| TMAGBM33 | 0.1186             | 0.5973  | 0.0073              | 0.9813   | 0.0047            | 0.6566   | 0.0067            | 0.6041   | 0.0068            | 0.6474   |
| TMAGBM33 | 0.2295             | 0.5526  | 0.1847              | 0.956  | 0.0074            | 0.626  | 0.001             | 0.5922   | 0.0094            | 0.5775   |
| TMAGBM34 | 0.2397             | 0.5586  | 0.3144              | 0.9359   | 0.0023            | 0.6675   | 0.0021            | 0.6699   | 0.0014            | 0.648  |
| TMAGBM34 | 0.0735             | 0.359   | 0.0207              | 0.9743   | 0.0051            | 0.6178   | 0.0015            | 0.5973   | 0.0023            | 0.5795   |
| TMAGBM34 | 0.2385             | 0.4923  | 0.3514              | 0.9214   | 0.0059            | 0.6982   | 0.0041            | 0.6994   | 0.0013            | 0.666  |
| TMAGBM34 | 0.0502             | 0.6376  | 0.009               | 0.9946   | 0.0039            | 0.6878   | 0.0051            | 0.6777   | 0.0034            | 0.6938   |
| TMAGBM35 | 0.0292             | 0.6968  | 0.0452              | 0.9932   | 0.0007            | 0.7769   | 0.0005            | 0.7801   | 0.0001            | 0.7797   |



**Supplementary Table S3: Results from Inform for each immune marker.**

| TMA ID   | CD68<br>Positivity | CD68<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD163<br>Positivity | CD163<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD3<br>Positivity | CD3<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD4<br>Positivity | CD5<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD8<br>Positivity | CD8<br>Tissue<br>Category<br>Area<br>(Tumor %) |
|----------|--------------------|---|---------------------|--|-------------------|--|-------------------|--|-------------------|--|
| TMAGBM35 | 0.1407             | 0.322   | 0.2412              | 0.9408   | 0.0094            | 0.5022   | 0.004             | 0.4212   | 0.0028            | 0.4906   |
| TMAGBM35 | 0.0034             | 0.5426  | 0.0023              | 0.991  | 0.002             | 0.6959   | 0.0005            | 0.6315   | 0.0004            | 0.6552   |
| TMAGBM36 | 0.4107             | 0.4096  | 0.0216              | 0.9116   | 0.0039            | 0.6861   | 0.0023            | 0.6712   | 0.0021            | 0.6951   |
| TMAGBM36 | 0.1744             | 0.5722  | 0.1995              | 0.956  | 0.0059            | 0.6653   | 0.002             | 0.6525   | 0.0011            | 0.6715   |
| TMAGBM36 | 0.502              | 0.3526  | 0.1986              | 0.9462   | 0.0054            | 0.6382   | 0.0024            | 0.4741   | 0.0007            | 0.6201   |
| TMAGBM36 | 0.1373             | 0.5875  | 0.0672              | 0.9897   | 0.0027            | 0.6808   | 0.0009            | 0.6677   | 0.0004            | 0.6933   |
| TMAGBM36 | 0.1502             | 0.5508  | 0.3413              | 0.7202   | 0.011             | 0.6501   | 0.0038            | 0.6464   | 0.0004            | 0.6573   |
| TMAGBM37 | 0.0587             | 0.6712  | 0.0572              | 0.9844   | 0.0053            | 0.7206   | 0                 | 0.7106   | 0.0074            | 0.722  |
| TMAGBM37 | 0.0737             | 0.663   | 0.0674              | 0.9938   | 0.0026            | 0.7266   | 0.0008            | 0.7273   | 0.0028            | 0.7342   |
| TMAGBM37 | 0.0966             | 0.6335  | 0.0994              | 0.9936   | 0.0031            | 0.6878   |                   |  | 0.002             | 0.3907   |
| TMAGBM37 | 0.081              | 0.6706  | 0.1636              | 0.9751   | 0.0047            | 0.7038   | 0.0017            | 0.6825   | 0.0016            | 0.713  |
| TMAGBM37 | 0.0127             | 0.6312  | 0.0868              | 0.9712   | 0.0028            | 0.6737   | 0                 | 0.6525   | 0.0006            | 0.6792   |
| TMAGBM38 | 0.0102             | 0.2767  | 0.0063              | 0.9334   | 0.0017            | 0.458  | 0.0007            | 0.4509   | 0.0004            | 0.4473   |
| TMAGBM38 | 0.0447             | 0.6569  | 0.0004              | 0.9944   | 0.0013            | 0.6917   | 0.0004            | 0.6868   | 0.0013            | 0.6583   |
| TMAGBM38 | 0.164              | 0.3793  | 0.0292              | 0.739  | 0.0278            | 0.5978   | 0.0089            | 0.5943   | 0.0135            | 0.4349   |
| TMAGBM38 | 0.0397             | 0.3238  | 0.0036              | 0.9901   | 0.0009            | 0.6564   | 0.0034            | 0.6536   | 0.0067            | 0.6587   |
| TMAGBM39 | 0.0435             | 0.4901  | 0.1698              | 0.9444   | 0.0257            | 0.6215   | 0.0007            | 0.6348   | 0.0007            | 0.6363   |
| TMAGBM39 | 0.4021             | 0.1974  | 0.0091              | 0.9682   | 0.0122            | 0.6278   | 0.0135            | 0.6751   | 0.005             | 0.6508   |
| TMAGBM39 | 0.2806             | 0.4149  | 0.0442              | 0.971  | 0.0294            | 0.6503   | 0.0017            | 0.6658   | 0.0048            | 0.6528   |
| TMAGBM40 | 0.2058             | 0.3537  | 0.2164              | 0.924  | 0.0044            | 0.5902   | 0.0019            | 0.611  | 0.0031            | 0.619  |
| TMAGBM40 | 0.0433             | 0.2225  | 0.0057              | 0.9743   | 0.0068            | 0.5957   | 0.0027            | 0.6144   | 0.0024            | 0.6115   |
| TMAGBM40 | 0.1559             | 0.4652  | 0.1098              | 0.8595   | 0.0112            | 0.6262   | 0.0211            | 0.6388   | 0.0166            | 0.6224   |
| TMAGBM41 | 0.7062             | 0.3463  | 0.5876              | 0.7373   | 0.0096            | 0.2634   |                   |  |                   |  |
| TMAGBM41 | 0.2175             | 0.2062  | 0.875               | 0.4579   | 0.0086            | 0.5854   | 0.0037            | 0.5799   | 0.0031            | 0.5486   |
| TMAGBM41 | 0.1155             | 0.6627  | 0.058               | 0.9968   | 0.0036            | 0.6661   | 0                 | 0.6845   | 0.0007            | 0.6798   |
| TMAGBM41 | 0.0725             | 0.589   | 0.0273              | 0.9953   | 0.0024            | 0.6399   | 0.001             | 0.6509   | 0.0004            | 0.6497   |
| TMAGBM41 | 0.0824             | 0.5088  | 0.2483              | 0.9163   | 0.0214            | 0.6248   | 0.0059            | 0.6543   | 0.0059            | 0.6314   |
| TMAGBM42 | 0.0892             | 0.6013  | 0.0248              | 0.9958   | 0.0026            | 0.6685   | 0.0011            | 0.6691   | 0.0002            | 0.6698   |
| TMAGBM42 | 0.0423             | 0.5987  | 0.0488              | 0.9908   | 0.002             | 0.6847   | 0.0009            | 0.6822   | 0.0003            | 0.6757   |
| TMAGBM42 | 0.0637             | 0.576   | 0.0397              | 0.9932   | 0.0065            | 0.6518   | 0.0075            | 0.6513   | 0.0031            | 0.6427   |
| TMAGBM43 | 0.0122             | 0.6004  | 0.3045              | 0.9238   | 0.0005            | 0.614  | 0.001             | 0.6175   | 0.0126            | 0.6062   |
| TMAGBM43 | 0.0081             | 0.6777  | 0.0886              | 0.9902   | 0.0008            | 0.7044   | 0.0002            | 0.7113   | 0                 | 0.7016   |
| TMAGBM43 | 0.0164             | 0.6326  | 0.2174              | 0.9656   | 0.0011            | 0.6591   | 0.0004            | 0.677  | 0.0002            | 0.6666   |
| TMAGBM43 | 0.0192             | 0.3626  | 0.2396              | 0.6707   | 0.0028            | 0.5562   | 0.0007            | 0.5745   | 0.0041            | 0.5532   |
| TMAGBM43 | 0.0589             | 0.5113  | 0.034               | 0.9828   | 0.0008            | 0.6642   | 0.0003            | 0.6701   | 0.0003            | 0.6587   |
| TMAGBM44 | 0.795              | 0.3583  | 0.9184              | 0.4901   |                   |  |                   |  | 0.0147            | 0.3298   |
| TMAGBM44 | 0.0651             | 0.5179  | 0.3874              | 0.9421   |                   |  | 0.0026            | 0.7103   | 0.0021            | 0.7027   |

**Supplementary Table S3: Results from Inform for each immune marker.**

| TMA ID   | CD68<br>Positivity | CD68<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD163<br>Positivity | CD163<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD3<br>Positivity | CD3<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD4<br>Positivity | CD5<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD8<br>Positivity | CD8<br>Tissue<br>Category<br>Area<br>(Tumor %) |
|----------|--------------------|---|---------------------|--|-------------------|--|-------------------|--|-------------------|--|
| TMAGBM44 | 0.0637             | 0.5532  | 0.4367              | 0.9449   | 0.0079            | 0.4997   | 0.0017            | 0.697  | 0.0027            | 0.686  |
| TMAGBM45 | 0.0771             | 0.5095  | 0.7934              | 0.9596   | 0.0044            | 0.6199   | 0.0007            | 0.6417   | 0.0006            | 0.6457   |
| TMAGBM45 | 0.0371             | 0.1208  | 0.713               | 0.6089   |                   |  | 0.0052            | 0.64   |                   |  |
| TMAGBM45 | 0.2057             | 0.1665  | 0.1034              | 0.956  | 0.0221            | 0.2234   | 0.012             | 0.6838   | 0.0019            | 0.6673   |
| TMAGBM46 | 0.0798             | 0.6429  | 0.1726              | 0.9936   | 0.0027            | 0.6519   | 0.002             | 0.6754   | 0.0016            | 0.6718   |
| TMAGBM46 | 0.071              | 0.6337  | 0.0676              | 0.9913   | 0.01              | 0.6229   | 0.0012            | 0.675  | 0.0009            | 0.6669   |
| TMAGBM46 | 0.2843             | 0.4455  | 0.2279              | 0.9085   | 0.0083            | 0.6506   | 0.0025            | 0.6571   | 0.0017            | 0.6223   |
| TMAGBM46 | 0.022              | 0.3552  | 0.1828              | 0.9508   | 0.0053            | 0.6124   | 0.0011            | 0.6229   | 0.0014            | 0.5716   |
| TMAGBM47 | 0.0276             | 0.5594  | 0.0859              | 0.9793   | 0.0007            | 0.6263   | 0.0002            | 0.6565   | 0.0001            | 0.6504   |
| TMAGBM47 | 0.0744             | 0.5234  | 0.0071              | 0.9941   | 0.0012            | 0.6271   | 0.0004            | 0.6297   | 0.0007            | 0.6221   |
| TMAGBM47 | 0.129              | 0.5545  | 0.1635              | 0.993  | 0.0039            | 0.6618   | 0.0007            | 0.6663   | 0.0002            | 0.6688   |
| TMAGBM47 | 0.2844             | 0.3116  | 0.2721              | 0.9005   | 0.0225            | 0.5131   | 0.0233            | 0.4785   | 0.0123            | 0.4251   |
| TMAGBM47 | 0.1371             | 0.6193  | 0.1075              | 0.9956   | 0.0058            | 0.6722   | 0.003             | 0.6862   | 0.0017            | 0.6769   |
| TMAGBM48 | 0.7144             | 0.213   | 0.9286              | 0.8361   |                   |  | 0.0102            | 0.1528   | 0.0053            | 0.0839   |
| TMAGBM48 | 0.0729             | 0.2148  | 0.4412              | 0.3592   | 0.0209            | 0.6648   | 0.0076            | 0.6817   | 0.0029            | 0.668  |
| TMAGBM48 | 0.1267             | 0.3064  | 0.2578              | 0.4659   | 0.0031            | 0.6447   | 0.0025            | 0.6719   | 0.0015            | 0.6646   |
| TMAGBM49 | 0.045              | 0.5598  | 0.0431              | 0.9799   | 0.0016            | 0.6126   | 0.0031            | 0.5988   | 0.0005            | 0.591  |
| TMAGBM49 | 0.049              | 0.6062  | 0.0177              | 0.9919   | 0.0017            | 0.6293   | 0.0016            | 0.643  | 0.0003            | 0.6422   |
| TMAGBM49 | 0.0207             | 0.4297  | 0.1042              | 0.9297   | 0.0002            | 0.5573   | 0.0022            | 0.5129   | 0.0006            | 0.4208   |
| TMAGBM50 | 0.1463             | 0.3265  | 0.7938              | 0.7015   | 0.0052            | 0.6495   | 0.0013            | 0.6619   | 0.0003            | 0.6719   |
| TMAGBM50 | 0.1418             | 0.3347  | 0.421               | 0.7559   | 0.055             | 0.59   | 0.0165            | 0.6218   | 0.0049            | 0.488  |
| TMAGBM50 | 0.0812             | 0.236   | 0.0979              | 0.9589   | 0.0026            | 0.2027   | 0.0008            | 0.3786   | 0.0009            | 0.3854   |
| TMAGBM51 | 0.7654             | 0.5578  | 1                   | 0.3002   | 0.0389            | 0.6584   | 0.0484            | 0.6875   | 0.0104            | 0.6826   |
| TMAGBM51 | 0.9413             | 0.177   | 0.9403              | 0.7162   | 0.0239            | 0.5852   | 0.0354            | 0.6161   | 0                 | 0.2149   |
| TMAGBM51 | 0.884              | 0.2756  | 0.9259              | 0.4984   | 0.0267            | 0.6  | 0.0051            | 0.6308   | 0.0013            | 0.3406   |
| TMAGBM52 | 0.149              | 0.5915  | 0.155               | 0.9665   | 0.0034            | 0.6712   | 0.0018            | 0.6742   | 0.0004            | 0.6623   |
| TMAGBM52 | 0.0346             | 0.6148  | 0.1553              | 0.9767   | 0.0051            | 0.6384   | 0.0031            | 0.6649   | 0.0006            | 0.6533   |
| TMAGBM52 | 0.0837             | 0.4857  | 0.4362              | 0.7794   | 0.0176            | 0.6749   | 0.0099            | 0.6871   | 0.0002            | 0.6648   |
| TMAGBM53 | 0.2972             | 0.2062  | 1                   | 0.4058   | 0.0282            | 0.5588   | 0.0248            | 0.5159   | 0.0041            | 0.437  |
| TMAGBM53 | 0.4353             | 0.339   | 1                   | 0.3691   | 0.0347            | 0.6074   | 0.0277            | 0.6282   | 0.0028            | 0.57   |
| TMAGBM53 | 0.0877             | 0.3754  | 0.1967              | 0.7491   | 0.0085            | 0.6226   | 0.0046            | 0.6254   | 0.0014            | 0.5992   |
| TMAGBM54 | 0.7016             | 0.651   | 1                   | 0.2893   | 0.0765            | 0.6621   | 0.0258            | 0.6803   | 0.0287            | 0.6701   |
| TMAGBM54 | 0.1703             | 0.3695  | 1                   | 0.3387   | 0.0295            | 0.6298   | 0.0136            | 0.6573   | 0.0208            | 0.464  |
| TMAGBM54 | 0.3803             | 0.292   | 0.7073              | 0.3409   | 0.0193            | 0.6785   | 0.0169            | 0.6731   | 0.0089            | 0.6382   |
| TMAGBM54 | 0.3401             | 0.5339  | 0.8357              | 0.5285   | 0.0182            | 0.6617   | 0.0069            | 0.6947   | 0.0124            | 0.7031   |
| TMAGBM55 | 0.1986             | 0.548   | 0.7458              | 0.8636   | 0.0189            | 0.5969   | 0.0172            | 0.5959   | 0.004             | 0.5738   |
| TMAGBM55 | 0.3601             | 0.392   | 0.9212              | 0.7976   | 0.0321            | 0.6242   | 0.0137            | 0.6222   | 0.0072            | 0.6124   |

**Supplementary Table S3: Results from Inform for each immune marker.**

| TMA ID    | CD68<br>Positivity | CD68<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD163<br>Positivity | CD163<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD3<br>Positivity | CD3<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD4<br>Positivity | CD5<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD8<br>Positivity | CD8<br>Tissue<br>Category<br>Area<br>(Tumor %) |
|-----------|--------------------|---|---------------------|--|-------------------|--|-------------------|--|-------------------|--|
| TMAGBM55  | 0.5861             | 0.3382  | 0.6684              | 0.5966   | 0.036             | 0.3325   |                   |  |                   |  |
| TMAGBM55  | 0.1166             | 0.3095  | 0.6108              | 0.9148   | 0.0222            | 0.6229   | 0.0119            | 0.6085   | 0.0058            | 0.6243   |
| TMAGBM56  | 0.147              | 0.3491  | 0.446               | 0.8715   | 0.0044            | 0.6249   |                   |  | 0.0015            | 0.6198   |
| TMAGBM56  | 0.4961             | 0.2151  | 0.7323              | 0.6327   | 0.0008            | 0.5883   | 0.0012            | 0.5882   | 0                 | 0.5603   |
| TMAGBM56  | 0.3282             | 0.1324  | 0.3049              | 0.772  | 0.0056            | 0.5025   | 0.0552            | 0.2953   | 0.0019            | 0.3377   |
| TMA2GBM57 | 0.6132             | 0.518   | 0.9931              | 0.514  | 0.0095            | 0.4814   | 0.0155            | 0.4381   | 0.0128            | 0.4489   |
| TMA2GBM57 | 0.179              | 0.6933  | 0.9978              | 0.6749   | 0.0054            | 0.6662   | 0.0241            | 0.6418   | 0.0033            | 0.6628   |
| TMA2GBM57 | 0.0342             | 0.5256  | 0.9682              | 0.5122   | 0.009             | 0.5137   | 0.0322            | 0.5228   | 0.0041            | 0.5327   |
| TMA2GBM58 | 0.1116             | 0.6485  | 0.6236              | 0.6299   | 0.0021            | 0.639  | 0.0019            | 0.6119   | 0.001             | 0.6167   |
| TMA2GBM58 | 0.1639             | 0.6452  | 0.9718              | 0.5949   | 0.0057            | 0.6213   | 0.007             | 0.5777   | 0.0023            | 0.6072   |
| TMA2GBM58 | 0.2095             | 0.6697  | 0.9921              | 0.6511   | 0.0045            | 0.6704   | 0.0036            | 0.5943   | 0.0017            | 0.6331   |
| TMA2GBM59 | 0.0223             | 0.5876  | 0.24                | 0.4805   | 0.0009            | 0.5371   | 0.002             | 0.5513   | 0                 | 0.5709   |
| TMA2GBM59 | 0.0354             | 0.5881  | 0.0238              | 0.4887   | 0.0002            | 0.5535   | 0.0048            | 0.5442   | 0.0008            | 0.5629   |
| TMA2GBM59 | 0.123              | 0.578   | 0.0139              | 0.4889   | 0.0007            | 0.556  | 0.0085            | 0.556  | 0                 | 0.5787   |
| TMA2GBM60 | 0.1591             | 0.7736  | 0.7222              | 0.671  | 0.0022            | 0.753  | 0.0011            | 0.7371   | 0.0032            | 0.7526   |
| TMA2GBM60 | 0.4869             | 0.7192  | 0.9963              | 0.6247   | 0.0039            | 0.6345   | 0.0134            | 0.5296   | 0.0018            | 0.6417   |
| TMA2GBM60 | 0.2403             | 0.6836  | 0.9991              | 0.6615   | 0.0009            | 0.6618   | 0.0272            | 0.6176   | 0.0003            | 0.6819   |
| TMA2GBM61 | 0.1353             | 0.7064  | 0.8703              | 0.6457   | 0.0055            | 0.6673   | 0.0031            | 0.6556   | 0.0016            | 0.6563   |
| TMA2GBM61 | 0.6393             | 0.7074  | 0.9961              | 0.686  | 0.0168            | 0.6843   | 0.0083            | 0.6696   | 0.0091            | 0.677  |
| TMA2GBM61 | 0.4818             | 0.71  | 0.9848              | 0.6684   | 0.0188            | 0.6924   | 0.0164            | 0.6794   | 0.0082            | 0.6956   |
| TMA2GBM62 | 0.1488             | 0.7264  | 0.6118              | 0.0495   | 0.004             | 0.6718   | 0                 | 0.6945   | 0.0012            | 0.7053   |
| TMA2GBM62 | 0.1899             | 0.7169  | 0.0807              | 0.3618   | 0.0236            | 0.6682   | 0.0018            | 0.6713   | 0.0099            | 0.6883   |
| TMA2GBM62 | 0.056              | 0.6369  | 0.8381              | 0.5689   | 0.0018            | 0.5891   | 0                 | 0.5797   | 0.0003            | 0.6058   |
| TMA2GBM63 | 0.1183             | 0.6952  | 0.2268              | 0.5909   | 0.0051            | 0.6589   | 0.0038            | 0.6568   | 0.0042            | 0.6612   |
| TMA2GBM63 | 0.0425             | 0.7267  | 0.066               | 0.501  | 0.0032            | 0.6795   | 0.0047            | 0.673  | 0.0016            | 0.6913   |
| TMA2GBM63 | 0.1346             | 0.5578  | 0.4451              | 0.4824   | 0.0281            | 0.3758   | 0.0521            | 0.3567   | 0.0247            | 0.3146   |
| TMA2GBM64 | 0.1365             | 0.6417  | 0.9992              | 0.5271   | 0.0007            | 0.558  | 0.0507            | 0.5292   | 0.0019            | 0.5993   |
| TMA2GBM64 | 0.0825             | 0.5788  | 0.9951              | 0.6156   | 0.0036            | 0.6414   | 0.0075            | 0.5159   | 0.0017            | 0.654  |
| TMA2GBM64 | 0.0301             | 0.7232  | 0.9658              | 0.6866   | 0.0014            | 0.6991   | 0.0027            | 0.682  | 0.0002            | 0.6975   |
| TMA2GBM65 | 0.4406             | 0.5844  | 0.9932              | 0.5536   | 0.0098            | 0.4614   | 0.0119            | 0.5011   | 0.0075            | 0.4391   |
| TMA2GBM65 | 0.0676             | 0.5661  | 0.3669              | 0.5332   | 0.0017            | 0.6109   | 0.0023            | 0.6124   | 0.0026            | 0.6345   |
| TMA2GBM65 | 0.0654             | 0.4953  | 0.6347              | 0.3781   | 0.0022            | 0.5013   | 0.0023            | 0.4965   | 0.0004            | 0.4874   |
| TMA2GBM66 | 0.2558             | 0.4997  | 0.9786              | 0.4779   | 0.029             | 0.3507   | 0.0287            | 0.4058   | 0.0164            | 0.3203   |
| TMA2GBM66 | 0.0158             | 0.7113  | 0.8363              | 0.6879   | 0.0072            | 0.6834   | 0.0043            | 0.6704   | 0.0017            | 0.6945   |
| TMA2GBM66 | 0.0096             | 0.6901  | 0.3542              | 0.642  | 0.0009            | 0.6541   | 0.001             | 0.6438   | 0.0005            | 0.6644   |
| TMA2GBM67 | 0.105              | 0.6386  | 0.4977              | 0.5339   | 0.0014            | 0.4371   | 0.007             | 0.5669   | 0.0022            | 0.53   |
| TMA2GBM67 | 0.0839             | 0.6446  | 0.8298              | 0.4733   | 0.0025            | 0.4326   | 0.0057            | 0.3565   | 0.0005            | 0.4996   |

**Supplementary Table S3: Results from Inform for each immune marker.**

| TMA ID    | CD68<br>Positivity | CD68<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD163<br>Positivity | CD163<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD3<br>Positivity | CD3<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD4<br>Positivity | CD5<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD8<br>Positivity | CD8<br>Tissue<br>Category<br>Area<br>(Tumor %) |
|-----------|--------------------|---|---------------------|--|-------------------|--|-------------------|--|-------------------|--|
| TMA2GBM67 | 0.0865             | 0.6799  | 0.9891              | 0.6403   | 0.0116            | 0.6499   | 0.0063            | 0.6135   | 0.0055            | 0.5413   |
| TMA2GBM68 |                    |   | 0.9566              | 0.1838   |                   |  | 0.023             | 0.0351   | 0.0936            | 0.3101   |
| TMA2GBM68 | 0.2642             | 0.6569  | 0.999               | 0.6218   | 0.0255            | 0.6508   | 0.0088            | 0.6115   | 0.0219            | 0.627  |
| TMA2GBM68 | 0.2214             | 0.7036  | 0.9966              | 0.6779   | 0.0104            | 0.6979   | 0.0029            | 0.6645   | 0.002             | 0.6812   |
| TMA2GBM69 | 0.0309             | 0.6434  | 0.3594              | 0.5799   | 0.0008            | 0.5926   | 0.0002            | 0.6014   | 0.0006            | 0.6128   |
| TMA2GBM69 | 0.0074             | 0.6536  | 0.2343              | 0.614  | 0.0006            | 0.601  | 0.0006            | 0.601  | 0.0002            | 0.6408   |
| TMA2GBM69 |                    |   |                     |  |                   |  |                   |  |                   |  |
| TMA2GBM70 | 0.0088             | 0.6955  | 0.01                | 0.4689   | 0.0007            | 0.6292   | 0.0008            | 0.6517   | 0.0004            | 0.6348   |
| TMA2GBM70 | 0.0679             | 0.7068  | 0.0446              | 0.5234   | 0.0018            | 0.6768   | 0.0017            | 0.6704   | 0.0016            | 0.6778   |
| TMA2GBM70 | 0.0076             | 0.6994  | 0.0108              | 0.4854   | 0.0002            | 0.6659   | 0.0004            | 0.6694   | 0                 | 0.6734   |
| TMA2GBM71 | 0.0808             | 0.6203  | 0.9911              | 0.5442   | 0.0519            | 0.5867   | 0.0155            | 0.5362   | 0.0188            | 0.513  |
| TMA2GBM71 | 0.0733             | 0.6936  | 0.7314              | 0.5893   | 0.0198            | 0.6827   | 0.0034            | 0.6522   | 0.0202            | 0.6601   |
| TMA2GBM71 | 0.138              | 0.6952  | 0.988               | 0.6405   | 0.0052            | 0.6599   | 0.0016            | 0.6507   | 0.0014            | 0.655  |
| TMA2GBM72 | 0.0413             | 0.6414  | 0.2786              | 0.4863   | 0.0011            | 0.634  | 0.0003            | 0.6316   | 0.0016            | 0.6313   |
| TMA2GBM72 | 0.1673             | 0.5898  | 0.0679              | 0.1695   | 0.0013            | 0.6854   | 0.0008            | 0.6923   | 0.0021            | 0.7015   |
| TMA2GBM72 | 0.0242             | 0.7547  | 0.1348              | 0.7053   | 0.004             | 0.7002   | 0.0045            | 0.6852   | 0.0008            | 0.7157   |
| TMA2GBM73 | 0.0999             | 0.6911  | 0.0307              | 0.2509   | 0.0007            | 0.6564   | 0.0007            | 0.652  | 0.0011            | 0.6613   |
| TMA2GBM73 | 0.0946             | 0.5608  | 0.0229              | 0.5729   | 0.0012            | 0.4542   | 0.0335            | 0.3465   | 0.0008            | 0.4201   |
| TMA2GBM73 | 0.3357             | 0.4118  | 0.0443              | 0.25   | 0.0085            | 0.4494   | 0.0031            | 0.4115   | 0.0067            | 0.4419   |
| TMA2GBM74 | 0.1075             | 0.5628  | 0.917               | 0.5221   | 0.0078            | 0.4916   | 0.0035            | 0.503  | 0.0026            | 0.4599   |
| TMA2GBM74 | 0.2257             | 0.5951  | 0.8099              | 0.5595   | 0.0074            | 0.5749   | 0.0027            | 0.5382   | 0.0024            | 0.5686   |
| TMA2GBM74 | 0.1578             | 0.5973  | 0.8612              | 0.3286   | 0.002             | 0.5645   | 0.0004            | 0.5354   | 0.0032            | 0.5882   |
| TMA2GBM75 | 0.3827             | 0.2399  | 0.9918              | 0.1789   | 0.012             | 0.1669   | 0.0449            | 0.1745   | 0.0032            | 0.1715   |
| TMA2GBM75 | 0.0998             | 0.6203  | 0.6184              | 0.5748   | 0.0017            | 0.567  | 0.0075            | 0.5572   | 0                 | 0.5834   |
| TMA2GBM75 | 0.2144             | 0.6263  | 0.9985              | 0.6159   | 0.0046            | 0.6504   | 0.0036            | 0.6114   | 0.0009            | 0.6476   |
| TMA2GBM76 | 0.1057             | 0.7375  | 0.1323              | 0.6672   | 0.0027            | 0.6866   | 0.0034            | 0.6828   | 0.0015            | 0.7083   |
| TMA2GBM76 | 0.0082             | 0.7074  | 0.1791              | 0.6734   | 0.0009            | 0.669  | 0.0026            | 0.6639   | 0.0003            | 0.6943   |
| TMA2GBM76 | 0.1896             | 0.6157  | 0.695               | 0.514  | 0.0002            | 0.6518   | 0.0009            | 0.6285   | 0                 | 0.6563   |
| TMA2GBM77 | 0.1034             | 0.6822  | 0.0194              | 0.425  | 0.0008            | 0.6539   | 0.0027            | 0.6284   | 0.0007            | 0.6578   |
| TMA2GBM77 | 0.1147             | 0.6637  | 0.0531              | 0.2543   | 0.0028            | 0.6399   | 0.0009            | 0.6265   | 0.0006            | 0.6424   |
| TMA2GBM77 | 0.0746             | 0.7199  | 0.0059              | 0.5872   | 0.0033            | 0.6853   | 0.0018            | 0.6843   | 0.0011            | 0.6883   |
| TMA2GBM78 | 0.0671             | 0.5602  | 0.2063              | 0.5093   | 0.0024            | 0.538  | 0.0002            | 0.5643   | 0.0023            | 0.5233   |
| TMA2GBM78 | 0.0461             | 0.673   | 0.2027              | 0.6771   | 0.001             | 0.6756   | 0.0002            | 0.6549   | 0.0019            | 0.6366   |
| TMA2GBM78 | 0.0608             | 0.5629  | 0.2713              | 0.5464   | 0.0004            | 0.5466   | 0                 | 0.5383   | 0.0005            | 0.5116   |
| TMA2GBM79 | 0.0802             | 0.6284  | 0.0785              | 0.4342   | 0.0028            | 0.6182   | 0.0013            | 0.5961   | 0.0022            | 0.5843   |
| TMA2GBM79 | 0.0886             | 0.6296  | 0.4905              | 0.6023   | 0.0031            | 0.6094   | 0.001             | 0.5598   | 0.0045            | 0.5798   |
| TMA2GBM79 | 0.0384             | 0.6019  | 0.2771              | 0.5447   | 0.0034            | 0.6168   | 0.0008            | 0.5881   | 0.003             | 0.5689   |

**Supplementary Table S3: Results from Inform for each immune marker.**

| TMA ID    | CD68<br>Positivity | CD68<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD163<br>Positivity | CD163<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD3<br>Positivity | CD3<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD4<br>Positivity | CD5<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD8<br>Positivity | CD8<br>Tissue<br>Category<br>Area<br>(Tumor %) |
|-----------|--------------------|---|---------------------|--|-------------------|--|-------------------|--|-------------------|--|
| TMA2GBM80 | 0.2131             | 0.6368  | 0.0651              | 0.4895   | 0.0004            | 0.6552   | 0.0017            | 0.6529   | 0.0014            | 0.6031   |
| TMA2GBM80 | 0.0098             | 0.4666  | 0.1188              | 0.3139   | 0.0004            | 0.4109   | 0.0012            | 0.4329   | 0                 | 0.3692   |
| TMA2GBM80 | 0.006              | 0.6362  | 0.0966              | 0.1038   | 0.0002            | 0.6515   | 0                 | 0.6487   | 0                 | 0.5987   |
| TMA2GBM81 | 0.0482             | 0.3285  | 0.2639              | 0.6349   | 0                 | 0.5666   | 0                 | 0.6537   | 0.0018            | 0.4302   |
| TMA2GBM81 | 0.0748             | 0.6201  | 0.2106              | 0.6057   | 0.0011            | 0.5719   | 0.0023            | 0.5637   | 0.004             | 0.6018   |
| TMA2GBM81 | 0.0548             | 0.6461  | 0.3735              | 0.648  | 0.0015            | 0.6724   | 0.001             | 0.6738   | 0.0026            | 0.6249   |
| TMA2GBM82 | 0.0513             | 0.6712  | 0.9141              | 0.6701   | 0.0012            | 0.6787   | 0.0002            | 0.6654   | 0.0004            | 0.6495   |
| TMA2GBM82 | 0.0341             | 0.4871  | 0.9989              | 0.5911   | 0.0016            | 0.5388   | 0                 | 0.5783   | 0.0008            | 0.5212   |
| TMA2GBM82 | 0.0242             | 0.5907  | 0.9972              | 0.6464   | 0.0035            | 0.622  | 0.0024            | 0.6402   | 0.0031            | 0.6065   |
| TMA2GBM83 | 0.0334             | 0.721   | 0.0952              | 0.7349   | 0.0033            | 0.7319   | 0.0006            | 0.7089   | 0.0055            | 0.6932   |
| TMA2GBM83 | 0.1115             | 0.6154  | 0.0881              | 0.5063   | 0.0033            | 0.6368   | 0.0009            | 0.6285   | 0.007             | 0.5951   |
| TMA2GBM83 | 0.1358             | 0.6333  | 0.0321              | 0.4032   | 0.0028            | 0.642  | 0.0004            | 0.6298   | 0.0015            | 0.6016   |
| TMA2GBM84 | 0.0578             | 0.592   | 0.2359              | 0.595  | 0.0012            | 0.622  | 0.001             | 0.6121   | 0.0024            | 0.595  |
| TMA2GBM84 | 0.0761             | 0.6098  | 0.8237              | 0.6526   | 0.0018            | 0.6579   | 0.0012            | 0.6493   | 0.0011            | 0.6237   |
| TMA2GBM84 | 0.0569             | 0.6444  | 0.4412              | 0.6664   | 0.0002            | 0.6525   | 0.0002            | 0.6439   | 0.0011            | 0.623  |
| TMA2GBM85 | 0.0258             | 0.5681  | 0.0963              | 0.5668   | 0.0062            | 0.6343   | 0.0004            | 0.6211   | 0.0046            | 0.5951   |
| TMA2GBM85 | 0.0358             | 0.6032  | 0.1836              | 0.1986   | 0.003             | 0.626  | 0.0009            | 0.5919   |                   |  |
| TMA2GBM85 | 0.0203             | 0.4614  | 0.0641              | 0.4052   | 0.0062            | 0.4776   | 0.0019            | 0.4632   | 0.0068            | 0.4606   |
| TMA2GBM86 | 0.0286             | 0.5552  | 0.1498              | 0.5351   | 0.0009            | 0.5826   | 0.0027            | 0.5736   | 0.0003            | 0.5539   |
| TMA2GBM86 | 0.1924             | 0.4737  | 0.1546              | 0.3998   | 0.0179            | 0.4926   | 0.0083            | 0.4976   | 0.0098            | 0.4783   |
| TMA2GBM86 | 0.0421             | 0.5183  | 0.8077              | 0.5935   | 0.0088            | 0.5986   | 0.0381            | 0.5795   | 0.0015            | 0.5688   |
| TMA2GBM87 | 0.1014             | 0.6871  | 0.5949              | 0.6711   | 0.0004            | 0.6611   | 0.0003            | 0.6581   | 0.0142            | 0.635  |
| TMA2GBM87 | 0.1057             | 0.5909  | 0.9967              | 0.589  | 0.0196            | 0.5847   | 0.0038            | 0.5902   | 0.0203            | 0.5682   |
| TMA2GBM87 | 0.0434             | 0.2419  | 0.8385              | 0.2481   | 0.0188            | 0.2597   | 0.0133            | 0.2393   | 0.0158            | 0.2511   |
| TMA2GBM88 | 0.1177             | 0.6601  | 0.3871              | 0.6926   | 0.0048            | 0.6924   | 0.0017            | 0.7169   | 0.0006            | 0.6577   |
| TMA2GBM88 | 0.5302             | 0.4397  | 0.9838              | 0.4825   | 0.0027            | 0.5511   | 0.0039            | 0.5637   | 0.0124            | 0.4701   |
| TMA2GBM88 | 0.1338             | 0.4659  | 0.624               | 0.5747   | 0.0031            | 0.5715   | 0.0056            | 0.5639   | 0.0103            | 0.5458   |
| TMA2GBM89 | 0.1294             | 0.6271  | 0.6974              | 0.6187   | 0.003             | 0.6303   | 0.0009            | 0.6297   | 0.0045            | 0.5895   |
| TMA2GBM89 | 0.12               | 0.592   | 0.4541              | 0.618  | 0.0055            | 0.6314   | 0.0014            | 0.6316   | 0.0058            | 0.5859   |
| TMA2GBM89 | 0.1637             | 0.5194  | 0.9037              | 0.5893   | 0.0109            | 0.5917   | 0.0019            | 0.5872   | 0.0076            | 0.5656   |
| TMA2GBM90 | 0.4764             | 0.3471  | 0.9244              | 0.6026   | 0.0096            | 0.5932   | 0.0062            | 0.5632   | 0.0079            | 0.5588   |
| TMA2GBM90 | 0.5468             | 0.4319  | 0.8238              | 0.624  | 0.0244            | 0.561  | 0.0295            | 0.5998   | 0.0312            | 0.5701   |
| TMA2GBM90 | 0.298              | 0.4889  | 0.9103              | 0.6521   | 0.0204            | 0.6435   | 0.0028            | 0.6403   | 0.0206            | 0.6228   |
| TMA2GBM91 | 0.163              | 0.4227  | 0.9399              | 0.5387   | 0.0042            | 0.4975   | 0.0015            | 0.4959   | 0.0057            | 0.4225   |
| TMA2GBM91 | 0.1716             | 0.4541  | 0.3521              | 0.6107   | 0.0165            | 0.6239   | 0.002             | 0.6412   | 0.0089            | 0.5952   |
| TMA2GBM91 | 0.6905             | 0.5334  | 0.9991              | 0.6314   | 0.0031            | 0.646  | 0.0011            | 0.6366   | 0.0043            | 0.6222   |
| TMA2GBM92 | 0.0665             | 0.5405  | 0.9922              | 0.5616   | 0.0074            | 0.6287   | 0.0023            | 0.6167   | 0.0043            | 0.5841   |

**Supplementary Table S3: Results from Inform for each immune marker.**

| TMA ID    | CD68<br>Positivity | CD68<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD163<br>Positivity | CD163<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD3<br>Positivity | CD3<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD4<br>Positivity | CD5<br>Tissue<br>Category<br>Area<br>(Tumor %) | CD8<br>Positivity | CD8<br>Tissue<br>Category<br>Area<br>(Tumor %) |
|-----------|--------------------|---|---------------------|--|-------------------|--|-------------------|--|-------------------|--|
| TMA2GBM92 | 0.0357             | 0.621   | 0.3906              | 0.6336   | 0.0005            | 0.6382   | 0.0007            | 0.6432   | 0.0013            | 0.5995   |
| TMA2GBM92 | 0.1674             | 0.6681  | 0.9384              | 0.6632   | 0.0029            | 0.682  | 0.0011            | 0.678  | 0.0055            | 0.6331   |
| TMA2GBM93 | 0.1177             | 0.6797  | 0.028               | 0.0939   | 0                 | 0.6898   | 0.0005            | 0.7  | 0.0023            | 0.6778   |
| TMA2GBM93 | 0.0236             | 0.6387  | 0.0161              | 0.4431   | 0.0026            | 0.6712   | 0.0008            | 0.6776   | 0.0016            | 0.6518   |
| TMA2GBM93 | 0.1936             | 0.5688  | 0.0332              | 0.2329   | 0.0003            | 0.634  | 0.0006            | 0.6479   | 0.0022            | 0.6193   |
| TMA2GBM94 | 0.8081             | 0.483   | 0.944               | 0.1182   | 0.0166            | 0.0525   |                   |  | 0                 | 0.0249   |
| TMA2GBM94 | 0.4736             | 0.1526  | 0.9452              | 0.3641   | 0.0016            | 0.2862   | 0.0088            | 0.2658   | 0.0046            | 0.3266   |
| TMA2GBM94 | 0.1293             | 0.3788  | 0.9691              | 0.4347   | 0.0038            | 0.2907   | 0.0099            | 0.3636   | 0.0085            | 0.2475   |
| TMA2GBM95 | 0.3022             | 0.5137  | 0.1578              | 0.49   | 0.004             | 0.6378   | 0.0007            | 0.561  | 0.0043            | 0.6228   |
| TMA2GBM95 | 0.5003             | 0.6086  | 0.6306              | 0.6261   | 0.011             | 0.6666   | 0.0014            | 0.6564   | 0.0069            | 0.647  |
| TMA2GBM95 | 0.1942             | 0.6246  | 0.6336              | 0.6593   | 0.005             | 0.6577   | 0.0065            | 0.6519   | 0.0298            | 0.6265   |
| TMA2GBM96 | 0.1002             | 0.3225  | 0.5603              | 0.3118   | 0.0018            | 0.5842   | 0.0015            | 0.5351   | 0.0011            | 0.5653   |
| TMA2GBM96 | 0.2148             | 0.5183  | 0.9199              | 0.5278   | 0.003             | 0.6034   | 0                 | 0.6144   | 0.0021            | 0.5843   |
| TMA2GBM96 | 0.0414             | 0.6168  | 0.0941              | 0.2354   | 0.0031            | 0.6429   | 0.0007            | 0.6401   | 0.0014            | 0.6111   |
| TMA2GBM97 | 0.0628             | 0.57  | 0.8021              | 0.5888   | 0.0019            | 0.5844   | 0.0043            | 0.6015   | 0.002             | 0.5795   |
| TMA2GBM97 | 0.1018             | 0.6372  | 0.3617              | 0.6365   | 0.0096            | 0.6658   | 0.0025            | 0.6593   | 0.0103            | 0.6379   |
| TMA2GBM97 | 0.1244             | 0.5106  | 0.9045              | 0.6641   | 0.0006            | 0.6433   | 0.0101            | 0.6491   | 0.0045            | 0.6214   |
| TMA2GBM98 | 0.2053             | 0.6725  | 0.9977              | 0.7028   | 0.0144            | 0.7032   | 0.0027            | 0.708  | 0.0417            | 0.6658   |
| TMA2GBM98 | 0.0619             | 0.6757  | 0.5543              | 0.678  | 0.0041            | 0.7017   | 0.002             | 0.6951   | 0.0016            | 0.6507   |
| TMA2GBM98 | 0.1631             | 0.6156  | 0.9178              | 0.6584   | 0.0069            | 0.6517   | 0.0031            | 0.6451   | 0.0027            | 0.6155   |