| Characteristic  | IRR <sup>1</sup> | 95% CI <sup>1</sup> | p-value |  |
|---|------------------|---------------------|---------|--|
| molecular_subtype   |                  |                     |         |  |
| LGG, wildtype   | _                | _                   |         |  |
| GNG, KIAA1549-BRAF  | 0.14             | 0.08, 0.22          | <0.001  |  |
| GNG, wildtype   | 0.62             | 0.55, 0.70          | <0.001  |  |
| LGG_CDKN2A/B  | 0.10             | 0.05, 0.19          | <0.001  |  |
| LGG_IDH   | 0.17             | 0.11, 0.25          | <0.001  |  |
| LGG_NF1   | 0.17             | 0.11, 0.25          | <0.001  |  |
| LGG_RTK   | 0.62             | 0.55, 0.70          | <0.001  |  |
| LGG, BRAF V600E   | 0.59             | 0.51, 0.67          | <0.001  |  |
| LGG, KIAA1549-BRAF  | 0.69             | 0.61, 0.78          | <0.001  |  |
| LGG, MYB/MYBL1  | 0.10             | 0.05, 0.19          | <0.001  |  |
| LGG, other MAPK   | 0.28             | 0.21, 0.35          | <0.001  |  |
| SEGA, wildtype  | 0.34             | 0.28, 0.42          | <0.001  |  |
| cluster_assigned  |                  |                     |         |  |
| 3   | _                | _                   |         |  |
| 1   | 0.28             | 0.21, 0.35          | <0.001  |  |
| 2   | 1.48             | 1.37, 1.61          | <0.001  |  |
| molecular_subtype * cluster_assigned                              |                  |                     |         |  |
| GNG, KIAA1549-BRAF * 1  | 1.81             | 0.51, 5.12          | 0.3     |  |
| GNG, wildtype * 1   | 0.60             | 0.28, 1.17          | 0.2     |  |
| LGG_CDKN2A/B * 1  | 14.5             | 7.44, 31.9          | <0.001  |  |
| LGG_IDH * 1   | 3.63             | 1.97, 6.70          | <0.001  |  |
| LGG_NF1 * 1   | 7.25             | 4.44, 12.3          | <0.001  |  |
| LGG_RTK * 1   | 4.23             | 3.18, 5.71          | <0.001  |  |
| <sup>1</sup> IRR = Incidence Rate Ratio, CI = Confidence Interval |                  |                     |         |  |

| Characteristic  | IRR <sup>1</sup> | 95% CI <sup>1</sup> | p-value |  |
|---|------------------|---------------------|---------|--|
| LGG, BRAF V600E * 1   | 5.33             | 4.02, 7.18          | <0.001  |  |
| LGG, KIAA1549-BRAF * 1  | 18.5             | 14.2, 24.5          | <0.001  |  |
| LGG, MYB/MYBL1 * 1  |                  |                     |         |  |
| LGG, other MAPK * 1   | 4.98             | 3.38, 7.45          | <0.001  |  |
| SEGA, wildtype * 1  | 2.18             | 1.37, 3.42          | <0.001  |  |
| GNG, KIAA1549-BRAF * 2  | 0.51             | 0.21, 1.13          | 0.10    |  |
| GNG, wildtype * 2   | 0.11             | 0.05, 0.21          | <0.001  |  |
| LGG_CDKN2A/B * 2  | 0.90             | 0.40, 2.13          | 0.8     |  |
| LGG_IDH * 2   | 0.13             | 0.01, 0.64          | 0.050   |  |
| LGG_NF1 * 2   | 0.94             | 0.59, 1.56          | 0.8     |  |
| LGG_RTK * 2   | 0.75             | 0.63, 0.89          | <0.001  |  |
| LGG, BRAF V600E * 2   | 0.71             | 0.60, 0.85          | <0.001  |  |
| LGG, KIAA1549-BRAF * 2  | 2.06             | 1.80, 2.35          | <0.001  |  |
| LGG, MYB/MYBL1 * 2  | 0.45             | 0.12, 1.38          | 0.2     |  |
| LGG, other MAPK * 2   | 0.76             | 0.54, 1.07          | 0.11    |  |
| SEGA, wildtype * 2  |                  |                     |         |  |
| <sup>1</sup> IRR = Incidence Rate Ratio, CI = Confidence Interval |                  |                     |         |  |