**Table S2. Median LSS and survival analysis**

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| --- | --- | --- | --- | --- | --- |
|  | **LSS (days) (median; range)** | **p-value** | | | **Hazard ratio (95% CI)** |
| **Log-rank test** | **Cox univariate** | **Cox multivariate** |
| Breed  Pure  Mixed | 237; 22-1403  82; 50-989 | 1.000 | 1.000 |  | 1.000 (0.421-2.377)  Ref |
| Sex  Female  Spayed female  Male  Neutered male | 188; 50-1403  288; 41-645  544; 23-1153  28; 22-267 | 0.066 | 0.096 | 0.058 | 0.211 (0.047-0.949)  0.390 (0.104-1.457)  0.196 (0.050-0.768)  Ref |
| Age  <7 years  ≥7 years | 237; 22-1403  228; 28-1153 | 0.577 | 0.578 |  | Ref  1.234 (0.589-2.584) |
| Weight  <10kg  ≥10kg | 82; 23-989  237; 22-1403 | 0.760 | 0.760 |  | Ref  0.932 (0.593-1.464) |
| Stage  III  IV  V | 87; 87-388  267; 28-585  228; 22-1403 | 0.451 | 0.458 |  | 1.475 (0.331-6.565)  1.699 (0.728-3.966)  Ref |
| Sustage  a  b | 278; 22-1403  188; 23-669 | 0.313 | 0.317 |  | 0.806 (0.529-1.299)  Ref |
| Bone marrow  Infiltrated  Not infiltrated | 71; 22-767  237; 23-1403 | 0.812 | 0.812 |  | Ref  0.951 (0.629-1.437) |
| Blood infiltration (%) |  |  | 0.617 |  | 0.993 (0.964-1.022) |
| Bone marrow infiltration (%) |  |  | 0.218 | 0.077 | 1.020 (0.988-1.054) |
| CD8+ cells (flow cytometry, %) |  |  | 0.437 |  | 1.039 (0.943-1.144) |
| LDH activity  Normal  Increased | 178; 23-1153  267; 22-1403 | 0.940 | 0.940 |  | Ref  1.014 (0.705-1.460) |
| Pretreatment with steroids  Yes  No | 178; 23-669  267; 22-1403 | 0.350 | 0.353 |  | Ref  0.827 (0.553-1.235) |
| Treatment  Chemo  Chemoimmuno | 60; 22-989  330; 50-1403 | **0.002** | **0.004** | **0.022** | 1.776 (1.207-2.613)  Ref |
| Immunosignature  Cold  Hot | 544; 60-1153  87; 22-1403 | **0.010** | **0.012** | 0.710 | 0.615 (0.420-0.898)  Ref |
| PD-L1 (RNAseq) |  |  | 0.789 |  | 1.044 (0.762-1.430) |
| PD1 (RNAseq) |  |  | **0.001** | 0.182 | 1.356 (1.134-1.623) |
| CD8a (RNAseq) |  |  | **0.035** | 0.135 | 1.241 (1.015-1.517) |
| PD-L1 (RNAscope)  0  1  2  3  4 | 228  544; 302-1153  645; 178-1403  71; 22-278  50; 23-237 | **<0.001** | **0.002** | **0.002** | 0.380 (0.044-3.270)  0.034 (0.006-0.191)  0.027 (0.004-0.195)  0.668 (0.235-1.901)  Ref |
| PD1 (RNAscope)  0  1  2  3 | 228; 35-669  356; 63-1403  71; 22-989  82; 23-267 | **0.026** | **0.040** | 0.076 | 0.340 (0.108-1.071)  0.191 (0.061-0.600)  0.459 (0.149-1.411)  Ref |
| CD8a (RNAscope)  0  1  2  3  4 | 302; 302-669  228; 22-1403  330; 60-1153  82; 23-989  50; 50-90 | 0.235 | 0.283 | 0.128 | 0.199 (0.026-1.549)  0.220 (0.041-1.173)  0.240 (0.048-1.210)  0.432 (0.088-2.128)  Ref |
| Ki67 (%) |  |  | **<0.001** | 0.102 | 1.047 (1.027-1.067) |
| TILs  5  15  25  40  50 | 302; 22-1403  237; 35-585  188; 23-1153  94; 28-989  388 | 0.670 | 0.682 |  | 0.838 (0.102-6.878)  1.645 (0.190-14.219)  1.408 (0.174-11.430)  1.666 (0.200-13.865)  Ref |