**Table S1. Detailed Analysis of Inflammatory Cell Populations in Blood, Preneoplastic Ears, and Tumors.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Tissue** | **Marker** | **Chi2 Probability with Ties** | **Genotype 1** | **vs.** | **Genotype 2** | **Mann-Whitney Test** |
| Blood | CD11b | 0.56 |  |  |  |  |
| Blood | Gr-1 | 0.010\* | KO Ctrl | > | HPV/KO, SCC- | 0.0055\*\* |
| Blood | Gr-1/CD11b | 0.17 |  |  |  |  |
| Blood | CD3ε | 0.58 |  |  |  |  |
| Blood | ckit | 0.79 |  |  |  |  |
| Blood | F4/80 | 0.057 | WT Ctrl | < | HPV/WT, SCC- | 0.02\* |
| Blood |  |  | KO Ctrl | < | HPV/KO, SCC- | 0.031\* |
| Blood | NK1.1 | 0.0030\* | KO Ctrl | > | HPV/KO, SCC+ | 0.0019\*\* |
| Blood | B220 | 0.0001\* | WT Ctrl | > | HPV/WT, SCC+ | 0.0056\*\* |
| Blood |  |  | WT Ctrl | > | HPV/WT, SCC- | 0.014\* |
| Blood |  |  | KO Ctrl | > | HPV/KO, SCC+ | 0.0003\*\*\* |
| Blood |  |  | KO Ctrl | > | HPV/KO, SCC- | 0.0055\*\* |
| Blood | CD4 | 0.19 |  |  |  |  |
| Blood |  % Tregs of CD4+ | 0.023\* | WT Ctrl | < | HPV/WT, SCC+ | 0.055 |
| Blood |   |   | KO Ctrl | < | HPV/KO, SCC+ | 0.025\* |
| Ear | CD11b | .17 |  |  |  |  |
| Ear | Gr-1 | .77 |  |  |  |  |
| Ear | Gr-1/CD11b | .0011\*\* | WT Ctrl | < | HPV/WT, SCC+ | 0.011\* |
| Ear |  |  | WT Ctrl | < | HPV/WT, SCC- | 0.014\* |
| Ear |  |  | KO Ctrl | < | HPV/KO, SCC+ | 0.0033\*\* |
| Ear |  |  | KO Ctrl | < | HPV/KO, SCC- | 0.031\* |
| Ear | CD3ε | .17 |  |  |  |  |
| Ear | ckit | .83 |  |  |  |  |
| Ear | F4/80 | .077 |  |  |  |  |
| Ear | NK1.1 | .03\* | KO Ctrl | > | HPV/KO, SCC+ | 0.037\* |
| Ear |  |  | HPV/WT, SCC- | < | HPV/KO, SCC- | 0.014\* |
| Ear | B220 | .012\* | WT Ctrl | > | HPV/WT, SCC+ | 0.028\* |
| Ear |  |  | KO Ctrl | > | HPV/KO, SCC- | 0.0087\*\* |
| Ear | CD4 | .15 |  |  |  |  |
| Ear |  % Tregs of CD4+ | .0058\*\* | KO Ctrl | < | HPV/KO, SCC+ | 0.049\* |
| Ear |   |   | KO Ctrl | > | HPV/KO, SCC- | 0.021\* |
| Tumor | CD11b |  | HPV/WT, SCC+ | ≈ | HPV/KO, SCC+ | .80 |
| Tumor | Gr-1 |  | HPV/WT, SCC+ | ≈ | HPV/KO, SCC+ | .87 |
| Tumor | Gr-1/CD11b |  | HPV/WT, SCC+ | ≈ | HPV/KO, SCC+ | 1.0 |
| Tumor | CD3ε |  | HPV/WT, SCC+ | < | HPV/KO, SCC+ | .033\* |
| Tumor | ckit |  | HPV/WT, SCC+ | ≈ | HPV/KO, SCC+ | .66 |
| Tumor | F4/80 |  | HPV/WT, SCC+ | ≈ | HPV/KO, SCC+ | .66 |
| Tumor | NK1.1 |  | HPV/WT, SCC+ | ≈ | HPV/KO, SCC+ | .84 |
| Tumor | B220 |  | HPV/WT, SCC+ | ≈ | HPV/KO, SCC+ | .27 |
| Tumor | CD4 |  | HPV/WT, SCC+ | ≈ | HPV/KO, SCC+ | .32 |
| Tumor |  % Tregs of CD4+ |  | HPV/WT, SCC+ | ≈ | HPV/KO, SCC+ | .11 |