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| **SUPPLEMENTAL TABLE 1: Effect of homozygosity at the three HLA class I loci -A, -B and -C and five HLA class I loci -DRB1, DQA1, DQB1, DPA1, and DPB1 on susceptibility to four NHL subtypes (DLBCL, FL, CLL/SLL, and MZL) stratified by GWAS platform (analyses adjusted for sex, age, and ancestry/principal components).** |
|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| **Illumina OmniExpress** |  | **Controls** | **DLBCL** | **FL** | **CLL/SLL** | **MZL** |
|   |   | **n** | **%** | **n** | **%** | **OR (95% CI)** | **n** | **%** | **OR (95% CI)** | **n** | **%** | **OR (95% CI)** | **n** | **%** | **OR (95% CI)** |
| **Class I locus** |  |  |  |   |   |   |  |  |  |   |   |   |  |  |
| *HLA-A* | Heterozygote | 5244 | 89 | 2076 | 87 | 1.00 (ref)  | 1742 | 90 | 1.00 (ref) | 1677 | 87 | 1.00 (ref) | 649 | 89 | 1.00 (ref) |
|  | Homozygote | 646 | 11 | 310 | 13 | **1.20 (1.00-1.43)** | 197 | 10 | 1.00 (0.82-1.24) | 242 | 13 | 1.20 (0.99-1.44) | 78 | 11 | 1.06 (0.82-1.38) |
| *HLA-B* | Heterozygote | 5576 | 93 | 2201 | 91 | 1.00 (ref)  | 1822 | 92 | 1.00 (ref) | 1810 | 93 | 1.00 (ref) | 675 | 91 | 1.00 (ref) |
|  | Homozygote | 411 | 7 | 219 | 9 | **1.24 (1.00-1.52)** | 158 | 8 | 1.10 (0.87-1.41) | 142 | 7 | 1.01 (0.80-1.28) | 66 | 9 | **1.34 (1.01-1.78)** |
| *HLA-C* | Heterozygote | 5414 | 90 | 2119 | 88 | 1.00 (ref)  | 1754 | 89 | 1.00 (ref) | 1754 | 90 | 1.00 (ref) | 651 | 88 | 1.00 (ref) |
|  | Homozygote | 577 | 10 | 302 | 12 | **1.22 (1.02-1.46)** | 226 | 11 | 1.16 (0.95-1.43) | 199 | 10 | 1.05 (0.86-1.29) | 90 | 12 | **1.33 (1.04-1.70)** |
|  |  |  |  |   |   |  |  |  |  |   |   |   |  |  |  |
| Total # of homozygote loci | 0 | 4805 | 80 | 1863 | 77 | 1.00 (ref)  | 1590 | 80 | 1.00 (ref) | 1526 | 78 | 1.00 (ref) | 586 | 79 | 1.00 (ref) |
|  | 1 | 822 | 14 | 356 | 15 | 1.11 (0.94-1.31) | 241 | 12 | 0.93 (0.77-1.13) | 298 | 15 | 1.13 (0.95-1.34) | 94 | 13 | 0.97 (0.76-1.23) |
|  | 2 | 256 | 4 | 128 | 5 | 1.28 (0.98-1.68) | 100 | 5 | 1.27 (0.94-1.72) | 89 | 5 | 1.10 (0.82-1.48) | 37 | 5 | 1.16 (0.80-1.68) |
|  | 3 | 108 | 2 | 74 | 3 | 1.40 (0.98-2.01) | 50 | 3 | 1.24 (0.81-1.89) | 40 | 2 | 1.12 (0.73-1.73) | 24 | 3 | **2.13 (1.33-3.42)** |
|  | *p-trend* |  |  |  |  | ***0.0075*** |  |  | *0.2318* |  |  | *0.1861* |  |  | ***0.026*** |
|  |  |  |  |   |   |   |  |  |  |   |   |   |  |  |  |
| **Class II locus** |  |  |  |   |   |   |  |  |  |   |   |   |  |  |  |
| *HLA-DRB1* | Heterozygote | 5500 | 92 | 2125 | 88 | 1.00 (ref)  | 1725 | 87 | 1.00 (ref) | 1751 | 90 | 1.00 (ref) | 663 | 89 | 1.00 (ref) |
|  | Homozygote | 480 | 8 | 292 | 12 | 1.55 (1.28-1.87) | 252 | 13 | **1.59 (1.29-1.96)** | 197 | 10 | **1.25 (1.01-1.54)** | 78 | 11 | **1.45 (1.12-1.89)** |
| *HLA-DQB1* | Heterozygote | 5310 | 89 | 2051 | 85 | 1.00 (ref)  | 1665 | 84 | 1.00 (ref) | 1692 | 87 | 1.00 (ref) | 638 | 86 | 1.00 (ref) |
|  | Homozygote | 681 | 11 | 370 | 15 | 1.22 (1.03-1.44) | 316 | 16 | **1.28 (1.07-1.54)** | 261 | 13 | 1.18 (0.98-1.41) | 103 | 14 | 1.20 (0.95-1.52) |
| *HLA-DPB1* | Heterozygote | 4809 | 80 | 1902 | 79 | 1.00 (ref)  | 1557 | 79 | 1.00 (ref) | 1577 | 81 | 1.00 (ref) | 582 | 79 | 1.00 (ref) |
|  | Homozygote | 1176 | 20 | 517 | 21 | 1.06 (0.92-1.22) | 422 | 21 | 1.15 (0.99-1.35) | 373 | 19 | 0.93 (0.80-1.08) | 158 | 21 | 1.13 (0.93-1.38) |
|  |  |  |  |   |   |   |  |  |  |   |   |   |  |  |  |
| Total # of homozygote loci | 0 | 4247 | 71 | 1588 | 66 | 1.00 (ref)  | 1271 | 64 | 1.00 (ref) | 1353 | 70 | 1.00 (ref) | 501 | 68 | 1.00 (ref) |
|  | 1 | 1241 | 21 | 535 | 22 | 1.08 (0.94-1.24) | 470 | 24 | **1.24 (1.07-1.45)** | 400 | 21 | 1.00 (0.86-1.16) | 159 | 21 | 1.08 (0.89-1.31) |
|  | 2 | 363 | 6 | 234 | 10 | **1.55 (1.25-1.93)** | 184 | 9 | **1.55 (1.22-1.98)** | 151 | 8 | 1.24 (0.98-1.57) | 60 | 8 | **1.42 (1.05-1.91)** |
|  | 3 | 123 | 2 | 58 | 2 | 1.16 (0.79-1.70) | 50 | 3 | 1.30 (0.52-1.98) | 42 | 2 | 0.98 (0.64-1.51) | 20 | 3 | 1.48 (0.89-2.43) |
|   | p-trend |   |   |   |   | ***0.0009*** |   |   | ***<0.0001*** |   |   | 0.3053 |   |   | ***0.0124*** |

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| --- | --- | --- | --- | --- | --- | --- |
| **Illumina HumanCNV370-Duo (UCSF1)** |  | **Controls** | **DLBCL** | **FL** | **CLL/SLL** | **MZL** |
|   |   | **n** | **%** | **n** | **%** | **OR (95% CI)** | **n** | **%** | **OR (95% CI)** | **n** | **%** | **OR (95% CI)** | **n** | **%** | **OR (95% CI)** |
| **Class I locus** |  |  |  |   |   |   |  |  |  |   |   |   |  |  |  |
| *HLA-A* | Heterozygote | 660 | 90 | 219 | 87 | 1.00 (ref)  | 181 | 87 | 1.00 (ref)  | 180 | 86 | 1.00 (ref)  |  |  |  |
|  | Homozygote | 76 | 10 | 33 | 13 | 1.35 (0.87-2.10) | 28 | 13 | 1.40 (0.87-2.23) | 29 | 14 | 1.46 (0.92-2.32) |  |  |  |
| *HLA-B* | Heterozygote | 696 | 93 | 233 | 92 | 1.00 (ref)  | 192 | 91 | 1.00 (ref)  | 197 | 92 | 1.00 (ref)  |  |  |  |
|  | Homozygote | 51 | 7 | 20 | 8 | 1.24 (0.72-2.14) | 18 | 9 | 1.35 (0.77-2.39) | 16 | 8 | 1.15 (0.64-2.08) |  |  |  |
| *HLA-C* | Heterozygote | 669 | 89 | 226 | 89 | 1.00 (ref)  | 188 | 90 | 1.00 (ref)  | 186 | 87 | 1.00 (ref)  |  |  |  |
|  | Homozygote | 80 | 11 | 28 | 11 | 1.05 (0.66-1.66) | 22 | 10 | 1.00 (0.61-1.66) | 27 | 13 | 1.24 (0.78-1.99) |  |  |  |
|  |  |  |  |   |   |   |  |  |  |   |   |   |  |  |  |
| Total # of homozygote loci | 0 | 610 | 81 | 199 | 78 | 1.00 (ref)  | 168 | 8 | 1.00 (ref)  | 166 | 78 | 1.00 (ref)  |  |  |  |
|  | 1 | 87 | 12 | 34 | 13 | 1.20 (0.78-1.85) | 25 | 1 | 1.05 (0.65-1.70) | 29 | 14 | 1.25 (0.79-1.97) |  |  |  |
|  | 2 | 35 | 5 | 16 | 6 | 1.52 (0.82-2.82) | 8 | 0 | 0.90 (0.41-2.00) | 11 | 5 | 1.19 (0.59-2.41) |  |  |  |
|  | 3 | 17 | 2 | 5 | 2 | 0.95 (0.35-2.63) | 9 | 0 | 2.09 (0.90-4.83) | 7 | 3 | 1.60 (0.64-3.96) |  |  |  |
|  | *p-trend* |  |  |   |   | 0.2836 |  |  | 0.2618 |   |   | 0.1978 |  |  |  |
| **Class II locus** |  |  |  |   |   |   |  |  |  |   |   |   |  |  |  |
| *HLA-DRB1* | Heterozygote | 677 | 91 | 220 | 88 | 1.00 (ref)  | 178 | 87 | 1.00 (ref)  | 190 | 90 | 1.00 (ref)  |  |  |  |
|  | Homozygote | 63 | 9 | 29 | 12 | 1.47 (0.92-2.35) | 27 | 13 | **1.66 (1.02-2.70)** | 20 | 10 | 1.15 (0.68-1.97) |  |  |  |
| *HLA-DQB1* | Heterozygote | 671 | 90 | 215 | 85 | 1.00 (ref)  | 172 | 82 | 1.00 (ref)  | 192 | 90 | 1.00 (ref)  |  |  |  |
|  | Homozygote | 76 | 10 | 38 | 15 | 1.57 (1.03-2.39) | 38 | 18 | **1.98 (1.29-3.04)** | 21 | 10 | 0.98 (0.59-1.65) |  |  |  |
| *HLA-DPB1* | Heterozygote | 612 | 82 | 207 | 81 | 1.00 (ref)  | 171 | 81 | 1.00 (ref)  | 174 | 82 | 1.00 (ref)  |  |  |  |
|  | Homozygote | 131 | 18 | 47 | 19 | 1.11 (0.77-1.61) | 39 | 19 | 1.08 (0.72-1.61) | 38 | 18 | 1.01 (0.68-1.51) |  |  |  |
|  |  |  |  |   |   |   |  |  |  |   |   |   |  |  |  |
| Total # of homozygote loci | 0 | 532 | 73 | 171 | 69 | 1.00 (ref)  | 142 | 69 | 1.00 (ref)  | 154 | 74 | 1.00 (ref)  |  |  |  |
|  | 1 | 142 | 19 | 49 | 20 | 1.08 (0.75-1.57) | 34 | 17 | 0.89 (0.59-1.36) | 36 | 17 | 0.87 (0.57-1.31) |  |  |  |
|   | 2 | 50 | 7 | 23 | 9 | 1.51 (0.89-2.56) | 20 | 10 | 1.51 (0.87-2.64) | 14 | 7 | 1.00 (0.54-1.88) |  |  |  |
|  | 3 | 9 | 1 | 6 | 2 | 2.22 (0.78-6.36) | 9 | 4 | **3.95 (1.52-10.3)** | 5 | 2 | 1.88 (0.62-5.73) |  |  |  |
|   | *p-trend* |   |   |   |   | *0.0563* |   |   | **0.0231** |   |   | 0.8136 |   |   |   |
|   |  |   |   |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |   |

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|   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| **Illumina HumanHap 660W (IOWA/MAYO SPORE; MAYO CASE-CONTROL)** | **Controls** | **DLBCL** |  | **FL** |  | **CLL/SLL** |  | **MZL** |
|   |   | **n** | **%** | **n** | **%** | **OR (95% CI)** |  | **n** | **%** | **OR (95% CI)** |  | **n** | **%** | **OR (95% CI)** |   | **n** | **%** | **OR (95% CI)** |
| **Class I locus** |  |  |  |  |  |  |  |  |  |  |  |   |   |   |  |  |  |  |
| *HLA-A* | Heterozygote | 135 | 78 | 325 | 83 | 1.00 (ref)  |  |  |  |  |  |   |   |   |  |  |  |  |
|  | Homozygote | 37 | 22 | 68 | 17 | 0.70 (0.43-1.12) |  |  |  |  |  |   |   |   |  |  |  |  |
| *HLA-B* | Heterozygote | 158 | 92 | 355 | 90 | 1.00 (ref)  |  |  |  |  |  |   |   |   |  |  |  |  |
|  | Homozygote | 14 | 8 | 38 | 10 | 0.95 (0.48-1.87) |  |  |  |  |  |   |   |   |  |  |  |  |
| *HLA-C* | Heterozygote | 155 | 90 | 343 | 87 | 1.00 (ref)  |  |  |  |  |  |   |   |   |  |  |  |  |
|  | Homozygote | 17 | 10 | 50 | 13 | 1.05 (0.57-1.94) |  |  |  |  |  |   |   |   |  |  |  |  |
|  |  |  |  |   |   |   |  |  |  |  |  |   |   |   |  |  |  |  |
| Total # of homozygote loci | 0 | 120 | 70 | 295 | 75 | 1.00 (ref)  |  |  |  |  |  |   |   |   |  |  |  |  |
|  | 1 | 41 | 24 | 56 | 14 | 0.53 (0.33-0.86) |  |  |  |  |  |   |   |   |  |  |  |  |
|  | 2 | 6 | 3 | 26 | 7 | 1.47 (0.57-3.80) |  |  |  |  |  |   |   |   |  |  |  |  |
|  | 3 | 5 | 3 | 16 | 4 | 0.85 (0.29-2.53) |  |  |  |  |  |   |   |   |  |  |  |  |
|  | *p-trend* |  |  |   |   | *0.4346* |  |  |  |  |  |   |   |   |  |  |  |  |
| **Class II locus** |  |  |  |   |   |   |  |  |  |  |  |   |   |   |  |  |  |  |
| *HLA-DRB1* | Heterozygote | 154 | 90 | 344 | 88 | 1.00 (ref)  |  |  |  |  |  |   |   |   |  |  |  |  |
|  | Homozygote | 18 | 10 | 49 | 12 | 1.31 (0.71-2.41) |  |  |  |  |  |   |   |   |  |  |  |  |
| *HLA-DQB1* | Heterozygote | 156 | 91 | 335 | 85 | 1.00 (ref)  |  |  |  |  |  |   |   |   |  |  |  |  |
|  | Homozygote | 16 | 9 | 58 | 15 | 1.65 (0.89-3.07) |  |  |  |  |  |   |   |   |  |  |  |  |
| *HLA-DPB1* | Heterozygote | 123 | 72 | 292 | 74 | 1.00 (ref)  |  |  |  |  |  |   |   |   |  |  |  |  |
|  | Homozygote | 49 | 28 | 101 | 26 | 0.96 (0.63-1.48) |  |  |  |  |  |   |   |   |  |  |  |  |
|  |  |  |  |   |   |   |  |  |  |  |  |   |   |   |  |  |  |  |
| Total # of homozygote loci | 0 | 110 | 64 | 247 | 63 | 1.00 (ref)  |  |  |  |  |  |   |   |   |  |  |  |  |
|  | 1 | 45 | 26 | 99 | 25 | 1.04 (0.66-1.62) |  |  |  |  |  |   |   |   |  |  |  |  |
|   | 2 | 13 | 8 | 32 | 8 | 1.13 (0.54-2.35) |  |  |  |  |  |   |   |   |  |  |  |  |
|  | 3 | 4 | 2 | 15 | 4 | 2.00 (0.61-6.53) |  |  |  |  |  |   |   |   |  |  |  |  |
|   | *p-trend* |   |   |   |   | 0.3477 |   |   |   |   |   |   |   |   |   |   |   |   |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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|   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| **Illumina HumanHap 610K (GELA - cases only)** | **Controls** | **DLBCL** | **FL** | **CLL/SLL** | **MZL** |
|  |   | **n** | **%** | **n** | **%** | **OR (95% CI)** | **n** | **%** | **OR (95% CI)** | **n** | **%** | **OR (95% CI)** | **n** | **%** | **OR (95% CI)** |
| **Class I locus** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *HLA-A* | Heterozygote |  |  | 476 | 87 |   |  |  |  |   |   |   |  |  |  |
|  | Homozygote |  |  | 73 | 13 |   |  |  |  |   |   |   |  |  |  |
| *HLA-B* | Heterozygote |  |  | 508 | 93 |   |  |  |  |   |   |   |  |  |  |
|  | Homozygote |  |  | 41 | 7 |   |  |  |  |   |   |   |  |  |  |
| *HLA-C* | Heterozygote |  |  | 494 | 90 |   |  |  |  |   |   |   |  |  |  |
|  | Homozygote |  |  | 55 | 10 |   |  |  |  |   |   |   |  |  |  |
|  |  |  |  |   |   |   |  |  |  |   |   |   |  |  |  |
| Total # of homozygote loci | 0 |  |  | 435 | 79 |   |  |  |  |   |   |   |  |  |  |
|  | 1 |  |  | 78 | 14 |   |  |  |  |   |   |   |  |  |  |
|  | 2 |  |  | 17 | 3 |   |  |  |  |   |   |   |  |  |  |
|  | 3 |  |  | 19 | 3 |   |  |  |  |   |   |   |  |  |  |
|  | *p-trend* |  |  |   |   |   |  |  |  |   |   |   |  |  |  |
| **Class II locus** |  |  |  |   |   |   |  |  |  |   |   |   |  |  |  |
| *HLA-DRB1* | Heterozygote |  |  | 484 | 88 |   |  |  |  |   |   |   |  |  |  |
|  | Homozygote |  |  | 65 | 12 |   |  |  |  |   |   |   |  |  |  |
| *HLA-DQB1* | Heterozygote |  |  | 454 | 83 |   |  |  |  |   |   |   |  |  |  |
|  | Homozygote |  |  | 95 | 17 |   |  |  |  |   |   |   |  |  |  |
| *HLA-DPB1* | Heterozygote |  |  | 416 | 76 |   |  |  |  |   |   |   |  |  |  |
|  | Homozygote |  |  | 133 | 24 |   |  |  |  |   |   |   |  |  |  |
|  |  |  |  |   |   |   |  |  |  |   |   |   |  |  |  |
| Total # of homozygote loci | 0 |  |  | 335 | 61 |   |  |  |  |   |   |   |  |  |  |
|  | 1 |  |  | 147 | 27 |   |  |  |  |   |   |   |  |  |  |
|   | 2 |  |  | 55 | 10 |   |  |  |  |   |   |   |  |  |  |
|  | 3 |  |  | 12 | 2 |   |  |  |  |   |   |   |  |  |  |
|   | *p-trend* |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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|   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| **Illumina HumanHap 317K (SCALE)** |  | **Controls** | **DLBCL** | **FL** | **CLL/SLL** | **MZL** |
|   |   | **n** | **%** | **n** | **%** | **OR (95% CI)** | **n** | **%** | **OR (95% CI)** | **n** | **%** | **OR (95% CI)** | **n** | **%** | **OR (95% CI)** |
| **Class I locus** |  |  |  |   |   |   |  |  |  |   |   |   |  |  |  |
| *HLA-A* | Heterozygote | 645 | 82 |   |   |   | 304 | 81 | 1.00 (ref)  |   |   |   |  |  |  |
|  | Homozygote | 146 | 18 |   |   |   | 72 | 19 | 1.02 (0.73-1.42) |   |   |   |  |  |  |
| *HLA-B* | Heterozygote | 727 | 92 |   |   |   | 340 | 90 | 1.00 (ref)  |   |   |   |  |  |  |
|  | Homozygote | 64 | 8 |   |   |   | 36 | 10 | 1.19 (0.75-1.89) |   |   |   |  |  |  |
| *HLA-C* | Heterozygote | 715 | 90 |   |   |   | 335 | 89 | 1.00 (ref)  |   |   |   |  |  |  |
|  | Homozygote | 76 | 10 |   |   |   | 41 | 11 | 1.04 (0.68-1.61) |   |   |   |  |  |  |
|  |  |  |  |   |   |   |  |  |  |   |   |   |  |  |  |
| Total # of homozygote loci | 0 | 581 | 73 |   |   |   | 271 | 72 | 1.00 (ref)  |   |   |   |  |  |  |
|  | 1 | 153 | 19 |   |   |   | 72 | 19 | 0.96 (0.69-1.34) |   |   |   |  |  |  |
|  | 2 | 38 | 5 |   |   |   | 22 | 6 | 1.07 (0.59-1.92) |   |   |   |  |  |  |
|  | 3 | 19 | 2 |   |   |   | 11 | 3 | 1.33 (0.59-2.98) |   |   |   |  |  |  |
|  | *p-trend* |  |  |   |   |   |  |  | 0.663 |   |   |   |  |  |  |
| **Class II locus** |  |  |  |   |   |   |  |  |  |   |   |   |  |  |  |
| *HLA-DRB1* | Heterozygote | 712 | 90 |   |   |   | 328 | 87 | 1.00 (ref)  |   |   |   |  |  |  |
|  | Homozygote | 79 | 10 |   |   |   | 48 | 13 | 1.34 (0.89-2.02) |   |   |   |  |  |  |
| *HLA-DQB1* | Heterozygote | 707 | 89 |   |   |   | 315 | 84 | 1.00 (ref)  |   |   |   |  |  |  |
|  | Homozygote | 84 | 11 |   |   |   | 61 | 16 | **1.67 (1.14-2.45)** |   |   |   |  |  |  |
| *HLA-DPB1* | Heterozygote | 593 | 75 |   |   |   | 251 | 67 | 1.00 (ref)  |   |   |   |  |  |  |
|  | Homozygote | 198 | 25 |   |   |   | 125 | 33 | **1.57 (1.18-2.09)** |   |   |   |  |  |  |
|  |  |  |  |   |   |   |  |  |  |   |   |   |  |  |  |
| Total # of homozygote loci | 0 | 521 | 66 |   |   |   | 210 | 56 | 1.00 (ref)  |   |   |   |  |  |  |
|  | 1 | 194 | 25 |   |   |   | 118 | 31 | **1.58 (1.17-2.13)** |   |   |   |  |  |  |
|   | 2 | 61 | 8 |   |   |   | 28 | 7 | 1.18 (0.71-1.95) |   |   |   |  |  |  |
|  | 3 | 15 | 2 |   |   |   | 20 | 5 | **3.70 (1.74-7.88)** |   |   |   |  |  |  |
|   | *p-trend* |   |   |   |   |   |   |   | ***0.0005*** |   |   |   |   |   |   |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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|   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| **Affymetrix 6.0 (GEC)** |  | **Controls** | **DLBCL** | **FL** | **CLL/SLL** |  | **MZL** |
|   |   | **n** | **%** | **N** | **%** | **OR (95% CI)** | **n** | **%** | **OR (95% CI)** | **n** | **%** | **OR (95% CI)** |   | **n** | **%** | **OR (95% CI)** |
| **Class I locus** |  |  |  |   |   |   |  |  |  |   |   |   |  |  |  |  |
| *HLA-A* | Heterozygote | 252 | 85% |   |   |   |  |  |  | 334 | 85 | 1.00 (ref)  |  |  |  |  |
|  | Homozygote | 44 | 15% |   |   |   |  |  |  | 57 | 15 | 0.98 (0.94-1.50) |  |  |  |  |
| *HLA-B* | Heterozygote | 269 | 91% |   |   |   |  |  |  | 365 | 93 | 1.00 (ref)  |  |  |  |  |
|  | Homozygote | 27 | 9% |   |   |   |  |  |  | 26 | 7 | 0.72 (0.41-1.27) |  |  |  |  |
| *HLA-C* | Heterozygote | 271 | 92% |   |   |   |  |  |  | 357 | 92 | 1.00 (ref)  |  |  |  |  |
|  | Homozygote | 25 | 8% |   |   |   |  |  |  | 33 | 8 | 0.99 (0.57-1.71) |  |  |  |  |
|  |  |  |  |   |   |   |  |  |  |   |   |   |  |  |  |  |
| Total # of homozygote loci | 0 | 224 | 76% |   |   |   |  |  |  | 300 | 77 | 1.00 (ref)  |  |  |  |  |
|  | 1 | 52 | 18% |   |   |   |  |  |  | 72 | 18 | 1.03 (0.69-1.53) |  |  |  |  |
|  | 2 | 16 | 5% |   |   |   |  |  |  | 13 | 3 | 0.64 (0.30-1.36) |  |  |  |  |
|  | 3 | 4 | 1% |   |   |   |  |  |  | 6 | 2 | 1.05 (0.28-3.89) |  |  |  |  |
|  | *p-trend* |  |  |   |   |   |  |  |  |   |   | 0.5645 |  |  |  |  |
| **Class II locus** |  |  |  |   |   |   |  |  |  |   |   |   |  |  |  |  |
| *HLA-DRB1* | Heterozygote | 270 | 91% |   |   |   |  |  |  | 357 | 91 | 1.00 (ref)  |  |  |  |  |
|  | Homozygote | 26 | 9% |   |   |   |  |  |  | 34 | 9 | 0.96 (0.56-1.65) |  |  |  |  |
| *HLA-DQB1* | Heterozygote | 269 | 91% |   |   |   |  |  |  | 340 | 87 | 1.00 (ref)  |  |  |  |  |
|  | Homozygote | 27 | 9% |   |   |   |  |  |  | 51 | 13 | 1.50 (0.91-2.47) |  |  |  |  |
| *HLA-DPB1* | Heterozygote | 218 | 74% |   |   |   |  |  |  | 295 | 75 | 1.00 (ref)  |  |  |  |  |
|  | Homozygote | 78 | 26% |   |   |   |  |  |  | 96 | 25 | 0.90 (0.64-1.28) |  |  |  |  |
|  |  |  |  |   |   |   |  |  |  |   |   |   |  |  |  |  |
| Total # of homozygote loci | 0 | 192 | 65% |   |   |   |  |  |  | 257 | 66 | 1.00 (ref)  |  |  |  |  |
|  | 1 | 83 | 28% |   |   |   |  |  |  | 96 | 25 | 0.88 (0.62-1.25) |  |  |  |  |
|   | 2 | 15 | 5% |   |   |   |  |  |  | 29 | 7 | 1.46 (0.75-2.82) |  |  |  |  |
|  | 3 | 6 | 2% |   |   |   |  |  |  | 9 | 2 | 1.01 (0.35-2.94) |  |  |  |  |
|   | *p-trend* |   |   |   |   |   |   |   |   |   |   | 0.7652 |   |   |   |   |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Illumina HumanHap 610K (UTAH)**  | **Controls** | **DLBCL** | **FL** | **CLL/SLL** | **MZL** |
|   |   | **n** | **%** | **n** | **%** | **OR (95% CI)** | **n** | **%** | **OR (95% CI)** | **n** | **%** | **OR (95% CI)** | **n** | **%** | **OR (95% CI)** |
| **Class I locus** |  |  |  |   |   |   |  |  |  |   |   |   |  |  |  |
| *HLA-A* | Heterozygote | 348 | 86 |   |   |   |  |  |  | 269 | 84 | 1.00 (ref)  |  |  |  |
|  | Homozygote | 55 | 14 |   |   |   |  |  |  | 50 | 16 | 1.19 (0.78-1.80) |  |  |  |
| *HLA-B* | Heterozygote | 375 | 93 |   |   |   |  |  |  | 284 | 88 | 1.00 (ref)  |  |  |  |
|  | Homozygote | 30 | 7 |   |   |   |  |  |  | 37 | 12 | **1.68 (1.01-2.79)** |  |  |  |
| *HLA-C* | Heterozygote | 365 | 90 |   |   |   |  |  |  | 279 | 87 | 1.00 (ref)  |  |  |  |
|  | Homozygote | 40 | 10 |   |   |   |  |  |  | 42 | 13 | 1.42 (0.89-2.26) |  |  |  |
|  |  |  |  |   |   |   |  |  |  |   |   |   |  |  |  |
| Total # of homozygote loci | 0 | 326 | 80 |   |   |   |  |  |  | 233 | 73 | 1.00 (ref)  |  |  |  |
|  | 1 | 48 | 12 |   |   |   |  |  |  | 58 | 18 | **1.67 (1.10-2.54)** |  |  |  |
|  | 2 | 16 | 4 |   |   |   |  |  |  | 17 | 5 | 1.53 (0.76-3.09) |  |  |  |
|  | 3 | 15 | 4 |   |   |   |  |  |  | 13 | 4 | 1.28 (0.60-2.76) |  |  |  |
|  | *p-trend* |  |  |   |   |   |  |  |  |   |   | 0.0573 |  |  |  |
| **Class II locus** |  |  |  |   |   |   |  |  |  |   |   |   |  |  |  |
| *HLA-DRB1* | Heterozygote | 363 | 90 |   |   |   |  |  |  | 285 | 89 | 1.00 (ref)  |  |  |  |
|  | Homozygote | 39 | 10 |   |   |   |  |  |  | 35 | 11 | 1.20 (0.73-1.95) |  |  |  |
| *HLA-DQB1* | Heterozygote | 353 | 87 |   |   |   |  |  |  | 270 | 84 | 1.00 (ref)  |  |  |  |
|  | Homozygote | 52 | 13 |   |   |   |  |  |  | 51 | 16 | 1.31 (0.86-1.99) |  |  |  |
| *HLA-DPB1* | Heterozygote | 333 | 83 |   |   |   |  |  |  | 274 | 85 | 1.00 (ref)  |  |  |  |
|  | Homozygote | 70 | 17 |   |   |   |  |  |  | 47 | 15 | 0.83 (0.55-1.24) |  |  |  |
|  |  |  |  |   |   |   |  |  |  |   |   |   |  |  |  |
| Total # of homozygote loci | 0 | 284 | 71 |   |   |   |  |  |  | 230 | 72 | 1.00 (ref)  |  |  |  |
|  | 1 | 77 | 19 |   |   |   |  |  |  | 54 | 17 | 0.88 (0.59-1.30) |  |  |  |
|   | 2 | 34 | 9 |   |   |   |  |  |  | 30 | 9 | 1.10 (0.65-1.86) |  |  |  |
|  | 3 | 5 | 1 |   |   |   |  |  |  | 6 | 2 | 1.64 (0.49-5.48) |  |  |  |
|   | *p-trend* |   |   |   |   |   |   |   |   |   |   | 0.7158 |   |   |   |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |