**Supplementary Table 1S**. The frequency\* of HLA-DRB1in the MyEIRA study stratified by ethnicity and by survivin status

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Malay** | | | | **Chinese** | | | | **Indian** | | | |
|  | Cases  n=515  (%) | Controls  n=978  (%) | OR, 95% CI§ | P value | Cases  n=254  (%) | Controls  n=206  (%) | OR, 95% CI§ | P value | Cases  n=382  (%) | Controls  n=288  (%) | OR, 95% CI§ | P value |
| DRB1\*01 |  |  |  |  |  |  |  |  |  |  |  |  |
| SURVIVIN-positive | 4 (1.7) |  | 1.39 (0.44-4.34) |  | 1 (0.9) |  | 0.88 (0.08-9.80) |  | 12 (5.2) |  | 1.16 (0.52-2.59) |  |
| SURVIVIN-negative | 7 (2.5) | 12 (1.2) | 2.07 (0.81-5.31) |  | 3 (2.2) | 2 (1) | 2.28 (0.38-13.85) |  | 12 (7.9) | 13 (4.5) | 1.83 (0.81-4.11) |  |
| DRB1\*03 |  |  |  |  |  |  |  |  |  |  |  |  |
| SURVIVIN-positive | 16 (6.8) |  | 0.62 (0.36-1.08) |  | 9 (7.7) |  | 0.38 (0.18-0.82) | 0.01 | 25 (10.8) |  | 1.13 (0.64-1.99) |  |
| SURVIVIN-negative | 23 (8.2) | 102 (10.4) | 0.77 (0.48-1.24) |  | 10 (7.3) | 37 (18) | 0.36 (0.17-0.75) | 0.005 | 19 (12.6) | 28 (9.7) | 1.34 (0.72-2.48) |  |
| DRB1\*04 |  |  |  |  |  |  |  |  |  |  |  |  |
| SURVIVIN-positive | 85 (36) |  | **3.87 (2.79-5.36)** | **<0.000001** | 45 (38.5) |  | **2.3 (1.40-3.79)** | **0.001** | 73 (31.6) |  | 1.47 (1.00-2.16) |  |
| SURVIVIN-negative | 66 (23.7) | **123 (12.6)** | **2.15 (1.54-3.01)** | **0.000005** | 43 (31.4) | 44 (21.4) | 1.68 (1.03-2.75) | 0.04 | 41 (27.2) | 69 (24) | 1.18 (0.75-1.85) |  |
| DRB1\*07 |  |  |  |  |  |  |  |  |  |  |  |  |
| SURVIVIN-positive | 28 (11.9) |  | 0.59 (0.38-0.90) | 0.01 | 5 (4.3) |  | 0.88 (0.29-2.62) |  | 46 (19.9) |  | 0.68 (0.45-1.03) |  |
| SURVIVIN-negative | 26 (9.3) | 182 (18.6) | 0.45 (0.29-0.69) | 0.0002 | 3 (2.2) | 10 (4.9) | 0.44 (0.12-1.62) |  | 35 (23.2) | 77 (26.7) | 0.83 (0.52-1.31) |  |
| DRB1\*08 |  |  |  |  |  |  |  |  |  |  |  |  |
| SURVIVIN-positive | 6 (2.5) |  | 0.53 (0.22-1.25) |  | 10 (8.5) |  | 0.61 (0.29-1.32) |  | 14 (6.1) |  | 1.03 (0.50-2.13) |  |
| SURVIVIN-negative | 19 (6.8) | 46 (4.7) | 1.48 (0.85-2.57) |  | 19 (13.9) | 28 (13.6) | 1.06 (0.56-2.00) |  | 9 (6) | 17 (5.9) | 1.01 (0.44-2.32) |  |
| DRB1\*09 |  |  |  |  |  |  |  |  |  |  |  |  |
| SURVIVIN-positive | 16 (6.8) |  | 1.11 (0.63-1.97) |  | 32 (27.4) |  | 1.09 (0.65-1.81) |  | 7 (3) |  | 2.97 (0.76-11.61) |  |
| SURVIVIN-negative | 21 (7.5) | 60 (6.1) | 1.25 (0.74-2.09) |  | 36 (26.3) | 53 (25.7) | 1.03 (0.63-1.68) |  | 3 (2) | 3 (1) | 1.93 (0.38-9.66) |  |
| DRB1\*10 |  |  |  |  |  |  |  |  |  |  |  |  |
| SURVIVIN-positive | 23 (9.7) |  | **2.83 (1.64-4.87)** | **0.0001** | 8 (6.8) |  | **7.49 (1.56-35.87)** | **0.003** | **71 (30.7)** |  | **2.11 (1.40-3.19)** | **0.0003** |
| SURVIVIN-negative | 34 (12.2) | **36 (3.7)** | **3.63 (2.23-5.92)** | **<0.000001** | 10 (7.3) | 2 (1) | **8.03 (1.73-37.25)** | **0.002** | **39 (25.8)** | **50 (17.4)** | **3.01 (1.97-4.62)** | **<0.000001** |
| DRB1\*11 |  |  |  |  |  |  |  |  |  |  |  |  |
| SURVIVIN-positive | 7 (3) |  | 0.47 (0.21-1.04) |  | 12 (10.3) |  | 1.27 (0.58-2.76) |  | 12 (5.2) |  | 0.58 (0.28-1.17) |  |
| SURVIVIN-negative | 14 (5) | 60 (6.1) | 0.81 (0.44-1.47) |  | 10 (7.3) | 17 (8.3) | 0.88 (0.39-1.97) |  | 10 (6.6) | 25 (8.7) | 0.75 (0.35-1.60) |  |
| DRB1\*12 |  |  |  |  |  |  |  |  |  |  |  |  |
| SURVIVIN-positive | 98 (41.5) |  | 0.75 (0.56-0.99) | 0.04 | 25 (21.4) |  | 0.76 (0.45-1.31) |  | 18 (7.8) |  | 1.13 (0.58-2.19) |  |
| SURVIVIN-negative | 110 (39.4) | 477 (48.8) | 0.68 (0.52-0.90) | 0.006 | 31 (22.6) | 54 (26.2) | 0.82 (0.50-1.37) |  | 11 (7.3) | 20 (6.9) | 1.05 (0.49-2.26) |  |
| DRB1\*13 |  |  |  |  |  |  |  |  |  |  |  |  |
| SURVIVIN-positive | 6 (2.5) |  | 0.37 (0.16-0.86) | 0.02 | 5 (4.3) |  | 0.79 (0.27-2.34) |  | 24 (10.4) |  | 0.47 (0.28-0.78) | 0.003 |
| SURVIVIN-negative | 21 (7.5) | 65 (6.6) | 1.14 (0.69-1.91) |  | 5 (3.6) | 11 (5.3) | 0.67 (0.23-1.98) |  | 21 (13.9) | 57 (19.8) | 0.65 (0.38-1.13) |  |
| DRB1\*14 |  |  |  |  |  |  |  |  |  |  |  |  |
| SURVIVIN-positive | 17 (7.2) |  | 0.79 (0.46-1.35) |  | 14 (12) |  | 0.58 (0.30-1.12) |  | 40 (17.3) |  | 0.87 (0.55-1.36) |  |
| SURVIVIN-negative | 26 (9.3) | 88 (9) | 1.04 (0.66-1.65) |  | 20 (14.6) | 39 (18.9) | 0.73 (0.41-1.32) |  | 27 (17.9) | 56 (19.4) | 0.9 (0.54-1.50) |  |
| DRB1\*15 |  |  |  |  |  |  |  |  |  |  |  |  |
| SURVIVIN-positive | 116 (49.2) |  | 1.17 (0.88-1.55) |  | 28 (23.9) |  | 0.93 (0.55-1.58) |  | 96 (41.6) |  | 1.12 (0.79-1.59) |  |
| SURVIVIN-negative | 121 (43.4) | 443 (45.3) | 0.92 (0.71-1.21) |  | 48 (35) | 52 (25.2) | 1.59 (1.00-2.56) |  | 54 (35.8) | 112 (38.9) | 0.87 (0.58-1.32) |  |
| DRB1\*16 |  |  |  |  |  |  |  |  |  |  |  |  |
| SURVIVIN-positive | 21 (8.9) |  | 1.16 (0.70-1.92) |  | 25 (21.4) |  | 1.48 (0.83-2.64) |  | 2 (0.9) |  | 0.83 (0.14-5.01) |  |
| SURVIVIN-negative | 32 (11.5) | 76 (7.8) | 1.54 (1.00-2.38) |  | 19 (13.9) | 32 (15.5) | 0.88 (0.47-1.62) |  | 1 (0.7) | 3 (1) | 0.63 (0.06-6.14) |  |

\*The frequency was calculated as the number of Survivin-positive or Survivin-negative RA cases for a specific DRB1 allele divided by the total number of cases within that Survivin subgroup (**Malay**: 236 SURVIVIN-positive RA cases and 279 SURVIVIN-negative RA cases; **Chinese**: 117 SURVIVIN-positive RA cases and 137 SURVIVIN-negative RA cases; and **Indian**: 231 SURVIVIN-positive RA cases and 151 SURVIVIN-negative RA cases).

§Individuals without the allele being investigated were used as the reference group for the calculation of odds ratio (OR) and 95% confidence interval (95% CI).