

## MHC Class-II Binding Peptide Prediction Results

[HELP](#)
[HOME](#)
[MHC & Prediction Algorithm](#)

### INPUT & PARAMETER INFORMATION

|  |                          |
|--|--------------------------|
| Antigen Name   | test                     |
| Scanned on   | Thu Feb 11 19:55:06 2010 |
| Length of input sequence   | 159 amino acids          |
| Number of nanomers from input sequence                               | 151                      |
| Number of nanomers with <a href="#">obligatory P1 anchor residue</a> | 50                       |
| Threshold setting  | 3                        |
| Number of alleles in query   | 51                       |
| Number of top scorers to be displayed                                | 15                       |

|                   |                                    |  |
|-------------------|------------------------------------|--|
| ALLELE: DRB1_0101 | Threshold for 3 % with score: 0.14 | Highest Score achievable by any peptide: 6 |
|-------------------|------------------------------------|--|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | WRRLEAQAV | 110         | 4.3000 | 71.67              |
| 2    | WQGVSGADM | 71          | 1.1300 | 18.83              |
| 3    | YRVGNAVVQ | 92          | 1.1000 | 18.33              |
| 4    | VVVLITQHG | 83          | 0.7000 | 11.67              |
| 5    | LITQHGYRV | 86          | 0.7000 | 11.67              |
| 6    | LRHVVLIT  | 80          | 0.3500 | 5.83               |
| 7    | MLRHVVLI  | 79          | 0.3000 | 5.00               |
| 8    | LVGLLFPSA | 23          | 0.1700 | 2.83               |
| 9    | VNQLPRVGL | 0           | 0.1000 | 1.67               |

|    |           |     |         |   |
|----|-----------|-----|---------|---|
| 10 | VGNAVQVI  | 94  | -0.2000 | 0 |
| 11 | VVQVIGNRP | 98  | -0.2500 | 0 |
| 12 | LSRLLNAPV | 119 | -0.5000 | 0 |
| 13 | VIGNRPKIG | 101 | -0.8600 | 0 |

|                   |                                      |  |
|-------------------|--------------------------------------|--|
| ALLELE: DRB1_0102 | Threshold for 3 % with score:<br>0.7 | Highest Score achievable by any peptide: 6 |
|-------------------|--------------------------------------|--|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | WRRLEAQAV | 110         | 3.3000 | 55.00              |
| 2    | VVVLITQHG | 83          | 1.7000 | 28.33              |
| 3    | LITQHGYRV | 86          | 1.7000 | 28.33              |
| 4    | LRHVVLIT  | 80          | 1.3500 | 22.50              |
| 5    | MLRHVVLI  | 79          | 1.3000 | 21.67              |
| 6    | LVGLLFPSA | 23          | 1.1700 | 19.50              |
| 7    | VNQLPRVGL | 0           | 1.1000 | 18.33              |
| 8    | VVLITQHGY | 84          | 1.0000 | 16.67              |
| 9    | VGNAVQVI  | 94          | 0.8000 | 13.33              |
| 10   | VVQVIGNRP | 98          | 0.7500 | 12.50              |
| 11   | LSRLLNAPV | 119         | 0.5000 | 8.33               |
| 12   | VIGNRPKIG | 101         | 0.1400 | 2.33               |
| 13   | WQGVSGADM | 71          | 0.1300 | 2.17               |
| 14   | VGLLFPSAD | 24          | 0.1000 | 1.67               |
| 15   | YRVGNAVQ  | 92          | 0.1000 | 1.67               |

|                   |                                       |   |
|-------------------|---------------------------------------|---|
| ALLELE: DRB1_0301 | Threshold for 3 % with score:<br>2.96 | Highest Score achievable by any peptide:<br>9.5 |
|-------------------|---------------------------------------|---|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | LLNAPVSVS | 122         | 3.8700 | 40.74              |
| 2    | MLRHVVLI  | 79          | 3.7000 | 38.95              |
| 3    | VVVLITQHG | 83          | 3.7000 | 38.95              |
| 4    | LRHVVLIT  | 80          | 3.3000 | 34.74              |

|    |           |     |        |       |
|----|-----------|-----|--------|-------|
| 5  | LGTDVHPIE | 8   | 3.1000 | 32.63 |
| 6  | WLVGLLFPS | 22  | 2.8000 | 29.47 |
| 7  | VVLITQHGY | 84  | 2.8000 | 29.47 |
| 8  | VGNNAVQVI | 94  | 2.7000 | 28.42 |
| 9  | YRVGNAVVQ | 92  | 2.2000 | 23.16 |
| 10 | WRRLEAQAV | 110 | 2.1000 | 22.11 |
| 11 | VLITQHGYR | 85  | 2.0000 | 21.05 |
| 12 | LEAQAVLSR | 113 | 2.0000 | 21.05 |
| 13 | LGLTGRGEG | 137 | 2.0000 | 21.05 |
| 14 | VNQLPRVGL | 0   | 1.9600 | 20.63 |
| 15 | VHPIEPGRP | 12  | 1.9000 | 20.00 |

|                   |                                      |   |
|-------------------|--------------------------------------|---|
| ALLELE: DRB1_0305 | Threshold for 3 % with score:<br>1.7 | Highest Score achievable by any peptide:<br>9.1 |
|-------------------|--------------------------------------|---|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | YRVGNAVVQ | 92          | 3.9000 | 42.86              |
| 2    | WLVGLLFPS | 22          | 3.4000 | 37.36              |
| 3    | FGVDDPRWQ | 64          | 3.4000 | 37.36              |
| 4    | LLNAPVSVS | 122         | 2.4700 | 27.14              |
| 5    | WRRLEAQAV | 110         | 2.1000 | 23.08              |
| 6    | MLRHVVVLI | 79          | 1.8000 | 19.78              |
| 7    | LRHVVVVLI | 80          | 1.6000 | 17.58              |
| 8    | VVVLITQHG | 83          | 1.3000 | 14.29              |
| 9    | VGNNAVQVI | 94          | 0.8000 | 8.79               |
| 10   | LGTDVHPIE | 8           | 0.7000 | 7.69               |
| 11   | LVGLLFPSA | 23          | 0.6000 | 6.59               |
| 12   | VVLITQHGY | 84          | 0.5000 | 5.49               |
| 13   | WQGVSGADM | 71          | 0.3000 | 3.30               |

|                   |                                       |   |
|-------------------|---------------------------------------|---|
| ALLELE: DRB1_0306 | Threshold for 3 % with score:<br>2.08 | Highest Score achievable by any peptide:<br>8.8 |
|-------------------|---------------------------------------|---|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | LLNAPVSVS | 122         | 3.2000 | 36.36              |
| 2    | LRHVVVLIT | 80          | 3.1000 | 35.23              |
| 3    | YRVGNAVQQ | 92          | 2.7800 | 31.59              |
| 4    | MLRHVVVLI | 79          | 2.6800 | 30.45              |
| 5    | VVVLITQHG | 83          | 2.4000 | 27.27              |
| 6    | VVLITQHGY | 84          | 2.3000 | 26.14              |
| 7    | FGVDDPRWQ | 64          | 2.1000 | 23.86              |
| 8    | VGNAVQVI  | 94          | 1.9000 | 21.59              |
| 9    | WRRLEAQAV | 110         | 1.2000 | 13.64              |
| 10   | LEAQAVLSR | 113         | 1.0000 | 11.36              |
| 11   | WLVGLLFPS | 22          | 0.9000 | 10.23              |
| 12   | VNQLPRVGL | 0           | 0.8800 | 10.00              |
| 13   | VAVHALCDA | 42          | 0.7000 | 7.95               |
| 14   | VVQVIGNRP | 98          | 0.7000 | 7.95               |
| 15   | VIGNRPKIG | 101         | 0.7000 | 7.95               |

|                   |                                    |  |
|-------------------|------------------------------------|--|
| ALLELE: DRB1_0307 | Threshold for 3 % with score: 2.08 | Highest Score achievable by any peptide: 8.8 |
|-------------------|------------------------------------|--|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | LLNAPVSVS | 122         | 3.2000 | 36.36              |
| 2    | LRHVVVLIT | 80          | 3.1000 | 35.23              |
| 3    | YRVGNAVQQ | 92          | 2.7800 | 31.59              |
| 4    | MLRHVVVLI | 79          | 2.6800 | 30.45              |
| 5    | VVVLITQHG | 83          | 2.4000 | 27.27              |
| 6    | VVLITQHGY | 84          | 2.3000 | 26.14              |
| 7    | FGVDDPRWQ | 64          | 2.1000 | 23.86              |
| 8    | VGNAVQVI  | 94          | 1.9000 | 21.59              |
| 9    | WRRLEAQAV | 110         | 1.2000 | 13.64              |
| 10   | LEAQAVLSR | 113         | 1.0000 | 11.36              |
| 11   | WLVGLLFPS | 22          | 0.9000 | 10.23              |
| 12   | VNQLPRVGL | 0           | 0.8800 | 10.00              |
| 13   | VAVHALCDA | 42          | 0.7000 | 7.95               |

|    |           |     |        |      |
|----|-----------|-----|--------|------|
| 14 | VVQVIGNRP | 98  | 0.7000 | 7.95 |
| 15 | VIGNRPKIG | 101 | 0.7000 | 7.95 |

|                   |                                       |   |
|-------------------|---------------------------------------|---|
| ALLELE: DRB1_0308 | Threshold for 3 % with score:<br>2.08 | Highest Score achievable by any peptide:<br>8.8 |
|-------------------|---------------------------------------|---|

| Rank | Sequence   | At Position | Score  | % of Highest Score |
|------|------------|-------------|--------|--------------------|
| 1    | LLNAPVSVS  | 122         | 3.2000 | 36.36              |
| 2    | LRHVVVLLIT | 80          | 3.1000 | 35.23              |
| 3    | YRVGNAVQQ  | 92          | 2.7800 | 31.59              |
| 4    | MLRHVVVLI  | 79          | 2.6800 | 30.45              |
| 5    | VVLLITQHG  | 83          | 2.4000 | 27.27              |
| 6    | VVLLITQHGY | 84          | 2.3000 | 26.14              |
| 7    | FGVDDPRWQ  | 64          | 2.1000 | 23.86              |
| 8    | VGNVAVQVI  | 94          | 1.9000 | 21.59              |
| 9    | WRRLEAQAV  | 110         | 1.2000 | 13.64              |
| 10   | LEAQAVLSR  | 113         | 1.0000 | 11.36              |
| 11   | WLVGLLFPS  | 22          | 0.9000 | 10.23              |
| 12   | VNQLPRVGL  | 0           | 0.8800 | 10.00              |
| 13   | VAVHALCDA  | 42          | 0.7000 | 7.95               |
| 14   | VVQVIGNRP  | 98          | 0.7000 | 7.95               |
| 15   | VIGNRPKIG  | 101         | 0.7000 | 7.95               |

|                   |                                      |   |
|-------------------|--------------------------------------|---|
| ALLELE: DRB1_0309 | Threshold for 3 % with score:<br>2.4 | Highest Score achievable by any peptide:<br>9.5 |
|-------------------|--------------------------------------|---|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | WLVGLLFPS | 22          | 3.8000 | 40.00              |
| 2    | YRVGNAVQQ | 92          | 3.2000 | 33.68              |
| 3    | WRRLEAQAV | 110         | 3.1000 | 32.63              |
| 4    | LLNAPVSVS | 122         | 2.8700 | 30.21              |
| 5    | FGVDDPRWQ | 64          | 2.7000 | 28.42              |
| 6    | MLRHVVVLI | 79          | 2.7000 | 28.42              |

|    |           |     |        |       |
|----|-----------|-----|--------|-------|
| 7  | VVVLITQHG | 83  | 2.7000 | 28.42 |
| 8  | LRHVVLIT  | 80  | 2.3000 | 24.21 |
| 9  | LGTDVHPIE | 8   | 2.1000 | 22.11 |
| 10 | WQGVSGADM | 71  | 1.8000 | 18.95 |
| 11 | VVLITQHGY | 84  | 1.8000 | 18.95 |
| 12 | VGNNAVQVI | 94  | 1.7000 | 17.89 |
| 13 | VLITQHGYR | 85  | 1.0000 | 10.53 |
| 14 | LEAQAVLSR | 113 | 1.0000 | 10.53 |
| 15 | LGLTGRGEG | 137 | 1.0000 | 10.53 |

|                   |                                       |   |
|-------------------|---------------------------------------|---|
| ALLELE: DRB1_0311 | Threshold for 3 % with score:<br>2.08 | Highest Score achievable by any peptide:<br>8.8 |
|-------------------|---------------------------------------|---|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | LLNAPVSVS | 122         | 3.2000 | 36.36              |
| 2    | LRHVVLIT  | 80          | 3.1000 | 35.23              |
| 3    | YRVGNNAVQ | 92          | 2.7800 | 31.59              |
| 4    | MLRHVVVLI | 79          | 2.6800 | 30.45              |
| 5    | VVVLITQHG | 83          | 2.4000 | 27.27              |
| 6    | VVLITQHGY | 84          | 2.3000 | 26.14              |
| 7    | FGVDDPRWQ | 64          | 2.1000 | 23.86              |
| 8    | VGNNAVQVI | 94          | 1.9000 | 21.59              |
| 9    | WRRLEAQAV | 110         | 1.2000 | 13.64              |
| 10   | LEAQAVLSR | 113         | 1.0000 | 11.36              |
| 11   | WLVGLLFPS | 22          | 0.9000 | 10.23              |
| 12   | VNQLPRVGL | 0           | 0.8800 | 10.00              |
| 13   | VAVHALCDA | 42          | 0.7000 | 7.95               |
| 14   | VVQVIGNRP | 98          | 0.7000 | 7.95               |
| 15   | VIGNRPKIG | 101         | 0.7000 | 7.95               |

|                   |                                       |   |
|-------------------|---------------------------------------|---|
| ALLELE: DRB1_0401 | Threshold for 3 % with score:<br>1.48 | Highest Score achievable by any peptide:<br>8.6 |
|-------------------|---------------------------------------|---|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | VVVLITQHG | 83          | 3.3000 | 38.37              |
| 2    | WRRLEAQAV | 110         | 3.0000 | 34.88              |
| 3    | MLRHVVVLI | 79          | 2.4800 | 28.84              |
| 4    | LLNAPVSVS | 122         | 1.9000 | 22.09              |
| 5    | FGVDDPRWQ | 64          | 1.7000 | 19.77              |
| 6    | YRVGNAVVQ | 92          | 1.6800 | 19.53              |
| 7    | VQVIGNRPK | 99          | 1.3000 | 15.12              |
| 8    | LAAIATALV | 146         | 1.0000 | 11.63              |
| 9    | LRHVVLIT  | 80          | 0.9000 | 10.47              |
| 10   | LSRLLNAPV | 119         | 0.8000 | 9.30               |
| 11   | VGNNAVQVI | 94          | 0.6000 | 6.98               |
| 12   | LEAQAVLSR | 113         | 0.5000 | 5.81               |
| 13   | VVLITQHGY | 84          | 0.4000 | 4.65               |
| 14   | LVGLLFPSA | 23          | 0.3000 | 3.49               |
| 15   | VSVSATTTD | 127         | 0.1000 | 1.16               |

|                   |                                      |   |
|-------------------|--------------------------------------|---|
| ALLELE: DRB1_0402 | Threshold for 3 % with score:<br>1.8 | Highest Score achievable by any peptide:<br>9.6 |
|-------------------|--------------------------------------|---|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | VQVIGNRPK | 99          | 4.4800 | 46.67              |
| 2    | VVVLITQHG | 83          | 4.0000 | 41.67              |
| 3    | MLRHVVVLI | 79          | 3.7000 | 38.54              |
| 4    | VGNNAVQVI | 94          | 2.7000 | 28.13              |
| 5    | LLNAPVSVS | 122         | 2.7000 | 28.13              |
| 6    | LRHVVLIT  | 80          | 2.4000 | 25.00              |
| 7    | YRVGNAVVQ | 92          | 1.7000 | 17.71              |
| 8    | WRRLEAQAV | 110         | 1.7000 | 17.71              |
| 9    | LAAIATALV | 146         | 1.2800 | 13.33              |
| 10   | VVLITQHGY | 84          | 1.1800 | 12.29              |
| 11   | LNAPVSVSA | 123         | 0.7000 | 7.29               |
| 12   | VAVHALCDA | 42          | 0.6000 | 6.25               |
| 13   | LEAQAVLSR | 113         | 0.6000 | 6.25               |

|    |           |     |        |      |
|----|-----------|-----|--------|------|
| 14 | ITQHGYRVG | 87  | 0.4000 | 4.17 |
| 15 | VLSRLLNAP | 118 | 0.4000 | 4.17 |

|                   |                                      |   |
|-------------------|--------------------------------------|---|
| ALLELE: DRB1_0404 | Threshold for 3 % with score:<br>1.8 | Highest Score achievable by any peptide:<br>8.8 |
|-------------------|--------------------------------------|---|

| Rank | Sequence   | At Position | Score  | % of Highest Score |
|------|------------|-------------|--------|--------------------|
| 1    | VVVLITQHG  | 83          | 4.3000 | 48.86              |
| 2    | LLNAPVSVS  | 122         | 3.6000 | 40.91              |
| 3    | LRHVVVLLIT | 80          | 2.9000 | 32.95              |
| 4    | VQVIGNRPK  | 99          | 2.9000 | 32.95              |
| 5    | LAAIATALV  | 146         | 2.3000 | 26.14              |
| 6    | WRRLEAQAV  | 110         | 2.0000 | 22.73              |
| 7    | LSRLLNAPV  | 119         | 2.0000 | 22.73              |
| 8    | VGNAVQVI   | 94          | 1.4000 | 15.91              |
| 9    | VGLLFPSAD  | 24          | 1.3000 | 14.77              |
| 10   | VVLITQHGY  | 84          | 1.3000 | 14.77              |
| 11   | LVGLLFPSA  | 23          | 1.2000 | 13.64              |
| 12   | MLRHVVVLI  | 79          | 1.2000 | 13.64              |
| 13   | VVQVIGNRP  | 98          | 0.5000 | 5.68               |
| 14   | LNAPVSVSA  | 123         | 0.4000 | 4.55               |
| 15   | LEAQAVLSR  | 113         | 0.3000 | 3.41               |

|                   |                                      |   |
|-------------------|--------------------------------------|---|
| ALLELE: DRB1_0405 | Threshold for 3 % with score:<br>2.0 | Highest Score achievable by any peptide:<br>9.4 |
|-------------------|--------------------------------------|---|

| Rank | Sequence   | At Position | Score  | % of Highest Score |
|------|------------|-------------|--------|--------------------|
| 1    | VVVLITQHG  | 83          | 4.6000 | 48.94              |
| 2    | WRRLEAQAV  | 110         | 3.3000 | 35.11              |
| 3    | VGLLFPSAD  | 24          | 3.0000 | 31.91              |
| 4    | LRHVVVLLIT | 80          | 2.8000 | 29.79              |
| 5    | LLNAPVSVS  | 122         | 2.6000 | 27.66              |
| 6    | VSVSATTTD  | 127         | 1.8000 | 19.15              |



|    |           |     |        |       |
|----|-----------|-----|--------|-------|
| 7  | LAAIATALV | 146 | 1.6000 | 17.02 |
| 8  | YRVGNNAVQ | 92  | 1.5000 | 15.96 |
| 9  | VVLITQHGY | 84  | 1.4000 | 14.89 |
| 10 | LSRLLNAPV | 119 | 1.3000 | 13.83 |
| 11 | VQVIGNRPK | 99  | 1.2000 | 12.77 |
| 12 | WQGVSGADM | 71  | 1.1000 | 11.70 |
| 13 | VGNNAVQVI | 94  | 0.6000 | 6.38  |
| 14 | MLRHVVVLI | 79  | 0.4000 | 4.26  |
| 15 | FGVDDPRWQ | 64  | 0.3000 | 3.19  |

| ALLELE: DRB1_0408 |           | Threshold for 3 % with score:<br>1.2 | Highest Score achievable by any peptide:<br>8.8 |                    |
|-------------------|-----------|--------------------------------------|---|--------------------|
| Rank              | Sequence  | At Position                          | Score   | % of Highest Score |
| 1                 | VVVLITQHG | 83                                   | 3.3000  | 37.50              |
| 2                 | WRRLEAQAV | 110                                  | 3.0000  | 34.09              |
| 3                 | LLNAPVSVS | 122                                  | 2.6000  | 29.55              |
| 4                 | LRHVVLIT  | 80                                   | 1.9000  | 21.59              |
| 5                 | VQVIGNRPK | 99                                   | 1.9000  | 21.59              |
| 6                 | LAAIATALV | 146                                  | 1.3000  | 14.77              |
| 7                 | LSRLLNAPV | 119                                  | 1.0000  | 11.36              |
| 8                 | YRVGNNAVQ | 92                                   | 0.7000  | 7.95               |
| 9                 | VGNNAVQVI | 94                                   | 0.4000  | 4.55               |
| 10                | VGLLFPSAD | 24                                   | 0.3000  | 3.41               |
| 11                | VVLITQHGY | 84                                   | 0.3000  | 3.41               |
| 12                | LVGLLFPSA | 23                                   | 0.2000  | 2.27               |
| 13                | MLRHVVVLI | 79                                   | 0.2000  | 2.27               |

| ALLELE: DRB1_0410 |           | Threshold for 3 % with score:<br>2.6 | Highest Score achievable by any peptide:<br>9.4 |                    |
|-------------------|-----------|--------------------------------------|---|--------------------|
| Rank              | Sequence  | At Position                          | Score   | % of Highest Score |
| 1                 | VVVLITQHG | 83                                   | 5.6000  | 59.57              |

|    |           |     |        |       |
|----|-----------|-----|--------|-------|
| 2  | VGLLFPSAD | 24  | 4.0000 | 42.55 |
| 3  | LRHVVLIT  | 80  | 3.8000 | 40.43 |
| 4  | LLNAPVSVS | 122 | 3.6000 | 38.30 |
| 5  | VSVSATTTD | 127 | 2.8000 | 29.79 |
| 6  | LAAIATALV | 146 | 2.6000 | 27.66 |
| 7  | VVLITQHGY | 84  | 2.4000 | 25.53 |
| 8  | WRRLEAQAV | 110 | 2.3000 | 24.47 |
| 9  | LSRLLNAPV | 119 | 2.3000 | 24.47 |
| 10 | VQVIGNRPK | 99  | 2.2000 | 23.40 |
| 11 | VGNAVQVI  | 94  | 1.6000 | 17.02 |
| 12 | MLRHVVVLI | 79  | 1.4000 | 14.89 |
| 13 | LVGLLFPSA | 23  | 1.2000 | 12.77 |
| 14 | VLSAAGLGD | 51  | 1.0000 | 10.64 |
| 15 | VVQVIGNRP | 98  | 0.9000 | 9.57  |

|                   |                                      |  |
|-------------------|--------------------------------------|--|
| ALLELE: DRB1_0421 | Threshold for 3 % with score:<br>2.3 | Highest Score achievable by any peptide: 9 |
|-------------------|--------------------------------------|--|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | VVVLITQHG | 83          | 4.7000 | 52.22              |
| 2    | WRRLEAQAV | 110         | 4.0000 | 44.44              |
| 3    | MLRHVVVLI | 79          | 3.3800 | 37.56              |
| 4    | LLNAPVSVS | 122         | 2.3000 | 25.56              |
| 5    | LEAQAVLSR | 113         | 2.0000 | 22.22              |
| 6    | LAAIATALV | 146         | 2.0000 | 22.22              |
| 7    | LSRLLNAPV | 119         | 1.8000 | 20.00              |
| 8    | VVLITQHGY | 84          | 1.7000 | 18.89              |
| 9    | LRHVVLIT  | 80          | 1.6000 | 17.78              |
| 10   | VGNAVQVI  | 94          | 1.5000 | 16.67              |
| 11   | VQVIGNRPK | 99          | 1.4000 | 15.56              |
| 12   | VIGNRPKIG | 101         | 1.3000 | 14.44              |
| 13   | VSVSATTTD | 127         | 1.2000 | 13.33              |
| 14   | FGVDDPRWQ | 64          | 1.0000 | 11.11              |
| 15   | YRVGNAVQ  | 92          | 0.9800 | 10.89              |

|                   |                                       |   |
|-------------------|---------------------------------------|---|
| ALLELE: DRB1_0423 | Threshold for 3 % with score:<br>1.68 | Highest Score achievable by any peptide:<br>8.8 |
|-------------------|---------------------------------------|---|

| Rank | Sequence   | At Position | Score  | % of Highest Score |
|------|------------|-------------|--------|--------------------|
| 1    | VVVLITQHG  | 83          | 4.3000 | 48.86              |
| 2    | LLNAPVSVS  | 122         | 3.6000 | 40.91              |
| 3    | LRHVVVLLIT | 80          | 2.9000 | 32.95              |
| 4    | VQVIGNRPK  | 99          | 2.9000 | 32.95              |
| 5    | LAAIATALV  | 146         | 2.3000 | 26.14              |
| 6    | WRRLEAQAV  | 110         | 2.0000 | 22.73              |
| 7    | LSRLLNAPV  | 119         | 2.0000 | 22.73              |
| 8    | VGNNAVQVI  | 94          | 1.4000 | 15.91              |
| 9    | VGLLFPSAD  | 24          | 1.3000 | 14.77              |
| 10   | VVLITQHGY  | 84          | 1.3000 | 14.77              |
| 11   | LVGLLFPSA  | 23          | 1.2000 | 13.64              |
| 12   | MLRHVVVLI  | 79          | 1.2000 | 13.64              |
| 13   | VVQVIGNRP  | 98          | 0.5000 | 5.68               |
| 14   | LNAPVSVSA  | 123         | 0.4000 | 4.55               |
| 15   | LEAQAVLSR  | 113         | 0.3000 | 3.41               |

|                   |                                      |   |
|-------------------|--------------------------------------|---|
| ALLELE: DRB1_0426 | Threshold for 3 % with score:<br>1.6 | Highest Score achievable by any peptide:<br>8.6 |
|-------------------|--------------------------------------|---|

| Rank | Sequence   | At Position | Score  | % of Highest Score |
|------|------------|-------------|--------|--------------------|
| 1    | VVVLITQHG  | 83          | 3.3000 | 38.37              |
| 2    | WRRLEAQAV  | 110         | 3.0000 | 34.88              |
| 3    | MLRHVVVLI  | 79          | 2.4800 | 28.84              |
| 4    | LLNAPVSVS  | 122         | 1.9000 | 22.09              |
| 5    | FGVDDPRWQ  | 64          | 1.7000 | 19.77              |
| 6    | YRVGNAVQV  | 92          | 1.6800 | 19.53              |
| 7    | VQVIGNRPK  | 99          | 1.3000 | 15.12              |
| 8    | LAAIATALV  | 146         | 1.0000 | 11.63              |
| 9    | LRHVVVLLIT | 80          | 0.9000 | 10.47              |

|    |           |     |        |      |
|----|-----------|-----|--------|------|
| 10 | LSRLLNAPV | 119 | 0.8000 | 9.30 |
| 11 | VGNNAVQVI | 94  | 0.6000 | 6.98 |
| 12 | LEAQAVLSR | 113 | 0.5000 | 5.81 |
| 13 | VVLITQHGY | 84  | 0.4000 | 4.65 |
| 14 | LVGLLFPSA | 23  | 0.3000 | 3.49 |
| 15 | VSVSATTTD | 127 | 0.1000 | 1.16 |

|                   |                                      |  |
|-------------------|--------------------------------------|--|
| ALLELE: DRB1_0701 | Threshold for 3 % with score:<br>4.1 | Highest Score achievable by any peptide:<br>11.6 |
|-------------------|--------------------------------------|--|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | MLRHVVVLI | 79          | 5.9000 | 50.86              |
| 2    | WRRLEAQAV | 110         | 5.2000 | 44.83              |
| 3    | LRHVVVLIT | 80          | 5.0000 | 43.10              |
| 4    | VGNNAVQVI | 94          | 4.6000 | 39.66              |
| 5    | VVLITQHGY | 84          | 4.1000 | 35.34              |
| 6    | IATALVVSL | 149         | 4.1000 | 35.34              |
| 7    | WQGVSGADM | 71          | 3.7000 | 31.90              |
| 8    | VNQLPRVGL | 0           | 2.9000 | 25.00              |
| 9    | YRVGNNAVQ | 92          | 2.3000 | 19.83              |
| 10   | VVQVIGNRP | 98          | 2.2000 | 18.97              |
| 11   | VSATTTDGL | 129         | 2.1200 | 18.28              |
| 12   | LAAIATALV | 146         | 2.0200 | 17.41              |
| 13   | LITQHGYRV | 86          | 1.7000 | 14.66              |
| 14   | WLVGLLFPS | 22          | 1.3000 | 11.21              |
| 15   | VLITQHGYR | 85          | 1.3000 | 11.21              |

|                   |                                      |  |
|-------------------|--------------------------------------|--|
| ALLELE: DRB1_0703 | Threshold for 3 % with score:<br>4.0 | Highest Score achievable by any peptide:<br>11.6 |
|-------------------|--------------------------------------|--|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | MLRHVVVLI | 79          | 5.9000 | 50.86              |
| 2    | WRRLEAQAV | 110         | 5.2000 | 44.83              |

|    |           |     |        |       |
|----|-----------|-----|--------|-------|
| 3  | LRHVVLIT  | 80  | 5.0000 | 43.10 |
| 4  | VGNVQVI   | 94  | 4.6000 | 39.66 |
| 5  | VVLITQHG  | 84  | 4.1000 | 35.34 |
| 6  | IATALVSL  | 149 | 4.1000 | 35.34 |
| 7  | WQVSGADM  | 71  | 3.7000 | 31.90 |
| 8  | VNQLPRVGL | 0   | 2.9000 | 25.00 |
| 9  | YRVGNVQ   | 92  | 2.3000 | 19.83 |
| 10 | VVQVGNRP  | 98  | 2.2000 | 18.97 |
| 11 | VSATTDGL  | 129 | 2.1200 | 18.28 |
| 12 | LAAIATALV | 146 | 2.0200 | 17.41 |
| 13 | LITQHGYRV | 86  | 1.7000 | 14.66 |
| 14 | WLVLLFPS  | 22  | 1.3000 | 11.21 |
| 15 | VLITQHGYR | 85  | 1.3000 | 11.21 |

| ALLELE: DRB1_0801 | Threshold for 3 % with score:<br>1.8 | Highest Score achievable by any peptide:<br>8.6 |        |                    |
|-------------------|--------------------------------------|---|--------|--------------------|
| Rank              | Sequence                             | At Position                                     | Score  | % of Highest Score |
| 1                 | IGNRPKIGW                            | 102   | 2.7000 | 31.40              |
| 2                 | LRHVVLIT                             | 80  | 2.3000 | 26.74              |
| 3                 | VVVLITQHG                            | 83  | 2.2000 | 25.58              |
| 4                 | WRRLEAQAV                            | 110   | 2.0000 | 23.26              |
| 5                 | YRVGNVQ                              | 92  | 1.9000 | 22.09              |
| 6                 | WQVSGADM                             | 71  | 1.7000 | 19.77              |
| 7                 | VLLFPSAD                             | 24  | 1.4000 | 16.28              |
| 8                 | VVLITQHG                             | 84  | 1.3000 | 15.12              |
| 9                 | FGVDDPRWQ                            | 64  | 1.2000 | 13.95              |
| 10                | LLNAPVSVS                            | 122   | 1.1000 | 12.79              |
| 11                | IGWRRLEAQ                            | 108   | 0.9000 | 10.47              |
| 12                | WLVLLFPS                             | 22  | 0.5000 | 5.81               |
| 13                | VLSRLLNAP                            | 118   | 0.5000 | 5.81               |
| 14                | VNQLPRVGL                            | 0   | 0.4000 | 4.65               |
| 15                | VIGNRPKIG                            | 101   | 0.3000 | 3.49               |

|                   |                                   |  |
|-------------------|-----------------------------------|--|
| ALLELE: DRB1_0802 | Threshold for 3 % with score: 1.0 | Highest Score achievable by any peptide: 8 |
|-------------------|-----------------------------------|--|

| Rank | Sequence  | At Position | Score   | % of Highest Score |
|------|-----------|-------------|---------|--------------------|
| 1    | IGNRPKIGW | 102         | 1.8000  | 22.50              |
| 2    | WRRLEAQAV | 110         | 1.7000  | 21.25              |
| 3    | LRHVVLIT  | 80          | 1.4000  | 17.50              |
| 4    | YRVGNAVQ  | 92          | 1.1000  | 13.75              |
| 5    | LLNAPVSVS | 122         | 1.1000  | 13.75              |
| 6    | VVVLITQHG | 83          | 0.9000  | 11.25              |
| 7    | WQGVSGADM | 71          | 0.6000  | 7.50               |
| 8    | WLVGLLFPS | 22          | 0.5000  | 6.25               |
| 9    | FGVDDPRWQ | 64          | 0.4000  | 5.00               |
| 10   | VVLITQHGY | 84          | 0.2000  | 2.50               |
| 11   | IGWRRLEAQ | 108         | 0.1000  | 1.25               |
| 12   | VLSRLLNAP | 118         | 0.1000  | 1.25               |
| 13   | VGNAVQVI  | 94          | -0.3000 | 0                  |
| 14   | LTGRGEGLA | 139         | -0.4000 | 0                  |

|                   |                                   |  |
|-------------------|-----------------------------------|--|
| ALLELE: DRB1_0804 | Threshold for 3 % with score: 1.6 | Highest Score achievable by any peptide: 8 |
|-------------------|-----------------------------------|--|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | IGNRPKIGW | 102         | 2.8000 | 35.00              |
| 2    | LRHVVLIT  | 80          | 2.4000 | 30.00              |
| 3    | LLNAPVSVS | 122         | 2.1000 | 26.25              |
| 4    | VVVLITQHG | 83          | 1.9000 | 23.75              |
| 5    | VVLITQHGY | 84          | 1.2000 | 15.00              |
| 6    | IGWRRLEAQ | 108         | 1.1000 | 13.75              |
| 7    | VLSRLLNAP | 118         | 1.1000 | 13.75              |
| 8    | VGNAVQVI  | 94          | 0.7000 | 8.75               |
| 9    | WRRLEAQAV | 110         | 0.7000 | 8.75               |
| 10   | LTGRGEGLA | 139         | 0.6000 | 7.50               |

|    |           |     |        |      |
|----|-----------|-----|--------|------|
| 11 | MLRHVVVLI | 79  | 0.5000 | 6.25 |
| 12 | VQVIGNRPK | 99  | 0.5000 | 6.25 |
| 13 | VNQLPRVGL | 0   | 0.4000 | 5.00 |
| 14 | LVGLLFPSA | 23  | 0.4000 | 5.00 |
| 15 | LAAIATALV | 146 | 0.4000 | 5.00 |

|                   |                                      |   |
|-------------------|--------------------------------------|---|
| ALLELE: DRB1_0806 | Threshold for 3 % with score:<br>2.4 | Highest Score achievable by any peptide:<br>8.6 |
|-------------------|--------------------------------------|---|

| Rank | Sequence   | At Position | Score  | % of Highest Score |
|------|------------|-------------|--------|--------------------|
| 1    | IGNRPKIGW  | 102         | 3.7000 | 43.02              |
| 2    | LRHVVVLLIT | 80          | 3.3000 | 38.37              |
| 3    | VVVLITQHG  | 83          | 3.2000 | 37.21              |
| 4    | VGLLFPSAD  | 24          | 2.4000 | 27.91              |
| 5    | VVLITQHGY  | 84          | 2.3000 | 26.74              |
| 6    | LLNAPVSVS  | 122         | 2.1000 | 24.42              |
| 7    | IGWRRLEAQ  | 108         | 1.9000 | 22.09              |
| 8    | VLSRLLNAP  | 118         | 1.5000 | 17.44              |
| 9    | VNQLPRVGL  | 0           | 1.4000 | 16.28              |
| 10   | VIGNRPKIG  | 101         | 1.3000 | 15.12              |
| 11   | LGLTGRGEG  | 137         | 1.3000 | 15.12              |
| 12   | LPRVGLGTD  | 3           | 1.2000 | 13.95              |
| 13   | VLSAAGLGD  | 51          | 1.2000 | 13.95              |
| 14   | WRRLEAQAV  | 110         | 1.0000 | 11.63              |
| 15   | YRVGNAVVQ  | 92          | 0.9000 | 10.47              |

|                   |                                      |   |
|-------------------|--------------------------------------|---|
| ALLELE: DRB1_0813 | Threshold for 3 % with score:<br>1.9 | Highest Score achievable by any peptide:<br>8.7 |
|-------------------|--------------------------------------|---|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | LLNAPVSVS | 122         | 2.9000 | 33.33              |
| 2    | WRRLEAQAV | 110         | 2.7000 | 31.03              |
| 3    | IGNRPKIGW | 102         | 2.6800 | 30.80              |

|    |             |     |        |       |
|----|-------------|-----|--------|-------|
| 4  | YRVGNAV VQ  | 92  | 2.1000 | 24.14 |
| 5  | VLSRLLNAP   | 118 | 2.1000 | 24.14 |
| 6  | LRHV VVLIT  | 80  | 2.0000 | 22.99 |
| 7  | VVVLITQHG   | 83  | 1.9000 | 21.84 |
| 8  | IGWRRLEAQ   | 108 | 1.8000 | 20.69 |
| 9  | WLVGLLFPS   | 22  | 1.3500 | 15.52 |
| 10 | VVLITQHGY   | 84  | 0.7000 | 8.05  |
| 11 | VGNNAV VQVI | 94  | 0.7000 | 8.05  |
| 12 | WQGVSGADM   | 71  | 0.6000 | 6.90  |
| 13 | VGLLFPSAD   | 24  | 0.5000 | 5.75  |
| 14 | MLRHV VVLI  | 79  | 0.5000 | 5.75  |
| 15 | VNQLPRVGL   | 0   | 0.4000 | 4.60  |

|                   |                                   |   |
|-------------------|-----------------------------------|---|
| ALLELE: DRB1_0817 | Threshold for 3 % with score: 2.8 | Highest Score achievable by any peptide: 10.1 |
|-------------------|-----------------------------------|---|

| Rank | Sequence   | At Position | Score  | % of Highest Score |
|------|------------|-------------|--------|--------------------|
| 1    | IGNRPKIGW  | 102         | 4.3000 | 42.57              |
| 2    | LRHV VVLIT | 80          | 4.1000 | 40.59              |
| 3    | YRVGNAV VQ | 92          | 2.4000 | 23.76              |
| 4    | VVVLITQHG  | 83          | 2.3000 | 22.77              |
| 5    | WRRLEAQAV  | 110         | 2.1000 | 20.79              |
| 6    | VLSAAGLGD  | 51          | 2.0000 | 19.80              |
| 7    | VVLITQHGY  | 84          | 2.0000 | 19.80              |
| 8    | IGWRRLEAQ  | 108         | 2.0000 | 19.80              |
| 9    | WQGVSGADM  | 71          | 1.7000 | 16.83              |
| 10   | VGLLFPSAD  | 24          | 1.4000 | 13.86              |
| 11   | FGVDDPRWQ  | 64          | 1.4000 | 13.86              |
| 12   | LLNAPVSVS  | 122         | 1.1000 | 10.89              |
| 13   | WLVGLLFPS  | 22          | 1.0000 | 9.90               |
| 14   | VNQLPRVGL  | 0           | 0.9000 | 8.91               |
| 15   | VIGNRPKIG  | 101         | 0.9000 | 8.91               |



|                   |                                      |  |
|-------------------|--------------------------------------|--|
| ALLELE: DRB1_1101 | Threshold for 3 % with score:<br>1.1 | Highest Score achievable by any peptide: 8.3 |
|-------------------|--------------------------------------|--|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | LRHVVLIT  | 80          | 3.3000 | 39.76              |
| 2    | WRRLEQAV  | 110         | 2.2000 | 26.51              |
| 3    | VVLITQHG  | 84          | 1.5000 | 18.07              |
| 4    | VVVLITQHG | 83          | 1.4000 | 16.87              |
| 5    | LLNAPVSVS | 122         | 1.1000 | 13.25              |
| 6    | LVGLLFPSA | 23          | 0.9500 | 11.45              |
| 7    | YRVGNAVQ  | 92          | 0.9000 | 10.84              |
| 8    | WQGVSGADM | 71          | 0.7000 | 8.43               |
| 9    | MLRHVVLI  | 79          | 0.4000 | 4.82               |
| 10   | IGNRPKIGW | 102         | 0.4000 | 4.82               |
| 11   | LEAQAVLSR | 113         | 0.4000 | 4.82               |
| 12   | VNQLPRVGL | 0           | 0.3000 | 3.61               |
| 13   | WLVGLFPS  | 22          | 0.3000 | 3.61               |
| 14   | VQVIGNRPK | 99          | 0.3000 | 3.61               |

|                   |                                      |  |
|-------------------|--------------------------------------|--|
| ALLELE: DRB1_1102 | Threshold for 3 % with score:<br>1.8 | Highest Score achievable by any peptide: 8.4 |
|-------------------|--------------------------------------|--|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | MLRHVVLI  | 79          | 4.0000 | 47.62              |
| 2    | LLNAPVSVS | 122         | 2.5000 | 29.76              |
| 3    | VVVLITQHG | 83          | 2.4000 | 28.57              |
| 4    | VAVHALCDA | 42          | 2.2000 | 26.19              |
| 5    | LRHVVLIT  | 80          | 1.9000 | 22.62              |
| 6    | VVLITQHG  | 84          | 1.5000 | 17.86              |
| 7    | VGNVQVI   | 94          | 1.5000 | 17.86              |
| 8    | VQVIGNRPK | 99          | 1.4000 | 16.67              |
| 9    | LEAQAVLSR | 113         | 1.3000 | 15.48              |
| 10   | WRRLEQAV  | 110         | 1.2000 | 14.29              |
| 11   | VNQLPRVGL | 0           | 1.1000 | 13.10              |

|    |           |     |        |       |
|----|-----------|-----|--------|-------|
| 12 | IGNRPKIGW | 102 | 1.0000 | 11.90 |
| 13 | VIGNRPKIG | 101 | 0.9000 | 10.71 |
| 14 | LVGLLFPSA | 23  | 0.8000 | 9.52  |
| 15 | FGVDDPRWQ | 64  | 0.8000 | 9.52  |

|                   |                                   |  |
|-------------------|-----------------------------------|--|
| ALLELE: DRB1_1104 | Threshold for 3 % with score: 2.0 | Highest Score achievable by any peptide: 8.3 |
|-------------------|-----------------------------------|--|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | LRHVVVLIT | 80          | 4.3000 | 51.81              |
| 2    | VVLITQHGY | 84          | 2.5000 | 30.12              |
| 3    | VVVLITQHG | 83          | 2.4000 | 28.92              |
| 4    | LLNAPVSVS | 122         | 2.1000 | 25.30              |
| 5    | LVGLLFPSA | 23          | 1.9500 | 23.49              |
| 6    | MLRHVVVLI | 79          | 1.4000 | 16.87              |
| 7    | IGNRPKIGW | 102         | 1.4000 | 16.87              |
| 8    | LEAQAVLSR | 113         | 1.4000 | 16.87              |
| 9    | VNQLPRVGL | 0           | 1.3000 | 15.66              |
| 10   | VQVIGNRPK | 99          | 1.3000 | 15.66              |
| 11   | WRRLEAQAV | 110         | 1.2000 | 14.46              |
| 12   | LAAIATALV | 146         | 1.0000 | 12.05              |
| 13   | VHPIEPGRP | 12          | 0.8000 | 9.64               |
| 14   | VGNAVQVI  | 94          | 0.8000 | 9.64               |
| 15   | VIGNRPKIG | 101         | 0.6000 | 7.23               |

|                   |                                   |  |
|-------------------|-----------------------------------|--|
| ALLELE: DRB1_1106 | Threshold for 3 % with score: 2.0 | Highest Score achievable by any peptide: 8.3 |
|-------------------|-----------------------------------|--|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | LRHVVVLIT | 80          | 4.3000 | 51.81              |
| 2    | VVLITQHGY | 84          | 2.5000 | 30.12              |
| 3    | VVVLITQHG | 83          | 2.4000 | 28.92              |
| 4    | LLNAPVSVS | 122         | 2.1000 | 25.30              |

|    |           |     |        |       |
|----|-----------|-----|--------|-------|
| 5  | LVGLLFPSA | 23  | 1.9500 | 23.49 |
| 6  | MLRHVVVLI | 79  | 1.4000 | 16.87 |
| 7  | IGNRPKIGW | 102 | 1.4000 | 16.87 |
| 8  | LEAQVLSR  | 113 | 1.4000 | 16.87 |
| 9  | VNQLPRVGL | 0   | 1.3000 | 15.66 |
| 10 | VQVIGNRPK | 99  | 1.3000 | 15.66 |
| 11 | WRRLEAQAV | 110 | 1.2000 | 14.46 |
| 12 | LAAIATALV | 146 | 1.0000 | 12.05 |
| 13 | VHPIEPGRP | 12  | 0.8000 | 9.64  |
| 14 | VGNAVQVI  | 94  | 0.8000 | 9.64  |
| 15 | VIGNRPKIG | 101 | 0.6000 | 7.23  |

ALLELE: DRB1\_1107    Threshold for 3 % with score: 2.1    Highest Score achievable by any peptide: 9.1

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | LLNAPVSVS | 122         | 3.4700 | 38.13              |
| 2    | YRVGNAVQ  | 92          | 2.9000 | 31.87              |
| 3    | MLRHVVVLI | 79          | 2.8000 | 30.77              |
| 4    | LRHVVLIT  | 80          | 2.6000 | 28.57              |
| 5    | WLVGLLFPS | 22          | 2.4000 | 26.37              |
| 6    | FGVDDPRWQ | 64          | 2.4000 | 26.37              |
| 7    | VVVLITQHG | 83          | 2.3000 | 25.27              |
| 8    | VGNAVQVI  | 94          | 1.8000 | 19.78              |
| 9    | LGTDVHPIE | 8           | 1.7000 | 18.68              |
| 10   | LVGLLFPSA | 23          | 1.6000 | 17.58              |
| 11   | VVLITQHGY | 84          | 1.5000 | 16.48              |
| 12   | WRRLEAQAV | 110         | 1.1000 | 12.09              |
| 13   | VNQLPRVGL | 0           | 1.0000 | 10.99              |
| 14   | VHPIEPGRP | 12          | 0.9000 | 9.89               |
| 15   | VAVHALCDA | 42          | 0.7000 | 7.69               |

|                   |                                      |  |
|-------------------|--------------------------------------|--|
| ALLELE: DRB1_1114 | Threshold for 3 % with score:<br>1.3 | Highest Score achievable by any peptide: 8.4 |
|-------------------|--------------------------------------|--|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | MLRHVVVLI | 79          | 3.0000 | 35.71              |
| 2    | WRRLEAQAV | 110         | 2.2000 | 26.19              |
| 3    | FGVDDPRWQ | 64          | 1.8000 | 21.43              |
| 4    | YRVGNAVQ  | 92          | 1.6000 | 19.05              |
| 5    | WLVGLLFPS | 22          | 1.5000 | 17.86              |
| 6    | LLNAPVSVS | 122         | 1.5000 | 17.86              |
| 7    | VVVLITQHG | 83          | 1.4000 | 16.67              |
| 8    | VAVHALCDA | 42          | 1.2000 | 14.29              |
| 9    | LRHVVLIT  | 80          | 0.9000 | 10.71              |
| 10   | VVLITQHGY | 84          | 0.5000 | 5.95               |
| 11   | VGNVAVQVI | 94          | 0.5000 | 5.95               |
| 12   | VQVIGNRPK | 99          | 0.4000 | 4.76               |
| 13   | LEAQAVLSR | 113         | 0.3000 | 3.57               |
| 14   | VNQLPRVGL | 0           | 0.1000 | 1.19               |

|                   |                                      |  |
|-------------------|--------------------------------------|--|
| ALLELE: DRB1_1120 | Threshold for 3 % with score:<br>2.1 | Highest Score achievable by any peptide: 8.8 |
|-------------------|--------------------------------------|--|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | MLRHVVVLI | 79          | 3.9000 | 44.32              |
| 2    | WRRLEAQAV | 110         | 3.2000 | 36.36              |
| 3    | VVVLITQHG | 83          | 2.8000 | 31.82              |
| 4    | WLVGLLFPS | 22          | 1.9000 | 21.59              |
| 5    | LLNAPVSVS | 122         | 1.9000 | 21.59              |
| 6    | VVLITQHGY | 84          | 1.8000 | 20.45              |
| 7    | LEAQAVLSR | 113         | 1.8000 | 20.45              |
| 8    | LRHVVLIT  | 80          | 1.6000 | 18.18              |
| 9    | VGNVAVQVI | 94          | 1.4000 | 15.91              |
| 10   | VIGNRPKIG | 101         | 1.3000 | 14.77              |
| 11   | VAVHALCDA | 42          | 1.2000 | 13.64              |

|    |           |    |        |       |
|----|-----------|----|--------|-------|
| 12 | FGVDDPRWQ | 64 | 1.1000 | 12.50 |
| 13 | VNQLPRVGL | 0  | 1.0600 | 12.05 |
| 14 | WQGVSGADM | 71 | 0.9000 | 10.23 |
| 15 | YRVGNAVVQ | 92 | 0.9000 | 10.23 |

|                   |                                      |  |
|-------------------|--------------------------------------|--|
| ALLELE: DRB1_1121 | Threshold for 3 % with score:<br>1.8 | Highest Score achievable by any peptide: 8.4 |
|-------------------|--------------------------------------|--|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | MLRHVVVLI | 79          | 4.0000 | 47.62              |
| 2    | LLNAPVSVS | 122         | 2.5000 | 29.76              |
| 3    | VVVLITQHG | 83          | 2.4000 | 28.57              |
| 4    | VAVHALCDA | 42          | 2.2000 | 26.19              |
| 5    | LRHVVVVLI | 80          | 1.9000 | 22.62              |
| 6    | VVLITQHGY | 84          | 1.5000 | 17.86              |
| 7    | VGNAVQVI  | 94          | 1.5000 | 17.86              |
| 8    | VQVIGNRPK | 99          | 1.4000 | 16.67              |
| 9    | LEAQAVLSR | 113         | 1.3000 | 15.48              |
| 10   | WRRLEAQAV | 110         | 1.2000 | 14.29              |
| 11   | VNQLPRVGL | 0           | 1.1000 | 13.10              |
| 12   | IGNRPKIGW | 102         | 1.0000 | 11.90              |
| 13   | VIGNRPKIG | 101         | 0.9000 | 10.71              |
| 14   | LVGLLFPSA | 23          | 0.8000 | 9.52               |
| 15   | FGVDDPRWQ | 64          | 0.8000 | 9.52               |

|                   |                                       |   |
|-------------------|---------------------------------------|---|
| ALLELE: DRB1_1128 | Threshold for 3 % with score:<br>2.15 | Highest Score achievable by any peptide:<br>8.7 |
|-------------------|---------------------------------------|---|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | LRHVVVVLI | 80          | 4.0000 | 45.98              |
| 2    | WRRLEAQAV | 110         | 3.2000 | 36.78              |
| 3    | VVVLITQHG | 83          | 2.8000 | 32.18              |
| 4    | VVLITQHGY | 84          | 2.8000 | 32.18              |

|    |           |     |        |       |
|----|-----------|-----|--------|-------|
| 5  | WQGVSGADM | 71  | 2.2000 | 25.29 |
| 6  | LEAQAVLSR | 113 | 1.9000 | 21.84 |
| 7  | LLNAPVSVS | 122 | 1.5000 | 17.24 |
| 8  | MLRHVVVLI | 79  | 1.3000 | 14.94 |
| 9  | VNQLPRVGL | 0   | 1.2600 | 14.48 |
| 10 | VIGNRPKIG | 101 | 1.0000 | 11.49 |
| 11 | LAAIATALV | 146 | 1.0000 | 11.49 |
| 12 | LVGLLFPSA | 23  | 0.9500 | 10.92 |
| 13 | VLITQHGYR | 85  | 0.9000 | 10.34 |
| 14 | LGLTGRGEG | 137 | 0.9000 | 10.34 |
| 15 | VHPIEGRP  | 12  | 0.8000 | 9.20  |

| ALLELE: DRB1_1301 |           | Threshold for 3 % with score:<br>2.6 | Highest Score achievable by any peptide:<br>8.8 |                    |
|-------------------|-----------|--------------------------------------|---|--------------------|
| Rank              | Sequence  | At Position                          | Score   | % of Highest Score |
| 1                 | MLRHVVVLI | 79                                   | 4.9000  | 55.68              |
| 2                 | VVVLITQHG | 83                                   | 3.8000  | 43.18              |
| 3                 | LLNAPVSVS | 122                                  | 2.9000  | 32.95              |
| 4                 | VVLITQHGY | 84                                   | 2.8000  | 31.82              |
| 5                 | LEAQAVLSR | 113                                  | 2.8000  | 31.82              |
| 6                 | LRHVVVVLI | 80                                   | 2.6000  | 29.55              |
| 7                 | VGNAVQVI  | 94                                   | 2.4000  | 27.27              |
| 8                 | VIGNRPKIG | 101                                  | 2.3000  | 26.14              |
| 9                 | VAVHALCDA | 42                                   | 2.2000  | 25.00              |
| 10                | WRRLEQAV  | 110                                  | 2.2000  | 25.00              |
| 11                | VNQLPRVGL | 0                                    | 2.0600  | 23.41              |
| 12                | ITQHGYRVG | 87                                   | 1.7000  | 19.32              |
| 13                | VQVIGNRPK | 99                                   | 1.5000  | 17.05              |
| 14                | VLSRLNAP  | 118                                  | 1.4000  | 15.91              |
| 15                | LITQHGYRV | 86                                   | 1.1000  | 12.50              |

|                   |                                      |   |
|-------------------|--------------------------------------|---|
| ALLELE: DRB1_1302 | Threshold for 3 % with score:<br>2.1 | Highest Score achievable by any peptide:<br>8.8 |
|-------------------|--------------------------------------|---|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | MLRHVVVLI | 79          | 3.9000 | 44.32              |
| 2    | WRRLEAQAV | 110         | 3.2000 | 36.36              |
| 3    | VVVLITQHG | 83          | 2.8000 | 31.82              |
| 4    | WLVGLLFPS | 22          | 1.9000 | 21.59              |
| 5    | LLNAPVSVS | 122         | 1.9000 | 21.59              |
| 6    | VVLITQHGY | 84          | 1.8000 | 20.45              |
| 7    | LEAQAVLSR | 113         | 1.8000 | 20.45              |
| 8    | LRHVVVVLI | 80          | 1.6000 | 18.18              |
| 9    | VGNAVQVI  | 94          | 1.4000 | 15.91              |
| 10   | VIGNRPKIG | 101         | 1.3000 | 14.77              |
| 11   | VAVHALCDA | 42          | 1.2000 | 13.64              |
| 12   | FGVDDPRWQ | 64          | 1.1000 | 12.50              |
| 13   | VNQLPRVGL | 0           | 1.0600 | 12.05              |
| 14   | WQGVSGADM | 71          | 0.9000 | 10.23              |
| 15   | YRVGNAVQ  | 92          | 0.9000 | 10.23              |

|                   |                                      |  |
|-------------------|--------------------------------------|--|
| ALLELE: DRB1_1304 | Threshold for 3 % with score:<br>2.6 | Highest Score achievable by any peptide: 9 |
|-------------------|--------------------------------------|--|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | MLRHVVVLI | 79          | 4.2000 | 46.67              |
| 2    | VVVLITQHG | 83          | 3.7000 | 41.11              |
| 3    | LRHVVVVLI | 80          | 2.8000 | 31.11              |
| 4    | VVLITQHGY | 84          | 2.6000 | 28.89              |
| 5    | VGLLFPSAD | 24          | 2.5000 | 27.78              |
| 6    | LLNAPVSVS | 122         | 2.5000 | 27.78              |
| 7    | VAVHALCDA | 42          | 2.2000 | 24.44              |
| 8    | VIGNRPKIG | 101         | 2.2000 | 24.44              |
| 9    | VNQLPRVGL | 0           | 2.1000 | 23.33              |
| 10   | VLSAAGLGD | 51          | 1.9000 | 21.11              |

|    |           |     |        |       |
|----|-----------|-----|--------|-------|
| 11 | IGNRPKIGW | 102 | 1.9000 | 21.11 |
| 12 | VGNAVQVI  | 94  | 1.7000 | 18.89 |
| 13 | FGVDDPRWQ | 64  | 1.6000 | 17.78 |
| 14 | ITQHGYRVG | 87  | 1.6000 | 17.78 |
| 15 | WRRLEAQAV | 110 | 1.5000 | 16.67 |

|                   |                                      |   |
|-------------------|--------------------------------------|---|
| ALLELE: DRB1_1305 | Threshold for 3 % with score:<br>2.2 | Highest Score achievable by any peptide:<br>8.7 |
|-------------------|--------------------------------------|---|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | LRHVVVLIT | 80          | 4.0000 | 45.98              |
| 2    | WRRLEAQAV | 110         | 3.2000 | 36.78              |
| 3    | VVVLITQHG | 83          | 2.8000 | 32.18              |
| 4    | VVLITQHGY | 84          | 2.8000 | 32.18              |
| 5    | WQGVSGADM | 71          | 2.2000 | 25.29              |
| 6    | LEAQAVLSR | 113         | 1.9000 | 21.84              |
| 7    | LLNAPVSVS | 122         | 1.5000 | 17.24              |
| 8    | MLRHVVVLI | 79          | 1.3000 | 14.94              |
| 9    | VNQLPRVGL | 0           | 1.2600 | 14.48              |
| 10   | VIGNRPKIG | 101         | 1.0000 | 11.49              |
| 11   | LAAIATALV | 146         | 1.0000 | 11.49              |
| 12   | LVGLLFPSA | 23          | 0.9500 | 10.92              |
| 13   | VLITQHGYR | 85          | 0.9000 | 10.34              |
| 14   | LGLTGRGEG | 137         | 0.9000 | 10.34              |
| 15   | VHPIEPGRP | 12          | 0.8000 | 9.20               |

|                   |                                      |   |
|-------------------|--------------------------------------|---|
| ALLELE: DRB1_1307 | Threshold for 3 % with score:<br>0.6 | Highest Score achievable by any peptide:<br>6.8 |
|-------------------|--------------------------------------|---|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | WRRLEAQAV | 110         | 2.1000 | 30.88              |
| 2    | LRHVVVLIT | 80          | 1.5000 | 22.06              |
| 3    | VVVLITQHG | 83          | 1.3000 | 19.12              |



|    |            |     |         |       |
|----|------------|-----|---------|-------|
| 4  | LLNAPVSVS  | 122 | 1.1000  | 16.18 |
| 5  | VVLITQHGY  | 84  | 0.8000  | 11.76 |
| 6  | WQGVSGADM  | 71  | 0.7000  | 10.29 |
| 7  | YRVGNVAVVQ | 92  | 0.4000  | 5.88  |
| 8  | VQVIGNRPK  | 99  | 0.1000  | 1.47  |
| 9  | MLRHVVVLI  | 79  | -0.1000 | 0     |
| 10 | VNQLPRVGL  | 0   | -0.2000 | 0     |
| 11 | WLVGLLFPS  | 22  | -0.2000 | 0     |
| 12 | LVGLLFPSA  | 23  | -0.2000 | 0     |
| 13 | VHPIEPGRP  | 12  | -0.3000 | 0     |

|                   |                                      |  |
|-------------------|--------------------------------------|--|
| ALLELE: DRB1_1311 | Threshold for 3 % with score:<br>2.0 | Highest Score achievable by any peptide: 8.3 |
|-------------------|--------------------------------------|--|

| Rank | Sequence   | At Position | Score  | % of Highest Score |
|------|------------|-------------|--------|--------------------|
| 1    | LRHVVVLLIT | 80          | 4.3000 | 51.81              |
| 2    | VVLITQHGY  | 84          | 2.5000 | 30.12              |
| 3    | VVVLITQHG  | 83          | 2.4000 | 28.92              |
| 4    | LLNAPVSVS  | 122         | 2.1000 | 25.30              |
| 5    | LVGLLFPSA  | 23          | 1.9500 | 23.49              |
| 6    | MLRHVVVLI  | 79          | 1.4000 | 16.87              |
| 7    | IGNRPKIGW  | 102         | 1.4000 | 16.87              |
| 8    | LEAQAVLSR  | 113         | 1.4000 | 16.87              |
| 9    | VNQLPRVGL  | 0           | 1.3000 | 15.66              |
| 10   | VQVIGNRPK  | 99          | 1.3000 | 15.66              |
| 11   | WRRLEAQAV  | 110         | 1.2000 | 14.46              |
| 12   | LAAIATALV  | 146         | 1.0000 | 12.05              |
| 13   | VHPIEPGRP  | 12          | 0.8000 | 9.64               |
| 14   | VGNVAVVQVI | 94          | 0.8000 | 9.64               |
| 15   | VIGNRPKIG  | 101         | 0.6000 | 7.23               |

|                   |                                      |   |
|-------------------|--------------------------------------|---|
| ALLELE: DRB1_1321 | Threshold for 3 % with score:<br>2.2 | Highest Score achievable by any peptide:<br>8.9 |
|-------------------|--------------------------------------|---|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | LRHVVLIT  | 80          | 4.2000 | 47.19              |
| 2    | VVVLITQHG | 83          | 2.7000 | 30.34              |
| 3    | VVLITQHGY | 84          | 2.6000 | 29.21              |
| 4    | WRRLEAQAV | 110         | 2.5000 | 28.09              |
| 5    | VLSAAGLGD | 51          | 2.0000 | 22.47              |
| 6    | VGLLFPSAD | 24          | 1.8000 | 20.22              |
| 7    | WQGVSGADM | 71          | 1.8000 | 20.22              |
| 8    | YRVGNAVQ  | 92          | 1.7000 | 19.10              |
| 9    | VNQLPRVGL | 0           | 1.3000 | 14.61              |
| 10   | IGNRPKIGW | 102         | 1.3000 | 14.61              |
| 11   | LLNAPVSVS | 122         | 1.1000 | 12.36              |
| 12   | LVGLLFPSA | 23          | 0.9500 | 10.67              |
| 13   | VIGNRPKIG | 101         | 0.9000 | 10.11              |
| 14   | VSGADMLRH | 74          | 0.8000 | 8.99               |
| 15   | LGLTGRGEG | 137         | 0.8000 | 8.99               |

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | MLRHVVVLI | 79          | 4.0000 | 47.62              |
| 2    | LLNAPVSVS | 122         | 2.5000 | 29.76              |
| 3    | VVVLITQHG | 83          | 2.4000 | 28.57              |
| 4    | VAVHALCDA | 42          | 2.2000 | 26.19              |
| 5    | LRHVVLIT  | 80          | 1.9000 | 22.62              |
| 6    | VVLITQHGY | 84          | 1.5000 | 17.86              |
| 7    | VGNVAVQVI | 94          | 1.5000 | 17.86              |
| 8    | VQVIGNRPK | 99          | 1.4000 | 16.67              |
| 9    | LEAQAVLSR | 113         | 1.3000 | 15.48              |
| 10   | WRRLEAQAV | 110         | 1.2000 | 14.29              |
| 11   | VNQLPRVGL | 0           | 1.1000 | 13.10              |
| 12   | IGNRPKIGW | 102         | 1.0000 | 11.90              |
| 13   | VIGNRPKIG | 101         | 0.9000 | 10.71              |

ALLELE: DRB1\_1322

Threshold for 3 % with score:  
1.8

Highest Score achievable by any peptide:  
8.4

|    |           |    |        |      |
|----|-----------|----|--------|------|
| 14 | LVGLLFPSA | 23 | 0.8000 | 9.52 |
| 15 | FGVDDPRWQ | 64 | 0.8000 | 9.52 |

|                   |                                      |   |
|-------------------|--------------------------------------|---|
| ALLELE: DRB1_1323 | Threshold for 3 % with score:<br>1.3 | Highest Score achievable by any peptide:<br>8.4 |
|-------------------|--------------------------------------|---|

| Rank | Sequence   | At Position | Score  | % of Highest Score |
|------|------------|-------------|--------|--------------------|
| 1    | MLRHVVVLI  | 79          | 3.0000 | 35.71              |
| 2    | WRRLEAQAV  | 110         | 2.2000 | 26.19              |
| 3    | FGVDDPRWQ  | 64          | 1.8000 | 21.43              |
| 4    | YRVGNAVAVQ | 92          | 1.6000 | 19.05              |
| 5    | WLVGLLFPS  | 22          | 1.5000 | 17.86              |
| 6    | LLNAPVSVS  | 122         | 1.5000 | 17.86              |
| 7    | VVVLITQHG  | 83          | 1.4000 | 16.67              |
| 8    | VAVHALCDA  | 42          | 1.2000 | 14.29              |
| 9    | LRHVVLIT   | 80          | 0.9000 | 10.71              |
| 10   | VVLITQHGY  | 84          | 0.5000 | 5.95               |
| 11   | VGNAVQVI   | 94          | 0.5000 | 5.95               |
| 12   | VQVIGNRPK  | 99          | 0.4000 | 4.76               |
| 13   | LEAQAVLSR  | 113         | 0.3000 | 3.57               |
| 14   | VNQLPRVGL  | 0           | 0.1000 | 1.19               |

|                   |                                      |   |
|-------------------|--------------------------------------|---|
| ALLELE: DRB1_1327 | Threshold for 3 % with score:<br>2.6 | Highest Score achievable by any peptide:<br>8.8 |
|-------------------|--------------------------------------|---|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | MLRHVVVLI | 79          | 4.9000 | 55.68              |
| 2    | VVVLITQHG | 83          | 3.8000 | 43.18              |
| 3    | LLNAPVSVS | 122         | 2.9000 | 32.95              |
| 4    | VVLITQHGY | 84          | 2.8000 | 31.82              |
| 5    | LEAQAVLSR | 113         | 2.8000 | 31.82              |
| 6    | LRHVVLIT  | 80          | 2.6000 | 29.55              |
| 7    | VGNAVQVI  | 94          | 2.4000 | 27.27              |

|    |           |     |        |       |
|----|-----------|-----|--------|-------|
| 8  | VIGNRPKIG | 101 | 2.3000 | 26.14 |
| 9  | VAVHALCDA | 42  | 2.2000 | 25.00 |
| 10 | WRRLEAQAV | 110 | 2.2000 | 25.00 |
| 11 | VNQLPRVGL | 0   | 2.0600 | 23.41 |
| 12 | ITQHGYRVG | 87  | 1.7000 | 19.32 |
| 13 | VQVIGNRPK | 99  | 1.5000 | 17.05 |
| 14 | VLSRLLNAP | 118 | 1.4000 | 15.91 |
| 15 | LITQHGYRV | 86  | 1.1000 | 12.50 |

|                   |                                      |   |
|-------------------|--------------------------------------|---|
| ALLELE: DRB1_1328 | Threshold for 3 % with score:<br>2.6 | Highest Score achievable by any peptide:<br>8.8 |
|-------------------|--------------------------------------|---|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | MLRHVVVLI | 79          | 4.9000 | 55.68              |
| 2    | VVVLITQHG | 83          | 3.8000 | 43.18              |
| 3    | LLNAPVSVS | 122         | 2.9000 | 32.95              |
| 4    | VVLITQHGY | 84          | 2.8000 | 31.82              |
| 5    | LEAQAVLSR | 113         | 2.8000 | 31.82              |
| 6    | LRHVVVVLI | 80          | 2.6000 | 29.55              |
| 7    | VGNAVQVI  | 94          | 2.4000 | 27.27              |
| 8    | VIGNRPKIG | 101         | 2.3000 | 26.14              |
| 9    | VAVHALCDA | 42          | 2.2000 | 25.00              |
| 10   | WRRLEAQAV | 110         | 2.2000 | 25.00              |
| 11   | VNQLPRVGL | 0           | 2.0600 | 23.41              |
| 12   | ITQHGYRVG | 87          | 1.7000 | 19.32              |
| 13   | VQVIGNRPK | 99          | 1.5000 | 17.05              |
| 14   | VLSRLLNAP | 118         | 1.4000 | 15.91              |
| 15   | LITQHGYRV | 86          | 1.1000 | 12.50              |

|                   |                                       |   |
|-------------------|---------------------------------------|---|
| ALLELE: DRB1_1501 | Threshold for 3 % with score:<br>3.25 | Highest Score achievable by any peptide:<br>9.8 |
|-------------------|---------------------------------------|---|

| Rank | Sequence | At Position | Score | % of Highest Score |
|------|----------|-------------|-------|--------------------|
|------|----------|-------------|-------|--------------------|

|    |            |     |        |       |
|----|------------|-----|--------|-------|
| 1  | LRHVVVLLIT | 80  | 4.0000 | 40.82 |
| 2  | MLRHVVVLI  | 79  | 3.5000 | 35.71 |
| 3  | VNQLPRVGL  | 0   | 3.1000 | 31.63 |
| 4  | LVGLLFPSA  | 23  | 2.8000 | 28.57 |
| 5  | VVLITQHGY  | 84  | 2.6000 | 26.53 |
| 6  | VVQVIGNRP  | 98  | 2.4000 | 24.49 |
| 7  | WRRLEAQAV  | 110 | 2.4000 | 24.49 |
| 8  | VVVLITQHG  | 83  | 1.9600 | 20.00 |
| 9  | LSRLLNAPV  | 119 | 1.9000 | 19.39 |
| 10 | WLVGLLFPS  | 22  | 1.8000 | 18.37 |
| 11 | VAVHALCDA  | 42  | 1.8000 | 18.37 |
| 12 | LITQHGYRV  | 86  | 1.8000 | 18.37 |
| 13 | VLSAAGLGD  | 51  | 1.7000 | 17.35 |
| 14 | VHALCDAVL  | 44  | 1.4000 | 14.29 |
| 15 | LNAPVSVSA  | 123 | 1.4000 | 14.29 |

| ALLELE: DRB1_1502 | Threshold for 3 % with score:<br>3.25 | Highest Score achievable by any peptide:<br>9.8 |        |                    |
|-------------------|---------------------------------------|---|--------|--------------------|
| Rank              | Sequence                              | At Position                                     | Score  | % of Highest Score |
| 1                 | WRRLEAQAV                             | 110   | 3.4000 | 34.69              |
| 2                 | LRHVVVLLIT                            | 80  | 3.0000 | 30.61              |
| 3                 | WLVGLLFPS                             | 22  | 2.8000 | 28.57              |
| 4                 | MLRHVVVLI                             | 79  | 2.5000 | 25.51              |
| 5                 | WQGVSGADM                             | 71  | 2.1800 | 22.24              |
| 6                 | VNQLPRVGL                             | 0   | 2.1000 | 21.43              |
| 7                 | LVGLLFPSA                             | 23  | 1.8000 | 18.37              |
| 8                 | VVLITQHGY                             | 84  | 1.6000 | 16.33              |
| 9                 | YRVGNAVQ                              | 92  | 1.4000 | 14.29              |
| 10                | VVQVIGNRP                             | 98  | 1.4000 | 14.29              |
| 11                | VVVLITQHG                             | 83  | 0.9600 | 9.80               |
| 12                | LSRLLNAPV                             | 119   | 0.9000 | 9.18               |
| 13                | VAVHALCDA                             | 42  | 0.8000 | 8.16               |
| 14                | LITQHGYRV                             | 86  | 0.8000 | 8.16               |

|    |           |    |        |      |
|----|-----------|----|--------|------|
| 15 | VLSAAGLGD | 51 | 0.7000 | 7.14 |
|----|-----------|----|--------|------|

|                   |                                      |   |
|-------------------|--------------------------------------|---|
| ALLELE: DRB1_1506 | Threshold for 3 % with score:<br>3.1 | Highest Score achievable by any peptide:<br>9.8 |
|-------------------|--------------------------------------|---|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | LRHVVLIT  | 80          | 4.0000 | 40.82              |
| 2    | MLRHVVLI  | 79          | 3.5000 | 35.71              |
| 3    | VNQLPRVGL | 0           | 3.1000 | 31.63              |
| 4    | LVGLLFPSA | 23          | 2.8000 | 28.57              |
| 5    | VVLITQHGY | 84          | 2.6000 | 26.53              |
| 6    | VVQVIGNRP | 98          | 2.4000 | 24.49              |
| 7    | WRRLEAQAV | 110         | 2.4000 | 24.49              |
| 8    | VVVLITQHG | 83          | 1.9600 | 20.00              |
| 9    | LSRLNAPV  | 119         | 1.9000 | 19.39              |
| 10   | WLVGLLFPS | 22          | 1.8000 | 18.37              |
| 11   | VAVHALCDA | 42          | 1.8000 | 18.37              |
| 12   | LITQHGYRV | 86          | 1.8000 | 18.37              |
| 13   | VLSAAGLGD | 51          | 1.7000 | 17.35              |
| 14   | VHALCDAVL | 44          | 1.4000 | 14.29              |
| 15   | LNAPVSVSA | 123         | 1.4000 | 14.29              |

|                   |                                      |   |
|-------------------|--------------------------------------|---|
| ALLELE: DRB5_0101 | Threshold for 3 % with score:<br>2.3 | Highest Score achievable by any peptide:<br>9.8 |
|-------------------|--------------------------------------|---|

| Rank | Sequence  | At Position | Score  | % of Highest Score |
|------|-----------|-------------|--------|--------------------|
| 1    | VQVIGNRPK | 99          | 4.7000 | 47.96              |
| 2    | VVLITQHGY | 84          | 4.5000 | 45.92              |
| 3    | WRRLEAQAV | 110         | 4.0000 | 40.82              |
| 4    | VLITQHGYR | 85          | 3.7000 | 37.76              |
| 5    | WQGVSGADM | 71          | 2.7000 | 27.55              |
| 6    | VVVLITQHG | 83          | 2.5000 | 25.51              |
| 7    | LRHVVLIT  | 80          | 1.6000 | 16.33              |

|    |           |     |        |       |
|----|-----------|-----|--------|-------|
| 8  | VVQVIGNRP | 98  | 1.6000 | 16.33 |
| 9  | YRVGNAVVQ | 92  | 1.5000 | 15.31 |
| 10 | VHPIEPGRP | 12  | 1.4000 | 14.29 |
| 11 | FGVDDPRWQ | 64  | 1.3000 | 13.27 |
| 12 | WLVGLLFPS | 22  | 1.1000 | 11.22 |
| 13 | VGNNAVQVI | 94  | 0.6000 | 6.12  |
| 14 | LGLTGRGEG | 137 | 0.5000 | 5.10  |
| 15 | LEAQAVLSR | 113 | 0.2000 | 2.04  |

| ALLELE: DRB5_0105 |           | Threshold for 3 % with score:<br>2.3 | Highest Score achievable by any peptide:<br>9.8 |                    |
|-------------------|-----------|--------------------------------------|---|--------------------|
| Rank              | Sequence  | At Position                          | Score   | % of Highest Score |
| 1                 | VQVIGNRPK | 99                                   | 4.7000  | 47.96              |
| 2                 | VVLITQHGY | 84                                   | 4.5000  | 45.92              |
| 3                 | WRRLEAQAV | 110                                  | 4.0000  | 40.82              |
| 4                 | VLITQHGYR | 85                                   | 3.7000  | 37.76              |
| 5                 | WQGVSGADM | 71                                   | 2.7000  | 27.55              |
| 6                 | VVVLITQHG | 83                                   | 2.5000  | 25.51              |
| 7                 | LRHVVLIT  | 80                                   | 1.6000  | 16.33              |
| 8                 | VVQVIGNRP | 98                                   | 1.6000  | 16.33              |
| 9                 | YRVGNAVVQ | 92                                   | 1.5000  | 15.31              |
| 10                | VHPIEPGRP | 12                                   | 1.4000  | 14.29              |
| 11                | FGVDDPRWQ | 64                                   | 1.3000  | 13.27              |
| 12                | WLVGLLFPS | 22                                   | 1.1000  | 11.22              |
| 13                | VGNNAVQVI | 94                                   | 0.6000  | 6.12               |
| 14                | LGLTGRGEG | 137                                  | 0.5000  | 5.10               |
| 15                | LEAQAVLSR | 113                                  | 0.2000  | 2.04               |