Single Antigen Analysis

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## Human Single Antigen Predictors

For the human test/training data sets, we fit a model using only a single antigen on the training set (which included all the negatives but only positives from that time point) and then calculated the AUC values using the corresponding test set. The following table gives the top 10 antigens for the IgG and IgM serum AUC values.

Table continues below

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| --- | --- | --- | --- |
| Type | Antigen | Week1 | Week2 |
| IgG | CPS | 0.63 (0.572,0.744) | 0.768 (0.73,0.826) |
| IgG | LPSA | 0.62 (0.512,0.706) | 0.869 (0.82,0.92) |
| IgG | BPSL1404\_ClpX | 0.58 (0.505,0.654) | 0.651 (0.6,0.694) |
| IgG | BPSS0530 | 0.566 (0.488,0.689) | 0.553 (0.489,0.632) |
| IgG | BPSL3396\_AtpD | 0.561 (0.477,0.651) | 0.537 (0.459,0.613) |
| IgG | BPSS0135 | 0.558 (0.505,0.64) | 0.623 (0.567,0.678) |
| IgG | BPSL3222\_rpIL | 0.555 (0.469,0.64) | 0.531 (0.472,0.598) |
| IgG | BPSL1743\_Arg | 0.549 (0.501,0.628) | 0.547 (0.485,0.611) |
| IgG | MSHR5855.WCL | 0.549 (0.466,0.639) | 0.633 (0.444,0.69) |
| IgG | BPSL1201\_IMPS | 0.547 (0.456,0.611) | 0.532 (0.484,0.592) |

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| Week3 | Week4 |
| 0.832 (0.766,0.89) | 0.625 (0.491,0.771) |
| 0.919 (0.884,0.964) | 0.765 (0.515,1) |
| 0.52 (0.478,0.558) | 0.724 (0.537,0.85) |
| 0.7 (0.639,0.766) | 0.671 (0.53,0.853) |
| 0.539 (0.481,0.589) | 0.623 (0.487,0.908) |
| 0.738 (0.692,0.793) | 0.659 (0.525,0.806) |
| 0.525 (0.485,0.569) | 0.626 (0.368,0.869) |
| 0.659 (0.599,0.723) | 0.641 (0.48,0.798) |
| 0.806 (0.758,0.845) | 0.635 (0.45,0.826) |
| 0.621 (0.564,0.698) | 0.606 (0.45,0.772) |

Table continues below

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| Type | Antigen | Week1 | Week2 |
| IgM | CPS | 0.623 (0.556,0.703) | 0.748 (0.677,0.811) |
| IgM | LPSA | 0.611 (0.536,0.709) | 0.866 (0.817,0.898) |
| IgM | BPSL1404\_ClpX | 0.583 (0.48,0.67) | 0.656 (0.599,0.706) |
| IgM | BPSL1743\_Arg | 0.566 (0.509,0.637) | 0.551 (0.497,0.604) |
| IgM | BPSS0135 | 0.566 (0.496,0.646) | 0.625 (0.576,0.666) |
| IgM | BPSL3396\_AtpD | 0.557 (0.48,0.629) | 0.53 (0.477,0.583) |
| IgM | BPSS0530 | 0.555 (0.473,0.638) | 0.559 (0.506,0.638) |
| IgM | BPSL1201\_IMPS | 0.554 (0.45,0.64) | 0.537 (0.488,0.587) |
| IgM | BPSL3222\_rpIL | 0.554 (0.438,0.649) | 0.542 (0.483,0.585) |
| IgM | MSHR5855.WCL | 0.554 (0.49,0.626) | 0.633 (0.551,0.748) |

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| Week3 | Week4 |
| 0.835 (0.789,0.879) | 0.621 (0.395,0.875) |
| 0.919 (0.884,0.955) | 0.772 (0.575,1) |
| 0.52 (0.477,0.571) | 0.725 (0.642,0.816) |
| 0.663 (0.626,0.71) | 0.61 (0.438,0.794) |
| 0.729 (0.694,0.765) | 0.647 (0.458,0.813) |
| 0.547 (0.468,0.597) | 0.596 (0.49,0.814) |
| 0.704 (0.646,0.761) | 0.636 (0.502,0.876) |
| 0.628 (0.543,0.689) | 0.585 (0.456,0.744) |
| 0.524 (0.49,0.569) | 0.585 (0.343,0.781) |
| 0.814 (0.752,0.878) | 0.652 (0.45,0.858) |

## Nonhuman Primates - Single Antigen Predictors

For the non-human primates we do something similar, and we utilize the NHP version 2 datasets. Here the single antigen model

Table continues below

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| Type | Antigen | Week1 | Week2 |
| IgG | BPSS1652 | 0.633 (0.633,0.633) | 0.818 (0.818,0.818) |
| IgG | BPSS0477\_GroEL2 | 0.623 (0.623,0.623) | 0.84 (0.84,0.84) |
| IgG | BPSL2697\_GroEL | 0.603 (0.603,0.603) | 0.892 (0.892,0.892) |
| IgG | BPSL1743\_Arg | 0.598 (0.598,0.598) | 0.853 (0.853,0.853) |
| IgG | BPSS0530 | 0.587 (0.587,0.587) | 0.738 (0.738,0.738) |
| IgG | BPSL2827\_DNAK | 0.586 (0.586,0.586) | 0.644 (0.644,0.644) |
| IgG | BPSL3396\_AtpD | 0.584 (0.584,0.584) | 0.794 (0.794,0.794) |
| IgG | LPSA | 0.584 (0.584,0.584) | 0.954 (0.954,0.954) |
| IgG | BPSS0476\_GroS | 0.582 (0.582,0.582) | 0.849 (0.849,0.849) |
| IgG | BPSL2096\_AhpC | 0.579 (0.579,0.579) | 0.769 (0.769,0.769) |

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| Week3 | Week4 |
| 0.808 (0.808,0.808) | NA |
| 0.844 (0.844,0.844) | NA |
| 0.884 (0.884,0.884) | NA |
| 0.853 (0.853,0.853) | NA |
| 0.801 (0.801,0.801) | NA |
| 0.756 (0.756,0.756) | NA |
| 0.749 (0.749,0.749) | NA |
| 0.948 (0.948,0.948) | NA |
| 0.897 (0.897,0.897) | NA |
| 0.87 (0.87,0.87) | NA |

Table continues below

|  |  |  |  |
| --- | --- | --- | --- |
| Type | Antigen | Week1 | Week2 |
| IgM | BPSS1652 | 0.633 (0.633,0.633) | 0.818 (0.818,0.818) |
| IgM | BPSS0477\_GroEL2 | 0.623 (0.623,0.623) | 0.84 (0.84,0.84) |
| IgM | BPSL2697\_GroEL | 0.603 (0.603,0.603) | 0.892 (0.892,0.892) |
| IgM | BPSL1743\_Arg | 0.598 (0.598,0.598) | 0.853 (0.853,0.853) |
| IgM | BPSS0530 | 0.587 (0.587,0.587) | 0.738 (0.738,0.738) |
| IgM | BPSL2827\_DNAK | 0.586 (0.586,0.586) | 0.644 (0.644,0.644) |
| IgM | BPSL3396\_AtpD | 0.584 (0.584,0.584) | 0.794 (0.794,0.794) |
| IgM | LPSA | 0.584 (0.584,0.584) | 0.954 (0.954,0.954) |
| IgM | BPSS0476\_GroS | 0.582 (0.582,0.582) | 0.849 (0.849,0.849) |
| IgM | BPSL2096\_AhpC | 0.579 (0.579,0.579) | 0.769 (0.769,0.769) |

|  |  |
| --- | --- |
| Week3 | Week4 |
| 0.808 (0.808,0.808) | NA |
| 0.844 (0.844,0.844) | NA |
| 0.884 (0.884,0.884) | NA |
| 0.853 (0.853,0.853) | NA |
| 0.801 (0.801,0.801) | NA |
| 0.756 (0.756,0.756) | NA |
| 0.749 (0.749,0.749) | NA |
| 0.948 (0.948,0.948) | NA |
| 0.897 (0.897,0.897) | NA |
| 0.87 (0.87,0.87) | NA |