



# NetSurfP - Protein Surface Accessibility and Secondary Structure Predictions

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# For publication of results, please cite:
# A generic method for assignment of reliability scores applied to solvent accessibility
# predictions.
# Bent Petersen, Thomas Nordahl Petersen, Pernille Andersen, Morten Nielsen and Claus
# Lundegaard
# BMC Structural Biology 2009, 9:51 doi:10.1186/1472-6807-9-51
#
# Column 1: Class assignment - B for buried or E for Exposed - Threshold: 25% exposure,
# but not based on RSA
# Column 2: Amino acid
# Column 3: Sequence name
# Column 4: Amino acid number
# Column 5: Relative Surface Accessibility - RSA
# Column 6: Absolute Surface Accessibility
# Column 7: Z-fit score for RSA prediction
# Column 8: Probability for Alpha-Helix
# Column 9: Probability for Beta-strand
# Column 10: Probability for Coil
E M  sp_A6NFH5_Fatty      1      0.695 139.070  -0.428   0.003   0.003   0.994
E I  sp_A6NFH5_Fatty      2      0.294  54.372  -0.589   0.018   0.088   0.893
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|     |                 |    |       |         |        |       |       |       |
|-----|-----------------|----|-------|---------|--------|-------|-------|-------|
| E D | sp_A6NFH5_Fatty | 3  | 0.646 | 93.117  | -0.435 | 0.056 | 0.142 | 0.802 |
| E Q | sp_A6NFH5_Fatty | 4  | 0.508 | 90.711  | -0.571 | 0.056 | 0.142 | 0.802 |
| B L | sp_A6NFH5_Fatty | 5  | 0.167 | 30.578  | -0.471 | 0.020 | 0.205 | 0.775 |
| E Q | sp_A6NFH5_Fatty | 6  | 0.447 | 79.763  | -0.777 | 0.021 | 0.279 | 0.699 |
| B G | sp_A6NFH5_Fatty | 7  | 0.224 | 17.597  | -0.639 | 0.023 | 0.655 | 0.322 |
| E T | sp_A6NFH5_Fatty | 8  | 0.476 | 65.993  | 1.522  | 0.001 | 0.900 | 0.099 |
| B W | sp_A6NFH5_Fatty | 9  | 0.155 | 37.278  | 0.997  | 0.001 | 0.900 | 0.099 |
| E K | sp_A6NFH5_Fatty | 10 | 0.511 | 105.030 | 1.414  | 0.001 | 0.959 | 0.040 |
| B S | sp_A6NFH5_Fatty | 11 | 0.200 | 23.428  | 0.591  | 0.001 | 0.900 | 0.099 |
| E I | sp_A6NFH5_Fatty | 12 | 0.479 | 88.522  | 0.605  | 0.003 | 0.718 | 0.279 |
| E S | sp_A6NFH5_Fatty | 13 | 0.581 | 68.081  | 0.560  | 0.004 | 0.420 | 0.576 |
| E C | sp_A6NFH5_Fatty | 14 | 0.448 | 62.885  | 0.056  | 0.019 | 0.141 | 0.840 |
| E E | sp_A6NFH5_Fatty | 15 | 0.625 | 109.188 | 0.044  | 0.053 | 0.043 | 0.903 |
| E N | sp_A6NFH5_Fatty | 16 | 0.400 | 58.633  | 0.542  | 0.018 | 0.019 | 0.964 |
| B S | sp_A6NFH5_Fatty | 17 | 0.102 | 11.966  | 0.955  | 0.858 | 0.002 | 0.139 |
| E E | sp_A6NFH5_Fatty | 18 | 0.482 | 84.258  | 0.988  | 0.923 | 0.002 | 0.076 |
| E D | sp_A6NFH5_Fatty | 19 | 0.583 | 83.953  | 1.412  | 0.970 | 0.001 | 0.030 |
| B Y | sp_A6NFH5_Fatty | 20 | 0.109 | 23.208  | 1.115  | 0.970 | 0.001 | 0.030 |
| B M | sp_A6NFH5_Fatty | 21 | 0.078 | 15.528  | 0.772  | 0.970 | 0.001 | 0.030 |
| E K | sp_A6NFH5_Fatty | 22 | 0.630 | 129.673 | 1.703  | 0.923 | 0.002 | 0.076 |
| E E | sp_A6NFH5_Fatty | 23 | 0.515 | 89.918  | 0.769  | 0.858 | 0.002 | 0.139 |
| B L | sp_A6NFH5_Fatty | 24 | 0.169 | 30.871  | 1.529  | 0.502 | 0.002 | 0.495 |
| E G | sp_A6NFH5_Fatty | 25 | 0.679 | 53.429  | -1.176 | 0.018 | 0.019 | 0.964 |
| B I | sp_A6NFH5_Fatty | 26 | 0.132 | 24.457  | 1.475  | 0.018 | 0.019 | 0.964 |
| E G | sp_A6NFH5_Fatty | 27 | 0.468 | 36.839  | -0.260 | 0.181 | 0.016 | 0.803 |
| E R | sp_A6NFH5_Fatty | 28 | 0.395 | 90.363  | 0.582  | 0.923 | 0.002 | 0.076 |
| E A | sp_A6NFH5_Fatty | 29 | 0.350 | 38.570  | -0.660 | 0.938 | 0.007 | 0.055 |
| B S | sp_A6NFH5_Fatty | 30 | 0.149 | 17.451  | 1.001  | 0.938 | 0.007 | 0.055 |

|     |                 |    |       |         |        |       |       |       |
|-----|-----------------|----|-------|---------|--------|-------|-------|-------|
| B R | sp_A6NFH5_Fatty | 31 | 0.196 | 44.815  | 0.793  | 0.938 | 0.007 | 0.055 |
| E K | sp_A6NFH5_Fatty | 32 | 0.460 | 94.560  | 1.468  | 0.879 | 0.010 | 0.111 |
| B L | sp_A6NFH5_Fatty | 33 | 0.146 | 26.641  | 0.888  | 0.782 | 0.003 | 0.216 |
| B G | sp_A6NFH5_Fatty | 34 | 0.060 | 4.738   | -0.124 | 0.694 | 0.003 | 0.303 |
| E R | sp_A6NFH5_Fatty | 35 | 0.459 | 105.088 | 0.076  | 0.502 | 0.002 | 0.495 |
| E L | sp_A6NFH5_Fatty | 36 | 0.417 | 76.389  | -0.704 | 0.339 | 0.016 | 0.645 |
| B A | sp_A6NFH5_Fatty | 37 | 0.117 | 12.937  | -0.690 | 0.053 | 0.043 | 0.903 |
| E K | sp_A6NFH5_Fatty | 38 | 0.467 | 96.082  | 0.638  | 0.005 | 0.045 | 0.951 |
| B P | sp_A6NFH5_Fatty | 39 | 0.154 | 21.824  | -0.026 | 0.004 | 0.138 | 0.858 |
| E T | sp_A6NFH5_Fatty | 40 | 0.454 | 63.011  | 0.906  | 0.003 | 0.718 | 0.279 |
| B V | sp_A6NFH5_Fatty | 41 | 0.121 | 18.613  | 1.310  | 0.001 | 0.959 | 0.040 |
| E T | sp_A6NFH5_Fatty | 42 | 0.334 | 46.395  | 1.247  | 0.001 | 0.959 | 0.040 |
| B I | sp_A6NFH5_Fatty | 43 | 0.052 | 9.694   | 1.267  | 0.000 | 0.983 | 0.017 |
| E S | sp_A6NFH5_Fatty | 44 | 0.388 | 45.462  | 1.167  | 0.000 | 0.983 | 0.017 |
| E T | sp_A6NFH5_Fatty | 45 | 0.285 | 39.529  | 1.075  | 0.001 | 0.959 | 0.040 |
| E D | sp_A6NFH5_Fatty | 46 | 0.566 | 81.589  | 0.801  | 0.004 | 0.420 | 0.576 |
| E G | sp_A6NFH5_Fatty | 47 | 0.703 | 55.326  | -1.042 | 0.003 | 0.003 | 0.994 |
| E D | sp_A6NFH5_Fatty | 48 | 0.639 | 92.051  | -0.248 | 0.004 | 0.085 | 0.910 |
| E V | sp_A6NFH5_Fatty | 49 | 0.466 | 71.640  | 1.448  | 0.001 | 0.900 | 0.099 |
| B I | sp_A6NFH5_Fatty | 50 | 0.085 | 15.651  | 1.116  | 0.001 | 0.959 | 0.040 |
| E T | sp_A6NFH5_Fatty | 51 | 0.298 | 41.360  | 1.507  | 0.001 | 0.959 | 0.040 |
| B I | sp_A6NFH5_Fatty | 52 | 0.076 | 14.041  | 0.545  | 0.001 | 0.959 | 0.040 |
| E K | sp_A6NFH5_Fatty | 53 | 0.291 | 59.797  | 1.067  | 0.001 | 0.959 | 0.040 |
| B T | sp_A6NFH5_Fatty | 54 | 0.168 | 23.302  | -0.158 | 0.001 | 0.900 | 0.099 |
| E K | sp_A6NFH5_Fatty | 55 | 0.411 | 84.502  | 0.235  | 0.001 | 0.959 | 0.040 |
| B S | sp_A6NFH5_Fatty | 56 | 0.126 | 14.767  | -0.725 | 0.002 | 0.816 | 0.182 |
| E I | sp_A6NFH5_Fatty | 57 | 0.457 | 84.619  | -1.392 | 0.004 | 0.197 | 0.799 |
| E F | sp_A6NFH5_Fatty | 58 | 0.470 | 94.369  | -1.518 | 0.005 | 0.262 | 0.733 |

|     |                 |    |       |         |        |       |       |       |
|-----|-----------------|----|-------|---------|--------|-------|-------|-------|
| E K | sp_A6NFH5_Fatty | 59 | 0.426 | 87.669  | 0.383  | 0.003 | 0.718 | 0.279 |
| E N | sp_A6NFH5_Fatty | 60 | 0.446 | 65.294  | -0.974 | 0.001 | 0.900 | 0.099 |
| E N | sp_A6NFH5_Fatty | 61 | 0.279 | 40.904  | 1.182  | 0.001 | 0.959 | 0.040 |
| E E | sp_A6NFH5_Fatty | 62 | 0.389 | 67.958  | -0.209 | 0.001 | 0.900 | 0.099 |
| B I | sp_A6NFH5_Fatty | 63 | 0.145 | 26.825  | 1.173  | 0.001 | 0.900 | 0.099 |
| E S | sp_A6NFH5_Fatty | 64 | 0.435 | 51.005  | 0.855  | 0.001 | 0.959 | 0.040 |
| B F | sp_A6NFH5_Fatty | 65 | 0.092 | 18.484  | 0.884  | 0.001 | 0.900 | 0.099 |
| E K | sp_A6NFH5_Fatty | 66 | 0.503 | 103.549 | 1.315  | 0.001 | 0.900 | 0.099 |
| B L | sp_A6NFH5_Fatty | 67 | 0.239 | 43.761  | 0.276  | 0.004 | 0.616 | 0.381 |
| E G | sp_A6NFH5_Fatty | 68 | 0.443 | 34.903  | -0.039 | 0.018 | 0.088 | 0.893 |
| E E | sp_A6NFH5_Fatty | 69 | 0.495 | 86.564  | 1.113  | 0.020 | 0.205 | 0.775 |
| E E | sp_A6NFH5_Fatty | 70 | 0.545 | 95.212  | 0.809  | 0.021 | 0.756 | 0.223 |
| B F | sp_A6NFH5_Fatty | 71 | 0.138 | 27.737  | 0.869  | 0.021 | 0.756 | 0.223 |
| E E | sp_A6NFH5_Fatty | 72 | 0.493 | 86.057  | 0.048  | 0.023 | 0.655 | 0.322 |
| E E | sp_A6NFH5_Fatty | 73 | 0.342 | 59.817  | -0.134 | 0.022 | 0.552 | 0.426 |
| E I | sp_A6NFH5_Fatty | 74 | 0.506 | 93.610  | -0.373 | 0.021 | 0.451 | 0.528 |
| E T | sp_A6NFH5_Fatty | 75 | 0.309 | 42.803  | 0.111  | 0.020 | 0.205 | 0.775 |
| B P | sp_A6NFH5_Fatty | 76 | 0.222 | 31.431  | -0.799 | 0.018 | 0.088 | 0.893 |
| E G | sp_A6NFH5_Fatty | 77 | 0.688 | 54.106  | 0.099  | 0.018 | 0.047 | 0.935 |
| E G | sp_A6NFH5_Fatty | 78 | 0.486 | 38.217  | -1.340 | 0.019 | 0.141 | 0.840 |
| E H | sp_A6NFH5_Fatty | 79 | 0.431 | 78.399  | 0.601  | 0.004 | 0.420 | 0.576 |
| E K | sp_A6NFH5_Fatty | 80 | 0.543 | 111.613 | 1.199  | 0.003 | 0.718 | 0.279 |
| B T | sp_A6NFH5_Fatty | 81 | 0.126 | 17.518  | 0.990  | 0.001 | 0.900 | 0.099 |
| E K | sp_A6NFH5_Fatty | 82 | 0.349 | 71.728  | 0.627  | 0.001 | 0.900 | 0.099 |
| B S | sp_A6NFH5_Fatty | 83 | 0.074 | 8.731   | -0.935 | 0.001 | 0.959 | 0.040 |
| E K | sp_A6NFH5_Fatty | 84 | 0.265 | 54.469  | 1.071  | 0.001 | 0.959 | 0.040 |
| B V | sp_A6NFH5_Fatty | 85 | 0.046 | 7.024   | 0.930  | 0.001 | 0.959 | 0.040 |
| B T | sp_A6NFH5_Fatty | 86 | 0.260 | 36.020  | 0.373  | 0.001 | 0.959 | 0.040 |

|     |                 |     |       |         |        |       |       |       |
|-----|-----------------|-----|-------|---------|--------|-------|-------|-------|
| B L | sp_A6NFH5_Fatty | 87  | 0.161 | 29.497  | 0.388  | 0.001 | 0.900 | 0.099 |
| E D | sp_A6NFH5_Fatty | 88  | 0.548 | 78.981  | 0.140  | 0.004 | 0.616 | 0.381 |
| E K | sp_A6NFH5_Fatty | 89  | 0.742 | 152.650 | -1.267 | 0.003 | 0.003 | 0.994 |
| E E | sp_A6NFH5_Fatty | 90  | 0.652 | 113.852 | -1.561 | 0.003 | 0.003 | 0.994 |
| E S | sp_A6NFH5_Fatty | 91  | 0.370 | 43.411  | 0.713  | 0.004 | 0.616 | 0.381 |
| B L | sp_A6NFH5_Fatty | 92  | 0.153 | 27.959  | 0.796  | 0.001 | 0.900 | 0.099 |
| B I | sp_A6NFH5_Fatty | 93  | 0.197 | 36.519  | 1.308  | 0.001 | 0.959 | 0.040 |
| B Q | sp_A6NFH5_Fatty | 94  | 0.157 | 28.076  | 0.826  | 0.001 | 0.959 | 0.040 |
| B V | sp_A6NFH5_Fatty | 95  | 0.157 | 24.069  | 1.191  | 0.001 | 0.959 | 0.040 |
| E Q | sp_A6NFH5_Fatty | 96  | 0.296 | 52.830  | 0.112  | 0.001 | 0.900 | 0.099 |
| E D | sp_A6NFH5_Fatty | 97  | 0.505 | 72.771  | 0.356  | 0.004 | 0.616 | 0.381 |
| E W | sp_A6NFH5_Fatty | 98  | 0.410 | 98.581  | -0.890 | 0.004 | 0.085 | 0.910 |
| E D | sp_A6NFH5_Fatty | 99  | 0.862 | 124.157 | 0.107  | 0.005 | 0.015 | 0.979 |
| E G | sp_A6NFH5_Fatty | 100 | 0.750 | 59.017  | -0.603 | 0.005 | 0.015 | 0.979 |
| E K | sp_A6NFH5_Fatty | 101 | 0.610 | 125.436 | -0.068 | 0.005 | 0.045 | 0.951 |
| E E | sp_A6NFH5_Fatty | 102 | 0.617 | 107.842 | 0.064  | 0.005 | 0.336 | 0.660 |
| E T | sp_A6NFH5_Fatty | 103 | 0.247 | 34.273  | 0.844  | 0.002 | 0.816 | 0.182 |
| E T | sp_A6NFH5_Fatty | 104 | 0.331 | 45.910  | 0.842  | 0.001 | 0.959 | 0.040 |
| B I | sp_A6NFH5_Fatty | 105 | 0.153 | 28.249  | 1.411  | 0.001 | 0.959 | 0.040 |
| E T | sp_A6NFH5_Fatty | 106 | 0.271 | 37.588  | 1.159  | 0.001 | 0.959 | 0.040 |
| B R | sp_A6NFH5_Fatty | 107 | 0.170 | 38.907  | 1.534  | 0.001 | 0.959 | 0.040 |
| E K | sp_A6NFH5_Fatty | 108 | 0.358 | 73.723  | 0.593  | 0.001 | 0.959 | 0.040 |
| B L | sp_A6NFH5_Fatty | 109 | 0.099 | 18.109  | 0.726  | 0.001 | 0.959 | 0.040 |
| E V | sp_A6NFH5_Fatty | 110 | 0.522 | 80.231  | 0.910  | 0.003 | 0.718 | 0.279 |
| E D | sp_A6NFH5_Fatty | 111 | 0.794 | 114.459 | -0.211 | 0.005 | 0.015 | 0.979 |
| E G | sp_A6NFH5_Fatty | 112 | 0.602 | 47.401  | -0.807 | 0.005 | 0.015 | 0.979 |
| E K | sp_A6NFH5_Fatty | 113 | 0.463 | 95.260  | 2.174  | 0.003 | 0.718 | 0.279 |
| B M | sp_A6NFH5_Fatty | 114 | 0.079 | 15.708  | 0.864  | 0.001 | 0.959 | 0.040 |

|     |                 |     |       |         |        |       |       |       |
|-----|-----------------|-----|-------|---------|--------|-------|-------|-------|
| B V | sp_A6NFH5_Fatty | 115 | 0.175 | 26.897  | 1.939  | 0.001 | 0.959 | 0.040 |
| B V | sp_A6NFH5_Fatty | 116 | 0.082 | 12.634  | 0.941  | 0.001 | 0.959 | 0.040 |
| B E | sp_A6NFH5_Fatty | 117 | 0.207 | 36.110  | 1.170  | 0.001 | 0.959 | 0.040 |
| B S | sp_A6NFH5_Fatty | 118 | 0.058 | 6.739   | 1.324  | 0.001 | 0.959 | 0.040 |
| E T | sp_A6NFH5_Fatty | 119 | 0.352 | 48.864  | 0.696  | 0.001 | 0.959 | 0.040 |
| B V | sp_A6NFH5_Fatty | 120 | 0.229 | 35.259  | 0.156  | 0.003 | 0.718 | 0.279 |
| E N | sp_A6NFH5_Fatty | 121 | 0.689 | 100.840 | -0.497 | 0.005 | 0.015 | 0.979 |
| E S | sp_A6NFH5_Fatty | 122 | 0.633 | 74.211  | -1.083 | 0.005 | 0.015 | 0.979 |
| B V | sp_A6NFH5_Fatty | 123 | 0.183 | 28.142  | 0.254  | 0.002 | 0.816 | 0.182 |
| E I | sp_A6NFH5_Fatty | 124 | 0.373 | 68.968  | 0.954  | 0.006 | 0.962 | 0.032 |
| B C | sp_A6NFH5_Fatty | 125 | 0.062 | 8.747   | 0.522  | 0.006 | 0.962 | 0.032 |
| E T | sp_A6NFH5_Fatty | 126 | 0.340 | 47.172  | 1.451  | 0.006 | 0.962 | 0.032 |
| B R | sp_A6NFH5_Fatty | 127 | 0.173 | 39.571  | 0.928  | 0.006 | 0.962 | 0.032 |
| B T | sp_A6NFH5_Fatty | 128 | 0.270 | 37.477  | 1.204  | 0.006 | 0.962 | 0.032 |
| B Y | sp_A6NFH5_Fatty | 129 | 0.066 | 14.126  | 0.514  | 0.151 | 0.816 | 0.033 |
| E E | sp_A6NFH5_Fatty | 130 | 0.456 | 79.716  | 1.500  | 0.157 | 0.773 | 0.069 |
| E K | sp_A6NFH5_Fatty | 131 | 0.280 | 57.617  | 1.171  | 0.273 | 0.587 | 0.140 |
| B V | sp_A6NFH5_Fatty | 132 | 0.079 | 12.142  | -0.100 | 0.487 | 0.370 | 0.144 |
| E S | sp_A6NFH5_Fatty | 133 | 0.344 | 40.352  | 0.300  | 0.352 | 0.332 | 0.316 |
| E S | sp_A6NFH5_Fatty | 134 | 0.600 | 70.285  | 0.649  | 0.352 | 0.332 | 0.316 |
| E N | sp_A6NFH5_Fatty | 135 | 0.416 | 60.873  | 0.852  | 0.216 | 0.235 | 0.548 |
| E S | sp_A6NFH5_Fatty | 136 | 0.538 | 63.007  | 0.476  | 0.216 | 0.235 | 0.548 |
| E V | sp_A6NFH5_Fatty | 137 | 0.513 | 78.787  | -0.753 | 0.307 | 0.165 | 0.527 |
| E S | sp_A6NFH5_Fatty | 138 | 0.663 | 77.715  | -0.329 | 0.191 | 0.086 | 0.723 |
| E N | sp_A6NFH5_Fatty | 139 | 0.647 | 94.765  | -1.806 | 0.115 | 0.016 | 0.868 |
| E S | sp_A6NFH5_Fatty | 140 | 0.887 | 103.921 | -0.299 | 0.003 | 0.003 | 0.994 |

