

**Supplementary Table S1: Analyte=analyte acronyms; n=number of patients;Mild=mean and standard deviation of mild class (CDR=0 U CDR=1); Moderate=mean and standard deviation of moderate class (CDR=2); Severe=mean and standard deviation of severe class (CDR=3); Very severe=mean and standard deviation of very severe class (CDR=4 U CDR=5).**

| Analyte          | n  | Mild          | Moderate     | Severe       | Very severe  |
|------------------|----|---------------|--------------|--------------|--------------|
| Glu (mg/dL)      | 30 | 99.91±24.58   | 99.26±23.90  | 99.91±33.06  | 90.04±21.08  |
| Urea (mg/dL)     | 30 | 39.43±10.93   | 42.95±14.70  | 42.68±16.42  | 41.86±15.87  |
| Cre (mg/dL)      | 30 | 0.82±0.18     | 2.88±13.73   | 1.04±0.28    | 0.88±0.24    |
| LA (mg/mL)       | 30 | 12.57±3.97    | 14.25±12.86  | 14.15±7.55   | 14.67±5.99   |
| Bil (mg/dL)      | 30 | 0.56±0.25     | 2.51±13.79   | 0.47±0.16    | 0.49±0.21    |
| BA (μmol/L)      | 30 | 9.95±5.32     | 9.72±12.89   | 8.59±5.16    | 8.13±2.60    |
| Chol (mg/dL)     | 30 | 204.68±32.23  | 196.93±30.31 | 193.02±33.95 | 191.91±36.30 |
| HDL-Chol (mg/dL) | 30 | 64.08±14.25   | 62.19±13.00  | 53.86±14.07  | 55.44±16.96  |
| Trig (mg/dL)     | 30 | 124.42±64.83  | 122.67±47.97 | 131.71±43.83 | 142.31±64.45 |
| Na (mEq/L)       | 30 | 140.49±2.85   | 140.08±7.29  | 141.71±3.10  | 142.06±2.35  |
| K (mEq/L)        | 30 | 4.06±0.47     | 5.94±13.27   | 4.10±0.37    | 4.16±0.47    |
| Cl (mEq/L)       | 30 | 100.49±2.31   | 100.67±3.28  | 102.40±3.38  | 103.08±2.62  |
| Ca (mg/dL)       | 30 | 9.33±0.40     | 11.28±12.47  | 9.40±0.36    | 9.39±0.27    |
| P (mg/mL)        | 30 | 3.18±0.43     | 5.23±13.38   | 3.23±0.59    | 3.12±0.51    |
| Mg (mEq/L)       | 30 | 1.99±0.19     | 3.97±13.56   | 2.10±0.17    | 2.11±0.11    |
| Fe (μg/dL)       | 30 | 94.04±30.42   | 83.84±33.71  | 76.40±26.40  | 74.86±28.29  |
| AST (u/L)        | 30 | 21.90±9.12    | 19.10±12.11  | 17.71±16.72  | 16.45±3.87   |
| ALT (u/L)        | 30 | 15.00±7.47    | 13.66±13.11  | 12.75±6.99   | 13.81±4.79   |
| γGT (u/L)        | 30 | 24.18±18.36   | 19.56±16.57  | 20.00±18.06  | 19.44±9.75   |
| LDH (mU/mL)      | 30 | 199.38±37.39  | 191.36±45.27 | 184.48±41.62 | 175.06±29.58 |
| CK (u/L)         | 30 | 105.75±104.39 | 91.45±57.21  | 67.00±42.55  | 90.68±79.22  |
| Amy (u/L)        | 30 | 75.13±30.23   | 80.93±44.24  | 62.86±22.37  | 86.64±109.80 |
| Lip (u/L)        | 30 | 39.40±31.21   | 44.39±61.05  | 30.00±14.22  | 30.11±8.87   |
| Alb (mg/dL)      | 30 | 57.94±3.78    | 58.61±6.65   | 57.89±3.73   | 56.72±4.13   |
| α-1GL (mg/dL)    | 30 | 4.04±0.55     | 6.00±13.27   | 4.15±0.65    | 4.12±0.53    |
| α-2GL (mg/dL)    | 30 | 11.13±1.52    | 12.90±12.34  | 12.03±1.57   | 11.30±1.53   |
| βGL (mg/dL)      | 30 | 11.52±1.40    | 13.61±12.14  | 11.39±1.22   | 12.46±1.67   |

|                                |    |                |                |                |                |
|--------------------------------|----|----------------|----------------|----------------|----------------|
| <b>γGl (mg/dL)</b>             | 30 | 15.34±2.68     | 16.91±12.06    | 14.55±2.52     | 15.40±2.90     |
| <b>ESR (mm/h)</b>              | 30 | 30.34±19.73    | 29.21±22.80    | 28.80±21.02    | 26.13±15.62    |
| <b>FA (ng/mL)</b>              | 30 | 9.97±6.44      | 13.26±15.91    | 12.70±10.99    | 11.62±10.35    |
| <b>VitB12 (pg/mL)</b>          | 30 | 684.52±869.45  | 787.80±1146.01 | 489.22±569.46  | 388.39±104.31  |
| <b>PT (s)</b>                  | 30 | 97.09±20.21    | 98.80±19.69    | 90.80±26.86    | 96.53±14.75    |
| <b>INR (  )</b>                | 30 | 1.08±0.38      | 3.10±13.70     | 1.25±0.68      | 1.07±0.35      |
| <b>PTT (s)</b>                 | 30 | 29.76±3.30     | 31.60±10.07    | 31.15±4.11     | 30.46±2.99     |
| <b>PTTr</b>                    | 30 | 0.98±0.10      | 3.03±13.71     | 1.05±0.14      | 1.02±0.08      |
| <b>Fibr (mg/mL)</b>            | 30 | 352.88±81.51   | 332.69±95.30   | 369.54±98.56   | 343.13±70.68   |
| <b>Fer (ng/m)</b>              | 30 | 146.06±128.04  | 73.69±78.42    | 86.13±69.71    | 60.11±56.30    |
| <b>WBC (10<sup>3</sup>/μL)</b> | 30 | 5.68±1.44      | 7.87±13.08     | 6.62±1.61      | 6.81±1.69      |
| <b>RBC (10<sup>3</sup>/μL)</b> | 30 | 4.30±0.49      | 6.18±13.24     | 4.43±0.44      | 4.58±0.49      |
| <b>Hb (g/dL)</b>               | 30 | 13.03±1.28     | 14.20±12.10    | 12.90±1.49     | 13.30±1.68     |
| <b>Hct (%)</b>                 | 30 | 39.02±3.67     | 38.70±9.04     | 39.13±3.75     | 40.00±4.20     |
| <b>MCV (fl)</b>                | 30 | 91.03±4.98     | 88.86±4.90     | 88.31±4.54     | 87.49±6.23     |
| <b>MCH (pg)</b>                | 30 | 30.40±1.94     | 30.81±9.76     | 29.08±1.92     | 29.06±2.51     |
| <b>MCHC (g/dL)</b>             | 30 | 33.40±0.84     | 34.43±9.06     | 32.91±1.12     | 33.19±1.17     |
| <b>Plt (10<sup>3</sup>/μL)</b> | 30 | 239.50±37.01   | 255.95±59.42   | 252.33±58.74   | 252.35±41.58   |
| <b>Neu (10<sup>3</sup>/μL)</b> | 30 | 60.24±7.34     | 61.03±8.14     | 61.00±7.32     | 60.40±7.57     |
| <b>Lym (10<sup>3</sup>/μL)</b> | 30 | 28.50±5.99     | 29.34±11.52    | 28.13±7.05     | 27.92±7.15     |
| <b>Mon (10<sup>3</sup>/μL)</b> | 30 | 7.89±1.83      | 9.49±12.80     | 7.36±1.23      | 7.67±1.33      |
| <b>Eos (10<sup>3</sup>/μL)</b> | 30 | 2.66±1.53      | 5.54±13.41     | 2.97±1.25      | 3.58±1.83      |
| <b>Bas (10<sup>3</sup>/μL)</b> | 30 | 0.69±0.33      | 2.62±13.77     | 0.51±0.25      | 0.40±0.24      |
| <b>Neu (%)</b>                 | 30 | 3.46±1.08      | 5.59±13.37     | 4.06±1.15      | 4.16±1.33      |
| <b>Lym (%)</b>                 | 30 | 1.59±0.44      | 3.64±13.62     | 1.84±0.62      | 1.84±0.45      |
| <b>Mon (%)</b>                 | 30 | 0.43±0.11      | 2.48±13.79     | 0.48±0.12      | 0.51±0.13      |
| <b>Eos (%)</b>                 | 30 | 0.14±0.09      | 2.24±13.82     | 0.19±0.11      | 0.25±0.16      |
| <b>Bas (%)</b>                 | 30 | 0.03±0.01      | 2.07±13.85     | 0.03±0.01      | 0.02±0.01      |
| <b>Palb (mg/dL)</b>            | 30 | 26.79±7.20     | 27.53±11.90    | 26.27±7.24     | 25.29±5.46     |
| <b>GPx (u/L)</b>               | 30 | 47.82±18.25    | 51.46±18.50    | 49.22±20.04    | 47.91±15.36    |
| <b>GR (μmol/L)</b>             | 30 | 6.34±3.10      | 8.25±13.59     | 5.99±2.82      | 5.90±2.05      |
| <b>SOD (u/L)</b>               | 30 | 1361.98±546.01 | 1333.53±450.40 | 1443.41±530.67 | 1392.30±508.50 |
| <b>TPAO</b>                    | 30 | 1.18±0.35      | 1.10±0.35      | 1.03±0.28      | 1.07±0.31      |
| <b>FRD (u/carr)</b>            | 30 | 353.12±89.86   | 357.07±101.97  | 305.24±85.04   | 293.18±73.07   |

**Supplementary Table S2: results (p-value) of the statistical analysis comparing AD patients and control subjects. Analyte = Analyte acronyms; Mild = class vs. control subjects; Moderate = moderate class vs. control subjects; Severe = severe class vs. control subjects; Very severe = very severe class vs. control subjects. Statistically significant analytes are marked with “\*”.**

| Analyte         | Mild  | Moderate | Severe | Very severe |
|-----------------|-------|----------|--------|-------------|
| <b>Glu</b>      | 1.000 | 0.876    | 1.000  | 1.000       |
| <b>Urea</b>     | 1.000 | 1.000    | 1.000  | 1.000       |
| <b>Cre</b>      | 1.000 | 0.954    | 0.204  | 1.000       |
| <b>LA*</b>      | 0.013 | 0.620    | 0.111  | 0.019       |
| <b>Bil</b>      | 1.000 | 1.000    | 0.534  | 1.000       |
| <b>BA</b>       | 0.160 | 0.538    | 0.870  | 0.595       |
| <b>Chol</b>     | 1.000 | 1.000    | 0.334  | 1.000       |
| <b>HDL-Chol</b> | 1.000 | 1.000    | 1.000  | 1.000       |
| <b>Trig</b>     | 0.115 | 0.260    | 0.290  | 0.552       |
| <b>Na</b>       | 1.000 | 1.000    | 1.000  | 0.149       |
| <b>K</b>        | 1.000 | 1.000    | 1.000  | 1.000       |
| <b>Cl *</b>     | 0.002 | 0.073    | 0.080  | 0.292       |
| <b>Ca</b>       | 1.000 | 0.930    | 0.744  | 0.509       |
| <b>P</b>        | 0.362 | 1.000    | 0.719  | 1.000       |
| <b>Mg</b>       | 0.129 | 0.339    | 0.026  | 0.361       |
| <b>Fe</b>       | 1.000 | 1.000    | 1.000  | 1.000       |
| <b>AST *</b>    | 0.015 | 0.193    | 0.014  | 0.002       |
| <b>ALT *</b>    | 0.008 | 0.035    | 0.014  | 0.404       |
| <b>γGT</b>      | 1.000 | 1.000    | 0.340  | 1.000       |
| <b>LDH</b>      | 0.167 | 0.678    | 0.068  | 0.857       |
| <b>CK *</b>     | 0.313 | 0.701    | 0.016  | 0.037       |
| <b>Amy</b>      | 1.000 | 1.000    | 1.000  | 1.000       |
| <b>Lip</b>      | 1.000 | 1.000    | 1.000  | 1.000       |
| <b>Alb</b>      | 0.140 | 0.899    | 1.000  | 0.992       |
| <b>α-1Gl</b>    | 1.000 | 0.672    | 0.682  | 1.000       |
| <b>α-2Gl</b>    | 0.299 | 1.000    | 0.025  | 0.538       |
| <b>βGl</b>      | 0.333 | 0.590    | 1.000  | 1.000       |
| <b>γGl</b>      | 0.683 | 0.487    | 1.000  | 1.000       |
| <b>ESR</b>      | 0.815 | 1.000    | 1.000  | 1.000       |

|               |       |       |       |       |
|---------------|-------|-------|-------|-------|
| <b>FA</b>     | 1.000 | 1.000 | 1.000 | 1.000 |
| <b>VitB12</b> | 0.074 | 0.075 | 0.246 | 0.333 |
| <b>PT</b>     | 1.000 | 1.000 | 1.000 | 1.000 |
| <b>INR</b>    | 1.000 | 1.000 | 1.000 | 1.000 |
| <b>PTT *</b>  | 0.037 | 1.000 | 0.634 | 0.641 |
| <b>PTTr</b>   | 1.000 | 1.000 | 1.000 | 1.000 |
| <b>Fibr</b>   | 1.000 | 1.000 | 1.000 | 1.000 |
| <b>Fer</b>    | 1.000 | 0.148 | 1.000 | 1.000 |
| <b>WBC</b>    | 1.000 | 1.000 | 1.000 | 1.000 |
| <b>RBC</b>    | 0.074 | 0.264 | 0.057 | 1.000 |
| <b>Hb</b>     | 0.210 | 0.150 | 0.137 | 1.000 |
| <b>Hct</b>    | 0.161 | 0.294 | 0.747 | 1.000 |
| <b>MCV</b>    | 1.000 | 1.000 | 1.000 | 1.000 |
| <b>MCH</b>    | 1.000 | 1.000 | 1.000 | 1.000 |
| <b>MCHC</b>   | 1.000 | 0.313 | 0.614 | 0.099 |
| <b>Plt</b>    | 1.000 | 1.000 | 1.000 | 1.000 |
| <b>Nue</b>    | 0.692 | 0.309 | 0.887 | 0.992 |
| <b>Lym</b>    | 0.460 | 0.286 | 1.000 | 1.000 |
| <b>Mon</b>    | 1.000 | 1.000 | 1.000 | 1.000 |
| <b>Eos</b>    | 0.348 | 0.375 | 1.000 | 1.000 |
| <b>Bas</b>    | 1.000 | 1.000 | 1.000 | 1.000 |
| <b>Neu%</b>   | 1.000 | 0.867 | 0.815 | 1.000 |
| <b>Lym%</b>   | 0.169 | 0.164 | 1.000 | 1.000 |
| <b>Mon%</b>   | 1.000 | 1.000 | 1.000 | 1.000 |
| <b>Eos%</b>   | 0.559 | 0.398 | 0.950 | 1.000 |
| <b>Bas%</b>   | 1.000 | 1.000 | 1.000 | 1.000 |
| <b>Palb *</b> | 0.003 | 0.004 | 0.007 | 0.003 |
| <b>GPx</b>    | 1.000 | 1.000 | 0.210 | 1.000 |
| <b>GR</b>     | 0.187 | 0.098 | 0.066 | 1.000 |
| <b>SOD</b>    | 1.000 | 1.000 | 1.000 | 1.000 |
| <b>TPAO</b>   | 1.000 | 0.709 | 0.820 | 0.644 |
| <b>FRD</b>    | 1.000 | 1.000 | 1.000 | 1.000 |