

**S5 Table.** Heritability (h<sup>2</sup>) values and effect of covariates (age, sex and their interaction) in the whole sample and stratified for case/control families.

|                     | Overall (1052 subjects, 283 families) |          |                | AD families (229subjects, 62 families) |          |                | Control families (823subjects, 221families) |          |                |
|---------------------|---------------------------------------|----------|----------------|--|----------|----------------|---|----------|----------------|
|                     | h <sup>2</sup> (SE) (%)               | P values | Covariates (%) | h <sup>2</sup> (SE) (%)                | P values | Covariates (%) | h <sup>2</sup> (SE) (%)                     | P values | Covariates (%) |
| BMI                 | <b>44.1 (5.7)</b>                     | 9.E-15   | <b>53.7</b>    | <b>52.1 (11.4)</b>                     | 6.E-06   | <b>33.5</b>    | <b>40.8 (6.6)</b>                           | 2.E-10   | <b>57.9</b>    |
| Waist circumference | <b>29.7 (9.9)</b>                     | 1.E-03   | <b>67.6</b>    | <b>45.6 (17.8)</b>                     | 6.E-03   | <b>55.0</b>    | <b>17.7 (11.9)</b>                          | 0.06     | <b>80.1</b>    |
| Hip circumference   | <b>42.2 (12.4)</b>                    | 4.E-04   | <b>0.2</b>     | <b>78.9 (18.0)</b>                     | 1.E-04   | <b>60.6</b>    | <b>22.4 (15.9)</b>                          | 0.08     | <b>0.0</b>     |
| PAD                 | <b>15.8 (8.2)</b>                     | 2.E-02   | <b>24.4</b>    | Ne                                     | -        |                | <b>22.5 (9.1)</b>                           | 5.E-03   | <b>24.4</b>    |
| PAS                 | <b>18.1 (8.8)</b>                     | 2.E-02   | <b>30.1</b>    | <b>5.3 (21.2)</b>                      | 0.40     | <b>28.5</b>    | <b>20.4 (9.6)</b>                           | 1.E-02   | <b>30.9</b>    |
| Glucose             | <b>88.9 (3.7)</b>                     | 4.E-59   | <b>17.1</b>    | <b>90.4 (7.8)</b>                      | 8.E-15   | <b>13.9</b>    | <b>86.2 (4.4)</b>                           | 1.E-42   | <b>18.5</b>    |
| Insulin             | <b>22.1 (6.4)</b>                     | 1.E-04   | <b>2.6</b>     | <b>26.9 (14.3)</b>                     | 3.E-02   | <b>0.2</b>     | <b>18.9 (7.2)</b>                           | 3.E-03   | <b>6.4</b>     |
| HOMA                | <b>32.2 (6.8)</b>                     | 5.E-07   | <b>3.0</b>     | <b>30.9 (15.8)</b>                     | 2.E-02   | <b>0.0</b>     | <b>26.8 (7.7)</b>                           | 2.E-04   | <b>7.2</b>     |
| Total cholesterol   | <b>45.7 (6.1)</b>                     | 7.E-14   | <b>15.0</b>    | <b>71.2 (10.8)</b>                     | 2.E-08   | <b>20.5</b>    | <b>37.5 (7.1)</b>                           | 3.E-08   | <b>14.3</b>    |
| HDL                 | <b>63.5 (4.6)</b>                     | 1.E-35   | <b>13.5</b>    | <b>32.8 (13.5)</b>                     | 5.E-03   | <b>21.5</b>    | <b>48.3 (6.1)</b>                           | 5.E-15   | <b>18.8</b>    |
| Non-HDL             | <b>55.2 (5.5)</b>                     | 3.E-21   | <b>12.7</b>    | <b>68.6 (11.5)</b>                     | 4.E-07   | <b>8.7</b>     | <b>48.7 (6.3)</b>                           | 2.E-14   | <b>14.9</b>    |
| Non-HDL/HDL ratio   | <b>66.2 (4.9)</b>                     | 2.E-31   | <b>22.3</b>    | <b>47.4 (14.8)</b>                     | 1.E-03   | <b>10.7</b>    | <b>55.0 (6.2)</b>                           | 1.E-16   | <b>29.4</b>    |
| LDL                 | <b>58.9 (5.4)</b>                     | 6.E-25   | <b>8.4</b>     | <b>74.6 (9.5)</b>                      | 2.E-10   | <b>8.8</b>     | <b>52.5 (6.3)</b>                           | 2.E-16   | <b>8.8</b>     |
| Tryglicerides       | <b>58.4 (5.6)</b>                     | 3.E-22   | <b>27.3</b>    | <b>28.7 (13.7)</b>                     | 1.E-02   | <b>5.9</b>     | <b>45.0 (6.7)</b>                           | 4.E-11   | <b>28.2</b>    |
| ApoAI               | <b>67.0 (4.7)</b>                     | 2.E-35   | <b>8.1</b>     | <b>51.4 (10.7)</b>                     | 2.E-06   | <b>12.5</b>    | <b>66.4 (5.7)</b>                           | 3.E-25   | <b>8.3</b>     |
| ApoB                | <b>74.8 (4.8)</b>                     | 6.E-36   | <b>13.5</b>    | <b>81.3 (9.9)</b>                      | 8.E-10   | <b>11.2</b>    | <b>73.0 (5.4)</b>                           | 9.E-29   | <b>13.6</b>    |
| ApoAI/HDL ratio     | <b>72.2 (5.1)</b>                     | 3.E-33   | <b>13.5</b>    | <b>57.8 (12.9)</b>                     | 2.E-05   | <b>12.2</b>    | <b>64.7 (6.4)</b>                           | 1.E-19   | <b>19.3</b>    |
| ApoB/non-HDL ratio  | <b>83.0 (4.1)</b>                     | 1.E-51   | <b>0.0</b>     | <b>77.3 (9.6)</b>                      | 4.E-10   | <b>0.2</b>     | <b>84.5 (4.5)</b>                           | 1.E-42   | <b>0.7</b>     |
| ApoB/Apo-aI ratio   | <b>75.8 (4.8)</b>                     | 6.E-38   | <b>11.6</b>    | <b>60.8 (11.5)</b>                     | 1.E-06   | <b>6.4</b>     | <b>76.9 (5.3)</b>                           | 2.E-31   | <b>12.9</b>    |
| Adiponectin         | <b>16.8 (13.2)</b>                    | 0.10     | <b>15.5</b>    | <b>7.6 (17.3)</b>                      | 0.33     | <b>7.2</b>     | <b>43.8 (18.7)</b>                          | 2.E-02   | <b>22.0</b>    |
| CRP                 | <b>23.4 (7.4)</b>                     | 5.E-04   | <b>8.4</b>     | <b>20.7 (14.4)</b>                     | 0.07     | <b>0.0</b>     | <b>25.2 (8.6)</b>                           | 1.E-03   | <b>14.8</b>    |
| MetSyn              | <b>65.5 (16.9)</b>                    | 8.E-05   | <b>1.82*</b>   | Ne                                     | -        |                | <b>49.6 (147.2)</b>                         | 0.40     | <b>20.5*</b>   |

\*Kullback-Leibler R-squared for categorical variables