**Supplementary Table I:**

**Proteins identified in the HDL fraction by LC/MS/MS and iTRAQ labeling*a***

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **UnitProt accession*b*** | **Unused protScore*c*** | **Coverage (95%)*d*** | **Protein name** | **Peptide**  **(nb)*e*** | **All**  **(N=26)** | **HDL-C reduced**  **(N=6)** | **HDL-C increased**  **(N=6)** |
| **MedDiet vs. Control** | | |
| **Fold**  **change** | **Fold**  **change** | **Fold**  **change** |
| P02647 | 100.36 | 88.39 | Apolipoprotein A-I | 71 | 0.97 | 0.87 | 1.15 |
| P02768 | 81.17 | 70.61 | Serum albumin | 46 | 0.91 | 0.88 | 1.00 |
| P06727 | 61.47 | 67.17 | Apolipoprotein A-IV | 33 | 0.97 | 0.95 | 0.87 |
| P01009 | 53.26 | 62.44 | Alpha-1-antitrypsin | 36 | 0.90 | 0.81 | 0.96 |
| P02649 | 51.23 | 75.08 | Apolipoprotein E | 28 | 1.14 | 1.21 | 1.34 |
| Q5JNX2 | 30.88 | 12.39 | Complement C4 gamma chain | 15 | 0.49 | 0.98 | 0.61 |
| P02652 | 28.94 | 77.00 | Apolipoprotein A-II | 20 | 1.05 | 0.75 | 1.10 |
| O14791-2 | 27.77 | 43.72 | Isoform 2 of Apolipoprotein L1 | 15 | 0.88 | 0.83 | 0.99 |
| P01024 | 27.64 | 11.91 | Complement C3 | 15 | 1.01 | 1.04 | 0.90 |
| O95445 | 26.83 | 74.47 | Apolipoprotein M | 17 | 0.98 | 1.11 | 1.08 |
| P02671 | 22.11 | 18.71 | Fibrinogen alpha chain | 17 | 0.89 | 1.08 | 0.67 |
| P05090 | 17.85 | 39.15 | Apolipoprotein D | 13 | 0.99 | 0.94 | 1.09 |
| P02654 | 16.08 | 42.17 | Apolipoprotein C-I | 13 | 1.01 | 0.78 | 0.93 |
| P35542 | 15.19 | 50.00 | Serum amyloid A-4 protein | 12 | 1.04 | 1.08 | 1.31 |
| P02656 | 14.72 | 58.59 | Apolipoprotein C-III | 8 | 1.09 | 0.71 | 1.17 |
| P27169 | 12.91 | 27.32 | Serum paraoxonase/arylesterase 1 | 8 | 0.91 | 0.97 | 1.07 |
| P02655 | 12.02 | 59.41 | Apolipoprotein C-II | 8 | 0.92 | 0.76 | 1.30 |
| P0DJI8 | 11.37 | 63.11 | Serum amyloid A-1 protein | 6 | 1.19 | 0.96 | 0.83 |
| P00739-2 | 10.32 | 13.51 | Isoform 2 of Haptoglobin-related protein | 5 | 1.09 | 0.76 | 1.37 |
| P68871 | 10 | 36.05 | Hemoglobin subunit beta | 5 | 0.46 | 1.00 | 1.21 |
| P02766 | 9.23 | 37.41 | Transthyretin | 5 | 0.93 | 0.89 | 0.88 |
| P04180 | 8.62 | 10.91 | Phosphatidylcholine-sterol acyltransferase | 5 | 0.87 | 1.08 | 1.08 |
| P10909-2 | 8.41 | 8.18 | Isoform 2 of Clusterin | 4 | 1.00 | 1.13 | 0.93 |
| P55056 | 8.03 | 29.13 | Apolipoprotein C-IV | 4 | 0.96 | 0.78 | 1.00 |
| P49913 | 7.04 | 21.18 | Cathelicidin antimicrobial peptide | 5 | 0.87 | 1.08 | 1.21 |
| P04004 | 6.33 | 9.00 | Vitronectin | 3 | 1.04 | 1.05 | 1.08 |
| P19652 | 6.05 | 13.93 | Alpha-1-acid glycoprotein 2 | 3 | 1.26 | 0.95 | 0.73 |
| Q13790 | 6 | 11.66 | Apolipoprotein F | 3 | 1.07 | 0.94 | 1.30 |
| P01871-2 | 5.86 | 8.25 | Isoform 2 of Ig mu chain C region | 4 | 1.09 | 0.99 | 0.83 |
| P55058 | 5.52 | 6.69 | Phospholipid transfer protein | 3 | 1.21 | 0.88 | 1.73 |
| P69905 | 4.97 | 42.25 | Hemoglobin subunit alpha | 4 | 0.40 | 1.08 | 1.00 |
| P02675 | 4.02 | 4.07 | Fibrinogen beta chain | 2 | 1.11 | 1.15 | 0.87 |
| Q5VY30 | 4 | 10.55 | Plasma retinol-binding protein (1-181) | 2 | 0.93 | 1.06 | 1.14 |
| P02748 | 4 | 3.76 | Complement component C9 | 2 | 0.76 | 1.36 | 1.03 |
| P01019 | 4 | 7.01 | Angiotensinogen | 2 | 0.71 | 1.26 | 1.99 |
| Q14624 | 3.63 | 3.12 | Inter-alpha-trypsin inhibitor heavy chain H4 | 4 | 0.62 | 0.94 | 0.65 |
| P02765 | 3.59 | 7.63 | Alpha-2-HS-glycoprotein | 2 | 1.07 | 1.04 | 1.19 |
| P02775 | 3.54 | 17.19 | Platelet basic protein | 2 | 1.14 | 0.92 | 1.59 |
| Q13093 | 3.27 | 4.99 | Platelet-activating factor acetylhydrolase | 2 | 1.10 | 1.00 | 0.77 |
| Q15166 | 3.09 | 10.73 | Serum paraoxonase/lactonase 3 | 4 | 1.45 | 2.02 | 1.74 |
| P46939 | 2.72 | 0.41 | Utrophin | 2 | 0.80 | 10.02 | 0.92 |
| P11597 | 2.37 | 5.48 | Cholesteryl ester transfer protein | 2 | 0.67 | 1.01 | 0.78 |
| P02749 | 2.29 | 4.06 | Beta-2-glycoprotein 1 | 1 | 1.03 | 0.73 | 0.87 |
| P01877 | 2.01 | 5.00 | Ig alpha-2 chain C region | 1 | 0.86 | 0.80 | 0.64 |
| Q6U2E9 | 2 | 11.70 | C4B1 | 14 | 0.78 | 0.90 | 0.78 |
| P0DJI9 | 2 | 46.72 | Serum amyloid A-2 protein | 6 | 1.40 | 1.10 | 0.56 |
| Q9UPU3 | 2 | 1.06 | VPS10 domain-containing receptor SorCS3 | 1 | 24.35 | 0.83 | 0.71 |
| A6NCD4 | 2 | 3.13 | Uncharacterized protein C10orf131 | 1 | 1.29 | 0.98 | 1.29 |
| P35908 | 2 | 2.19 | Keratin. type II cytoskeletal 2 epidermal | 1 | 0.92 | 1.08 | 0.98 |
| P04264 | 2 | 2.64 | Keratin. type II cytoskeletal 1 | 1 | 2.19 | 0.09 | 0.66 |
| E9PGN7 | 2 | 1.84 | Plasma protease C1 inhibitor | 1 | 1.15 | 1.94 | 0.56 |
| Q96KN2 | 2 | 2.76 | Beta-Ala-His dipeptidase | 1 | 0.76 | 0.86 | 0.76 |
| Q9BUN1 | 2 | 2.35 | Protein MENT | 1 | 0.80 | 1.53 | 1.50 |
| Q6Q788 | 2 | 5.46 | Apolipoprotein A-V | 1 | 0.76 | 3.11 | 0.73 |
| P01834 | 2 | 16.98 | Ig kappa chain C region | 2 | 1.05 | 1.45 | 0.46 |
| Q12907 | 2 | 3.09 | Vesicular integral-membrane protein VIP36 | 1 | 1.38 | 1.25 | 1.21 |
| P50213-2 | 2 | 2.08 | Isoform 2 of Isocitrate dehydrogenase [NAD] subunit alpha | 1 | 1.19 | 0.92 | 0.01 |
| Q9UHG3 | 2 | 1.58 | Prenylcysteine oxidase 1 | 1 | 0.65 | 0.86 | 1.32 |
| Q14623 | 2 | 6.08 | Indian hedgehog protein | 1 | 2.15 | 1.09 | 1.09 |
| E5RGI4 | 2 | 24.00 | Dimethylglycine dehydrogenase. mitochondrial | 1 | 1.02 | 0.96 | 1.25 |
| P60985-2 | 2 | 17.65 | Isoform 2 of Keratinocyte differentiation-associated protein | 1 | 0.24 | 0.49 | 0.61 |
| P33241 | 1.92 | 2.95 | Lymphocyte-specific protein 1 | 1 | 0.34 | 4.49 | 0.80 |
| O60503 | 1.71 | 0.74 | Adenylate cyclase type 9 | 1 | 3.04 | 1.40 | 1.00 |
| P08697 | 1.45 | 2.24 | Alpha-2-antiplasmin | 1 | 0.99 | 1.16 | 1.02 |
| Q8TE59 | 1.02 | 0.83 | A disintegrin and metalloproteinase with thrombospondin motifs 19 | 1 | 1.19 | 1.10 | 1.48 |

*a* Results are expressed as fold change (MedDiet vs Control diet) within each comparison. Three comparisons: MedDiet vs. control diet all subjects (N=26); HDL reduced: Participants who showed the greatest reduction in HDL-C concentrations after the MedDiet vs. control diet (∆HDL-C≤-0.04 mmol/l, N=6); HDL increased: Participants who showed the greatest increase in HDL-C concentrations after the MedDiet vs. control diet (∆HDL-C≥0.07 mmol/l, N=6). Only proteins with a false discovery rate <1% are presented here.

*b* <http://www.uniprot.org/help/uniref>

*c* Value indicating the confidence in the protein identified; a score of ≥ 2 indicates that the protein is identified with 99% confidence.

*d* Percentage of coverage with peptides whose confidence level is 95% or more.

*e* Number of peptides identified with a confidence of more than 95% for this protein.