

Table S2 : Genera significantly enriched or depleted in WT-HFD mice compared to WT-CT.

| Species | p | WT-CT | | WT-HFD | |
|----------------------------|---------|--------|-------|--------|-------|
| | | Mean | SEM | Mean | SEM |
| <i>Allobaculum</i> | 0,00117 | 14,757 | 3,565 | 1,389 | 0,407 |
| <i>Anaeroplasma</i> | 0,00008 | 14,457 | 2,638 | 1,633 | 0,347 |
| <i>Bacteroides</i> | 0,00353 | 0,368 | 0,058 | 1,122 | 0,223 |
| <i>c__OClostridia</i> | 0,00000 | 0,104 | 0,021 | 0,711 | 0,084 |
| <i>Clostridium</i> | 0,03889 | 0,014 | 0,005 | 0,002 | 0,001 |
| <i>Coprococcus</i> | 0,01274 | 0,255 | 0,052 | 0,107 | 0,014 |
| <i>Dorea</i> | 0,01373 | 0,022 | 0,007 | 0,054 | 0,010 |
| <i>f__OLachnospiraceae</i> | 0,02615 | 0,051 | 0,014 | 0,094 | 0,011 |
| <i>f__ORuminococcaceae</i> | 0,00000 | 0,183 | 0,023 | 0,742 | 0,085 |
| <i>f__Lachnospiraceae</i> | 0,00965 | 1,124 | 0,129 | 1,659 | 0,138 |
| <i>f__Peptococcaceae</i> | 0,00001 | 0,032 | 0,006 | 0,325 | 0,050 |
| <i>f__Rikenellaceae</i> | 0,00000 | 7,699 | 1,147 | 21,063 | 1,810 |
| <i>f__Ruminococcaceae</i> | 0,00001 | 0,790 | 0,144 | 3,240 | 0,394 |
| <i>f__S24-7</i> | 0,02158 | 5,356 | 1,150 | 2,481 | 0,167 |
| <i>k__Bacteria</i> | 0,02062 | 0,002 | 0,001 | 0,011 | 0,004 |
| <i>o__OBacteroidales</i> | 0,01063 | 0,039 | 0,006 | 0,069 | 0,009 |
| <i>o__Clostridiales</i> | 0,03448 | 24,387 | 2,759 | 33,068 | 2,687 |
| <i>o__RF32</i> | 0,01817 | 1,744 | 0,629 | 0,127 | 0,073 |
| <i>Odoribacter</i> | 0,00222 | 1,646 | 0,261 | 2,765 | 0,191 |
| <i>Oscillospira</i> | 0,00005 | 3,743 | 0,657 | 9,684 | 0,984 |
| <i>Ruminococcus</i> | 0,00782 | 0,299 | 0,062 | 1,902 | 0,544 |
| <i>Sutterella</i> | 0,01391 | 2,212 | 0,794 | 0,086 | 0,057 |

Data are shown as the means and SEM. Significant differences ($P < 0.05$) between the two groups are indicated. P values are based on the 2-sample t-test assuming equal variances. Student t-test results were corrected by an FDR test according to the Benjamini-Hochberg procedure, with an α of < 0.05 , significant p-values after FDR correction are depicted in red.