

Table S2. Changes in relative fecal abundances of bacterial taxa in WT mice

This table lists OTUs that are significantly different in abundance (FDR-corrected $p < 0.05$) in the fecal microbiota of WT mice between at least 2 of the diet groups as determined using a mixed linear model.

Estimate indicates the difference in the least square means of log₁₀ normalized counts of OTUs between:

a) high vs low iron diet (negative = OTU decreased in the high iron diet; positive = OTU increased in the high iron diet),

b) control vs high iron diet (negative = OTU decreased in the control diet; positive = OTU increased in the control diet),

c) control vs low iron diet (negative = OTU decreased in the control diet; positive = OTU increased in control diet).

| Comparison | Consensus OTU | Taxonomy | Estimate | FDR p -value |
|-----------------------|---------------|-------------------------|----------|----------------|
| High vs Low Iron Diet | Consensus6 | Allobaculum spp | -4.44 | 1.1E-07 |
| | Consensus9 | Akkermansia muciniphila | -3.56 | 5.9E-06 |
| | Consensus85 | Allobaculum spp | -3.31 | 1.1E-07 |
| | Consensus21 | Ruminococcus spp | -3.00 | 9.4E-06 |
| | Consensus24 | Bacteroidales | -2.41 | 3.2E-04 |
| | Consensus11 | Enterobacteriaceae | -2.39 | 2.6E-06 |
| | Consensus38 | Parabacteroides spp | -2.00 | 1.7E-03 |
| | Consensus15 | Peptostreptococcaceae | -1.44 | 5.6E-03 |
| | Consensus5 | Lactobacillales | 0.74 | 4.6E-03 |
| | Consensus216 | Adlercreutzia spp | 0.76 | 3.0E-02 |
| | Consensus53 | Ruminococcus spp | 0.97 | 2.4E-02 |
| | Consensus309 | Clostridiales | 1.07 | 3.2E-03 |
| | Consensus295 | Coriobacteriaceae | 1.31 | 3.3E-05 |
| | Consensus301 | Clostridiales | 1.34 | 9.1E-04 |
| | Consensus88 | Sutterella spp | 1.38 | 1.0E-03 |
| | Consensus215 | Lachnospiraceae | 1.43 | 3.1E-03 |
| | Consensus168 | S24-7 | 1.47 | 7.9E-08 |
| | Consensus164 | Lachnospiraceae | 1.48 | 1.9E-03 |
| | Consensus229 | Clostridiaceae | 1.52 | 3.0E-02 |
| | Consensus224 | Lactobacillus spp | 1.53 | 2.0E-04 |
| | Consensus186 | Proteiniclasticum spp | 1.53 | 8.3E-03 |
| | Consensus192 | Lachnospiraceae | 1.56 | 3.7E-02 |
| | Consensus244 | Erysipelotrichaceae | 1.57 | 3.5E-03 |
| | Consensus306 | Lactobacillus spp | 1.58 | 5.3E-04 |
| | Consensus89 | Oscillospira spp | 1.63 | 3.2E-02 |
| | Consensus59 | Clostridiaceae | 1.66 | 1.9E-02 |
| | Consensus95 | Oscillospira spp | 1.68 | 2.3E-02 |
| | Consensus112 | Enterococcus spp | 1.79 | 2.7E-03 |
| | Consensus83 | Lachnospiraceae | 1.92 | 8.6E-04 |
| | Consensus13 | Clostridium spp | 1.96 | 1.7E-02 |
| | Consensus104 | Staphylococcus spp | 2.04 | 2.1E-02 |
| | Consensus52 | Clostridiales | 2.33 | 9.7E-04 |
| | Consensus57 | Lactobacillus spp | 2.47 | 2.2E-02 |
| | Consensus54 | Streptococcus spp | 2.48 | 2.5E-06 |

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|---------------------------|-------------------|----------------------------|---------|---------|
| | Consensus17 | Clostridiales | 2.60 | 2.6E-05 |
| | Consensus44 | Lachnospiraceae | 2.63 | 1.5E-03 |
| | Consensus39 | Lachnospiraceae | 2.71 | 5.8E-03 |
| | Consensus40 | Ruminococcus gnavus | 2.72 | 4.0E-04 |
| | Consensus18 | Clostridium spp | 2.83 | 1.1E-02 |
| | Consensus47 | Coriobacteriaceae | 2.95 | 1.3E-04 |
| | Consensus31 | Clostridiaceae | 3.05 | 1.4E-03 |
| | Consensus35 | Clostridiales | 3.07 | 1.2E-04 |
| | Consensus4 | Clostridiales | 3.36 | 1.7E-06 |
| | Consensus10 | Allobaculum spp | 3.93 | 1.2E-04 |
| | Consensus8 | Allobaculum spp | 4.02 | 1.6E-04 |
| Control vs High Iron Diet | Consensus8 | Allobaculum spp | -3.01 | 4.0E-03 |
| | Consensus10 | Allobaculum spp | -2.93 | 3.4E-03 |
| | Consensus35 | Clostridiales | -2.54 | 1.2E-03 |
| | Consensus40 | Ruminococcus gnavus | -2.28 | 2.7E-03 |
| | Consensus52 | Clostridiales | -1.91 | 6.2E-03 |
| | Consensus83 | Lachnospiraceae | -1.74 | 2.5E-03 |
| | Consensus47 | Coriobacteriaceae | -1.66 | 2.7E-02 |
| | Consensus44 | Lachnospiraceae | -1.66 | 4.5E-02 |
| | Consensus4 | Clostridiales | -1.64 | 1.2E-02 |
| | Consensus17 | Clostridiales | -1.56 | 8.4E-03 |
| | Consensus54 | Streptococcus spp | -1.43 | 3.8E-03 |
| | Consensus168 | S24-7 | -1.22 | 2.9E-06 |
| | Consensus293 | Lachnospiraceae | -1.13 | 8.9E-03 |
| | Consensus244 | Erysipelotrichaceae | -1.08 | 4.3E-02 |
| | Consensus300 | Lactococcus spp | -1.03 | 1.2E-02 |
| | Consensus234 | Adlercreutzia spp | -0.83 | 2.9E-02 |
| | Consensus295 | Coriobacteriaceae | -0.73 | 1.6E-02 |
| | Consensus2 | Lactobacillus spp | -0.56 | 2.7E-02 |
| | Consensus7 | S24-7 | 0.97 | 2.1E-02 |
| | Consensus131 | Bacteroides spp | 0.99 | 1.7E-02 |
| | Consensus151 | Clostridium bif fermentans | 1.15 | 7.5E-03 |
| | Consensus32 | Clostridiaceae | 1.24 | 2.7E-02 |
| | Consensus24 | Bacteroidales | 1.42 | 3.1E-02 |
| | Consensus85 | Allobaculum spp | 1.50 | 7.4E-03 |
| | Consensus25 | Clostridiaceae | 1.55 | 8.8E-03 |
| | Consensus21 | Ruminococcus spp | 1.68 | 8.7E-03 |
| | Consensus230 | Clostridiaceae | 1.69 | 9.4E-05 |
| | Consensus15 | Peptostreptococcaceae | 1.70 | 1.2E-03 |
| | Consensus11 | Enterobacteriaceae | 1.95 | 7.0E-05 |
| | Consensus236 | Streptococcus spp | 2.00 | 7.8E-04 |
| Consensus6 | Allobaculum spp | 2.48 | 1.0E-03 | |
| Control vs Low Iron Diet | Consensus20 | Lachnospiraceae | -2.22 | 3.2E-02 |
| | Consensus9 | Akkermansia muciniphila | -2.15 | 4.3E-03 |
| | Consensus6 | Allobaculum spp | -1.96 | 9.7E-03 |
| | Consensus85 | Allobaculum spp | -1.81 | 1.4E-03 |
| | Consensus21 | Ruminococcus spp | -1.31 | 4.3E-02 |
| | Consensus293 | Lachnospiraceae | -1.21 | 6.0E-03 |
| Consensus2 | Lactobacillus spp | -0.70 | 7.0E-03 | |

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|--------------|--------------------------|------|---------|
| Consensus224 | Lactobacillus spp | 0.84 | 4.0E-02 |
| Consensus215 | Lachnospiraceae | 1.00 | 4.1E-02 |
| Consensus164 | Lachnospiraceae | 1.04 | 3.2E-02 |
| Consensus54 | Streptococcus spp | 1.06 | 3.7E-02 |
| Consensus131 | Bacteroides spp | 1.13 | 7.7E-03 |
| Consensus151 | Clostridium bifermentans | 1.24 | 5.0E-03 |
| Consensus306 | Lactobacillus spp | 1.33 | 3.6E-03 |
| Consensus230 | Clostridiaceae | 1.35 | 1.9E-03 |
| Consensus32 | Clostridiaceae | 1.35 | 1.8E-02 |
| Consensus25 | Clostridiaceae | 1.42 | 1.8E-02 |
| Consensus112 | Enterococcus spp | 1.49 | 1.3E-02 |
| Consensus229 | Clostridiaceae | 1.49 | 3.5E-02 |
| Consensus105 | Clostridiaceae | 1.56 | 9.4E-03 |
| Consensus186 | Proteiniclasticum spp | 1.60 | 7.1E-03 |
| Consensus236 | Streptococcus spp | 1.61 | 6.8E-03 |
| Consensus73 | Clostridium perfringens | 1.70 | 1.4E-02 |
| Consensus4 | Clostridiales | 1.72 | 9.2E-03 |
| Consensus59 | Clostridiaceae | 1.83 | 1.1E-02 |
| Consensus18 | Clostridium spp | 2.39 | 3.5E-02 |
| Consensus31 | Clostridiaceae | 2.47 | 9.5E-03 |