

**Table S6. Changes in relative fecal abundances of bacterial taxa in *I/I10*<sup>-/-</sup> mice**

This table lists OTUs that are significantly different in abundance (FDR-corrected  $p < 0.05$ ) in the fecal microbiota of *I/I10*<sup>-/-</sup> 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 log<sub>10</sub> 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	Consensus9	Akkermansia muciniphila	3.64	1.4E-05
	Consensus14	Blautia spp	3.58	3.5E-04
	Consensus30	Lachnospiraceae	3.48	3.9E-04
	Consensus55	Lachnospiraceae	3.00	1.3E-03
	Consensus65	Bacteroides ovatus	2.98	5.2E-04
	Consensus90	Clostridiales	2.92	6.4E-04
	Consensus34	Erysipelotrichaceae	2.91	1.8E-03
	Consensus61	Lachnospiraceae	2.86	3.3E-04
	Consensus72	Lachnospiraceae	2.82	4.7E-04
	Consensus48	Ruminococcaceae	2.79	2.4E-03
	Consensus94	Phascolarctobacterium spp	2.79	4.7E-04
	Consensus109	Coprococcus spp	2.77	1.2E-03
	Consensus79	Lachnospiraceae	2.76	3.2E-03
	Consensus74	Eubacterium dolichum	2.75	1.7E-04
	Consensus49	Bacteroides spp	2.74	3.3E-03
	Consensus99	Eubacterium dolichum	2.70	1.2E-04
	Consensus78	Coproacillus spp	2.67	4.6E-04
	Consensus80	Lachnospiraceae	2.61	6.8E-03
	Consensus124	Parabacteroides spp	2.58	1.4E-03
	Consensus51	Bacteroides uniformis	2.55	1.4E-03
	Consensus125	Bacteroides spp	2.55	1.1E-03
	Consensus194	Clostridiales	2.55	4.1E-03
	Consensus165	Clostridiales	2.54	2.7E-02
	Consensus169	Ruminococcaceae	2.50	2.8E-03
	Consensus187	Lachnospiraceae	2.48	2.6E-02
	Consensus146	Lachnospiraceae	2.46	7.3E-04
	Consensus160	Ruminococcaceae	2.45	1.4E-03
	Consensus82	Bacteroides fragilis	2.45	8.3E-04
	Consensus144	Acholeplasma spp	2.44	3.2E-04
	Consensus116	Fusobacterium spp	2.43	1.5E-03
	Consensus156	Erysipelotrichaceae	2.42	7.0E-04
	Consensus158	Lachnospiraceae	2.40	1.4E-03
	Consensus221	Ruminococcaceae	2.35	2.3E-03
	Consensus178	Sutterella spp	2.33	8.4E-04
	Consensus143	Bacteroides spp	2.28	1.2E-03
	Consensus184	Barnesiellaceae	2.26	1.0E-03
	Consensus223	Lachnospiraceae	2.26	1.5E-04
	Consensus201	Lachnospiraceae	2.24	7.1E-03

Consensus33	Bacteroides spp	2.24	1.3E-02
Consensus200	Lachnospiraceae	2.21	7.3E-04
Consensus203	Bacteroides ovatus	2.20	9.6E-04
Consensus96	Blautia spp	2.15	2.5E-03
Consensus233	Bacteroides spp	2.13	8.3E-04
Consensus304	Lachnospiraceae	2.13	2.5E-02
Consensus315	Lachnospiraceae	2.11	2.4E-02
Consensus210	Bacteroides spp	2.08	8.3E-04
Consensus176	Lachnospiraceae	2.04	4.8E-04
Consensus285	Dorea spp	2.04	6.1E-03
Consensus177	Erysipelotrichaceae	2.00	1.6E-02
Consensus115	Bacteroides spp	1.98	4.6E-03
Consensus281	Ruminococcaceae	1.98	3.1E-04
Consensus126	Clostridiales	1.97	9.0E-04
Consensus198	Lachnospiraceae	1.97	3.7E-03
Consensus166	Blautia spp	1.96	9.9E-04
Consensus247	Eggerthella lenta	1.93	2.0E-03
Consensus41	Lachnospiraceae	1.92	2.0E-03
Consensus235	Paraprevotellaceae	1.91	8.4E-04
Consensus365	Ruminococcaceae	1.89	2.8E-03
Consensus379	Erysipelotrichaceae	1.89	1.1E-02
Consensus312	Lachnospiraceae	1.88	1.4E-03
Consensus322	Ruminococcus gnavus	1.87	2.2E-03
Consensus100	Lachnospiraceae	1.87	1.5E-03
Consensus296	Blautia spp	1.85	1.3E-03
Consensus339	Ruminococcaceae	1.80	1.5E-03
Consensus361	Lachnospiraceae	1.79	1.8E-03
Consensus325	Coprococcus spp	1.75	2.0E-03
Consensus337	Lachnospiraceae	1.74	2.0E-04
Consensus387	Ruminococcaceae	1.73	1.3E-02
Consensus415	Lachnospiraceae	1.71	2.0E-03
Consensus341	Ruminococcaceae	1.69	3.1E-03
Consensus397	Lachnospiraceae	1.66	1.5E-03
Consensus291	Blautia producta	1.64	2.6E-02
Consensus334	Lachnospiraceae	1.62	1.2E-03
Consensus412	Blautia spp	1.61	3.4E-03
Consensus344	Barnesiellaceae	1.56	1.5E-03
Consensus441	Lachnospiraceae	1.55	4.8E-03
Consensus287	Ruminococcaceae	1.54	2.2E-02
Consensus399	Blautia spp	1.53	3.5E-03
Consensus420	Bacteroides spp	1.50	2.7E-03
Consensus378	Ruminococcus gnavus	1.45	7.7E-03
Consensus101	Oscillospira spp	1.45	3.2E-02
Consensus218	Dorea spp	1.38	2.1E-03
Consensus424	Lachnospiraceae	1.37	2.0E-03
Consensus349	Ruminococcus spp	1.26	2.7E-02
Consensus278	Enterococcus spp	-1.06	4.1E-02
Consensus66	Clostridiaceae	-1.38	4.6E-02
Consensus263	Peptostreptococcaceae	-1.58	2.1E-02
Consensus18	Clostridium spp	-1.64	9.2E-03
Consensus17	Clostridiales	-1.81	1.9E-03
Consensus12	Bacteroides spp	-1.82	2.5E-03

	Consensus105	Clostridiaceae	-1.93	2.9E-03
	Consensus52	Clostridiales	-1.96	1.2E-02
	Consensus186	Proteiniclasticum spp	-2.02	5.6E-03
	Consensus69	S24-7	-2.07	9.9E-03
	Consensus39	Lachnospiraceae	-2.13	1.8E-03
	Consensus42	Erysipelotrichaceae	-2.16	3.6E-02
	Consensus25	Clostridiaceae	-2.16	4.7E-03
	Consensus32	Clostridiaceae	-2.28	6.2E-04
	Consensus7	S24-7	-2.29	6.4E-03
	Consensus4	Clostridiales	-2.40	2.0E-04
	Consensus15	Peptostreptococcaceae	-2.44	5.9E-05
	Consensus26	Erysipelotrichaceae	-2.46	5.2E-03
	Consensus2	Lactobacillus spp	-2.50	1.7E-03
	Consensus224	Lactobacillus spp	-2.52	2.1E-05
	Consensus36	Clostridiaceae	-2.57	5.8E-03
	Consensus27	S24-7	-2.68	5.8E-03
	Consensus73	Clostridium perfringens	-2.71	1.3E-04
	Consensus10	Allobaculum	-2.72	4.4E-02
	Consensus5	Lactobacillales	-2.73	7.1E-04
	Consensus13	Clostridium spp	-2.88	2.7E-02
	Consensus47	Coriobacteriaceae	-3.00	1.6E-06
	Consensus3	Clostridium perfringens	-3.29	1.5E-05
	Consensus31	Clostridiaceae	-3.32	2.8E-04
Control vs High Iron Diet	Consensus246	Bifidobacterium longum	2.21	1.0E-05
	Consensus102	Lachnospiraceae	2.14	3.2E-02
	Consensus100	Lachnospiraceae	1.89	9.3E-04
	Consensus196	Collinsella spp	1.75	4.6E-03
	Consensus218	Dorea spp	1.62	4.4E-04
	Consensus96	Blautia spp	1.43	2.5E-02
	Consensus126	Clostridiales	1.41	6.6E-03
	Consensus115	Bacteroides spp	1.30	4.0E-02
	Consensus166	Blautia spp	1.28	1.3E-02
	Consensus235	Paraprevotellaceae	0.99	4.0E-02
	Consensus285	Dorea spp	-1.36	5.0E-02
	Consensus28	Anaerotruncus spp	-2.01	5.2E-03
Control vs Low Iron Diet	Consensus30	Lachnospiraceae	4.10	6.9E-05
	Consensus14	Blautia spp	4.08	7.9E-05
	Consensus48	Ruminococcaceae	3.94	1.2E-04
	Consensus61	Lachnospiraceae	3.81	2.3E-05
	Consensus100	Lachnospiraceae	3.75	4.7E-06
	Consensus72	Lachnospiraceae	3.75	3.7E-05
	Consensus65	Bacteroides ovatus	3.75	5.6E-05
	Consensus34	Erysipelotrichaceae	3.71	2.0E-04
	Consensus51	Bacteroides uniformis	3.71	5.1E-05
	Consensus33	Bacteroides spp	3.70	3.1E-04
	Consensus74	Eubacterium dolichum	3.68	1.3E-05
	Consensus94	Phascolarctobacterium spp	3.62	4.1E-05
	Consensus96	Blautia spp	3.58	3.7E-05
	Consensus80	Lachnospiraceae	3.56	5.5E-04
	Consensus99	Eubacterium dolichum	3.55	1.0E-05
	Consensus49	Bacteroides spp	3.54	3.4E-04
	Consensus82	Bacteroides fragilis	3.51	3.7E-05

Consensus78	Coprobacillus spp	3.48	4.1E-05
Consensus79	Lachnospiraceae	3.44	4.6E-04
Consensus126	Clostridiales	3.38	1.0E-05
Consensus146	Lachnospiraceae	3.38	4.1E-05
Consensus125	Bacteroides spp	3.31	9.4E-05
Consensus156	Erysipelotrichaceae	3.31	4.1E-05
Consensus115	Bacteroides spp	3.28	6.9E-05
Consensus143	Bacteroides spp	3.27	4.9E-05
Consensus116	Fusobacterium	3.27	1.0E-04
Consensus158	Lachnospiraceae	3.25	8.5E-05
Consensus166	Blautia spp	3.25	1.4E-05
Consensus144	Acholeplasma spp	3.25	2.3E-05
Consensus55	Lachnospiraceae	3.22	5.3E-04
Consensus90	Clostridiales	3.21	2.0E-04
Consensus160	Ruminococcaceae	3.18	1.2E-04
Consensus109	Coprococcus spp	3.12	3.2E-04
Consensus178	Sutterella spp	3.10	5.9E-05
Consensus200	Lachnospiraceae	3.05	4.1E-05
Consensus184	Barnesiellaceae	3.03	6.7E-05
Consensus218	Dorea spp	3.00	3.9E-06
Consensus124	Parabacteroides spp	2.97	3.3E-04
Consensus210	Bacteroides spp	2.95	3.8E-05
Consensus187	Lachnospiraceae	2.92	8.7E-03
Consensus223	Lachnospiraceae	2.90	1.5E-05
Consensus235	Paraprevotellaceae	2.89	2.2E-05
Consensus102	Lachnospiraceae	2.89	3.6E-03
Consensus9	Akkermansia muciniphila	2.89	4.9E-05
Consensus176	Lachnospiraceae	2.87	2.2E-05
Consensus37	Lachnospiraceae	2.84	2.0E-03
Consensus203	Bacteroides ovatus	2.84	8.5E-05
Consensus41	Lachnospiraceae	2.83	6.8E-05
Consensus196	Collinsella spp	2.80	1.4E-04
Consensus233	Bacteroides spp	2.72	7.8E-05
Consensus108	Blautia producta	2.71	2.5E-03
Consensus177	Erysipelotrichaceae	2.63	1.7E-03
Consensus198	Lachnospiraceae	2.62	3.2E-04
Consensus145	Blautia spp	2.60	1.4E-03
Consensus246	Bifidobacterium longum	2.59	3.3E-06
Consensus140	Lachnospiraceae	2.56	1.8E-03
Consensus247	Eggerthella lenta	2.45	2.3E-04
Consensus281	Ruminococcaceae	2.43	4.1E-05
Consensus296	Blautia spp	2.38	1.2E-04
Consensus344	Barnesiellaceae	2.36	4.3E-05
Consensus337	Lachnospiraceae	2.36	1.4E-05
Consensus221	Ruminococcaceae	2.34	1.7E-03
Consensus334	Lachnospiraceae	2.32	4.9E-05
Consensus287	Ruminococcaceae	2.21	1.5E-03
Consensus169	Ruminococcaceae	2.19	5.0E-03
Consensus312	Lachnospiraceae	2.19	3.0E-04
Consensus325	Coprococcus spp	2.18	2.6E-04
Consensus424	Lachnospiraceae	2.15	4.5E-05
Consensus349	Ruminococcus spp	2.11	6.0E-04

Consensus339	Ruminococcaceae	2.05	3.8E-04
Consensus361	Lachnospiraceae	2.01	5.0E-04
Consensus399	Blautia spp	2.00	3.4E-04
Consensus397	Lachnospiraceae	1.99	2.7E-04
Consensus341	Ruminococcaceae	1.96	7.7E-04
Consensus420	Bacteroides spp	1.93	2.9E-04
Consensus378	Ruminococcus gnavus	1.90	8.0E-04
Consensus322	Ruminococcus gnavus	1.87	1.6E-03
Consensus412	Blautia spp	1.81	1.1E-03
Consensus415	Lachnospiraceae	1.80	9.6E-04
Consensus101	Oscillospira spp	1.69	9.8E-03
Consensus365	Ruminococcaceae	1.66	4.8E-03
Consensus354	Clostridiales	1.63	1.1E-02
Consensus387	Ruminococcaceae	1.62	1.4E-02
Consensus441	Lachnospiraceae	1.57	3.0E-03
Consensus131	Bacteroides spp	-1.29	1.4E-02
Consensus230	Clostridiaceae	-1.33	4.0E-03
Consensus66	Clostridiaceae	-1.37	4.4E-02
Consensus75	S24-7	-1.40	4.0E-02
Consensus159	Coriobacteriaceae	-1.47	1.0E-02
Consensus171	Lactobacillus spp	-1.50	1.3E-02
Consensus278	Enterococcus spp	-1.56	2.9E-03
Consensus263	Peptostreptococcaceae	-1.56	1.9E-02
Consensus17	Clostridiales	-1.76	1.9E-03
Consensus105	Clostridiaceae	-1.94	2.0E-03
Consensus26	Erysipelotrichaceae	-2.01	1.5E-02
Consensus52	Clostridiales	-2.02	7.2E-03
Consensus11	Enterobacteriaceae	-2.15	2.5E-03
Consensus39	Lachnospiraceae	-2.17	1.3E-03
Consensus4	Clostridiales	-2.18	3.1E-04
Consensus186	Proteiniclasticum spp	-2.19	2.7E-03
Consensus111	Proteiniclasticum spp	-2.25	2.9E-02
Consensus12	Bacteroides spp	-2.25	3.5E-04
Consensus69	S24-7	-2.34	3.0E-03
Consensus54	Streptococcus spp	-2.44	3.2E-02
Consensus224	Lactobacillus spp	-2.48	1.8E-05
Consensus42	Enterobacteriaceae	-2.64	8.3E-03
Consensus7	S24-7	-2.69	1.4E-03
Consensus73	Clostridium perfringens	-2.73	8.0E-05
Consensus32	Clostridiaceae	-2.75	8.7E-05
Consensus15	Peptostreptococcaceae	-2.76	1.7E-05
Consensus27	S24-7	-2.78	3.1E-03
Consensus25	Clostridiaceae	-2.82	4.7E-04
Consensus36	Clostridiaceae	-2.83	2.0E-03
Consensus31	Clostridiaceae	-2.85	7.7E-04
Consensus10	Allobaculum	-3.01	2.5E-02
Consensus47	Coriobacteriaceae	-3.02	1.1E-06
Consensus8	Allobaculum	-3.06	4.5E-02
Consensus2	Lactobacillus spp	-3.16	2.0E-04
Consensus3	Clostridium perfringens	-3.35	9.3E-06
Consensus5	Lactobacillales	-3.44	7.4E-05
Consensus13	Clostridium spp	-3.65	4.7E-03