Electronic Supplementary Material (ESI) for Food & Function.

Table S1. Average number of reads and operational taxonomic units (OTUs) of 16S rDNA

Samples*	No. of reads (standard deviation)	No. of screened reads (standard deviation)	No. of OTUs (standard deviation)
CTL	42,992 (7,535)	35,421 (6,467)	282 (23)
HFD	48,882 (4,504)	38,212 (4,037)	188 (40)
HFL	53,485 (32,975)	43,857 (28,670)	154 (44)

Notes: (*) Samples were named by sampling time (D0: Day 0, W1-6: Week 1-6), treatment (CTL: Normal diet, HFD: High-fat diet, HFL: HFD + Laminarin). 'A' and 'B' denote different cage.

Table S2. Number of differentially abundant OTUs and their read abundance during laminarin ingestion detected by comparing HFD and HFL using Metastats

Genera	HFD		HFL	
	No. of OTUs	No. of reads	No. of OTUs	No. of reads
Bacteroides	0	0	4	22558
unclassified	154	31403	60	12797
Clostridium_XlVa	0	0	2	1865
Lactobacillus	1	3	1	1775
Parabacteroides	0	0	1	1782
Clostridium_XVIII	0	0	1	2314
Asaccharobacter	0	0	1	181
Proteus	0	0	1	89
Enterococcus	0	0	1	103
Allobaculum	0	0	1	64
Eubacterium	0	0	1	106
Blautia	0	0	1	46
Staphylococcus	0	0	1	26
Acinetobacter	0	0	1	13
Streptococcus	0	0	1	17
Johnsonella	0	0	1	13
Legionella	0	0	1	5
Exiguobacterium	0	0	1	2
Hydrogenophaga	1	2	0	0
Arcobacter	1	2	0	0
Emticicia	1	2	0	0
Clostridium_XlVb	3	374	0	0
Gemella	1	5	0	0
Oscillibacter	5	871	0	0
Butyricicoccus	1	25	0	0
Turicibacter	1	20	0	0
Clostridium_IV	1	34	0	0
Dorea	1	59	0	0
Pseudoflavonifractor	1	50	0	0
Enterorhabdus	1	132	0	0
Barnesiella	1	183	0	0
Lactococcus	1	1366	0	0
Alistipes	1	266	0	0
Bifidobacterium	1	717	0	0
Mucispirillum	1	417	0	0
Odoribacter	1	451	0	0
Clostridium_XI	1	2234	0	0
Total	180	38616	81	43756

Table S3. Number of differentially abundant OTUs and their read abundance after termination of laminarin ingestion detected by comparing HFD and HFL using Metastats

Genera	HFD		HFL	
	Number of OTUs	No. of reads	Number of OTUs	No. of reads
Parabacteroides	0	0	1	684
unclassified	11	3653	8	1099
Pseudoflavonifractor	0	0	1	57
Eubacterium	0	0	1	28
Blautia	0	0	1	7
Streptococcus	0	0	1	5
Oscillibacter	1	36	0	0
Clostridium_sensu_stricto	1	117	0	0
Barnesiella	1	273	0	0
Alistipes	1	281	0	0
Total	15	4360	13	1880