

Supplemental file

Barley leaf ameliorates *Citrobacter rodentium*-induced colitis through arginine enrichment

Yu Feng, Daotong Li, Chen Ma, Xiaosong Hu, Fang Chen*

This file includes:

Figure S1. PLS-DA analysis of mouse colon tissue metabolites in different modes;

Figure S2. Effect of arginine intervention on gut microbiota at the phylum level;

Figure S3. Effect of arginine intervention on the genus level of gut microbiota;

Figure S4. Pathways predicted by gut microbiota function to KEGG Level 3 levels;

Table S1. The macronutrient composition of chow diet;

Table S2. Disease activity index;

Table S3. Histopathological scores.

Table S4. Primer sequences

Correspondence: College of Food Science and Nutritional Engineering, National Engineering Research Center for Fruit and Vegetable Processing, Key Laboratory of Fruit and Vegetables Processing Ministry of Agriculture, Engineering Research Centre for Engineering Vegetables Processing, Ministry of Education, China Agricultural University, Beijing 100083, China;

E-mail: chenfangch@sina.com; **Tel/Fax:** +86-10-62737654 ext 18.

Figure S1

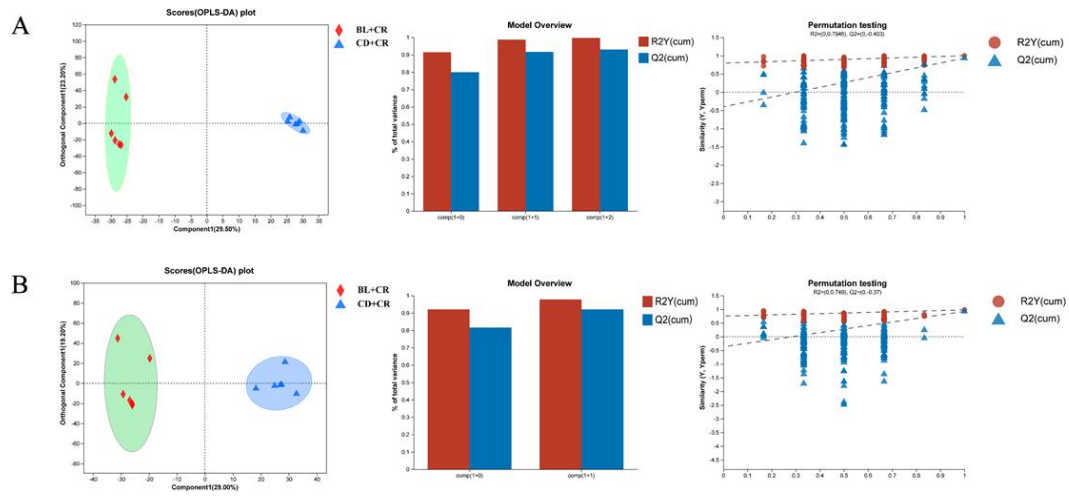


Figure S1. PLS-DA analysis of mouse colon tissue metabolites in different modes. (A: PLS-DA score plot and permutation test in negative ion mode; **B:** PLS-DA score plot and permutation test in positive ion mode)

Figure S2

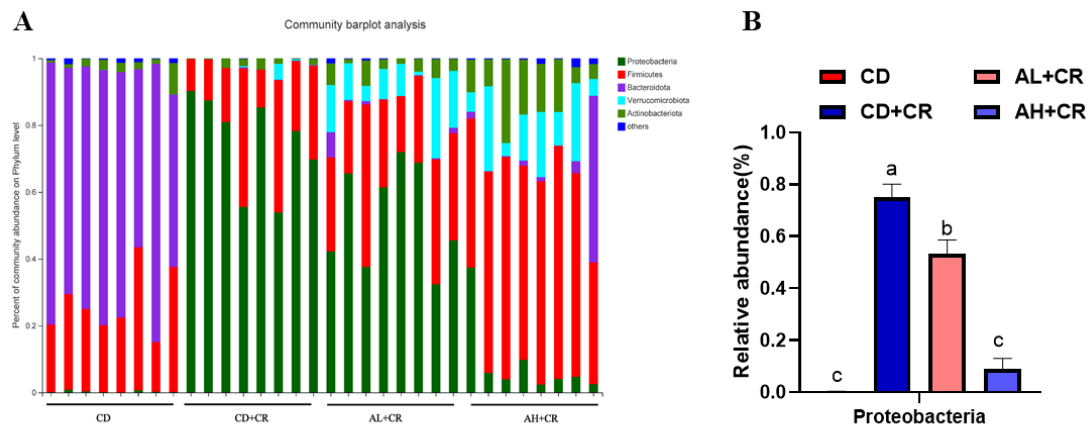


Figure S2. Effect of arginine intervention on gut microbiota at the gate level (A: Bar graph of community composition at the gate level; B: Relative content of Proteobacteria) All values are the mean \pm SEM, $n = 8$ if not specified. a, b, c means in the same bar without a common letter differ at $P < 0.05$.

Figure S3

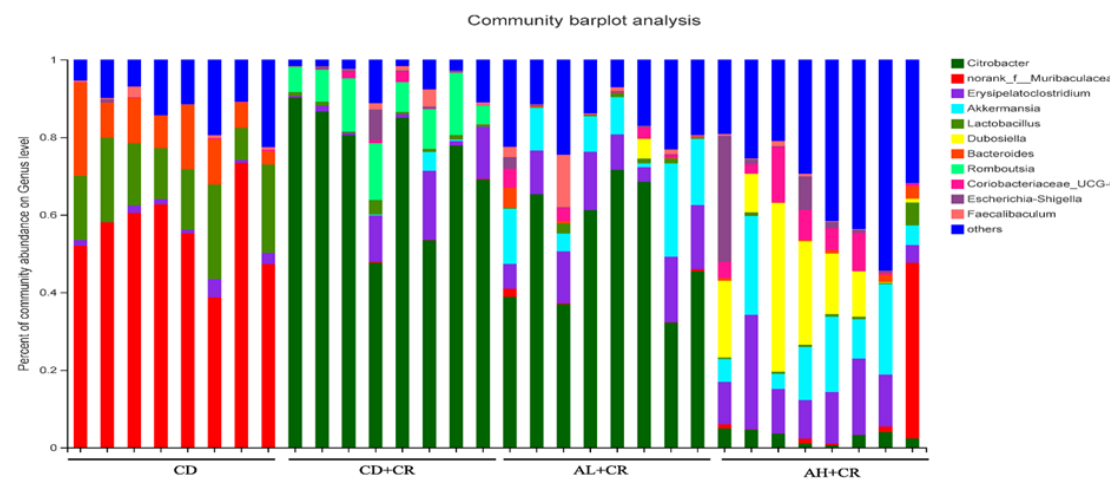


Figure S3. Effect of arginine intervention on the genus level of gut microbiota. Each bar represents the taxonomic composition and relative abundance of an individual mouse at the genus level.

Figure S4

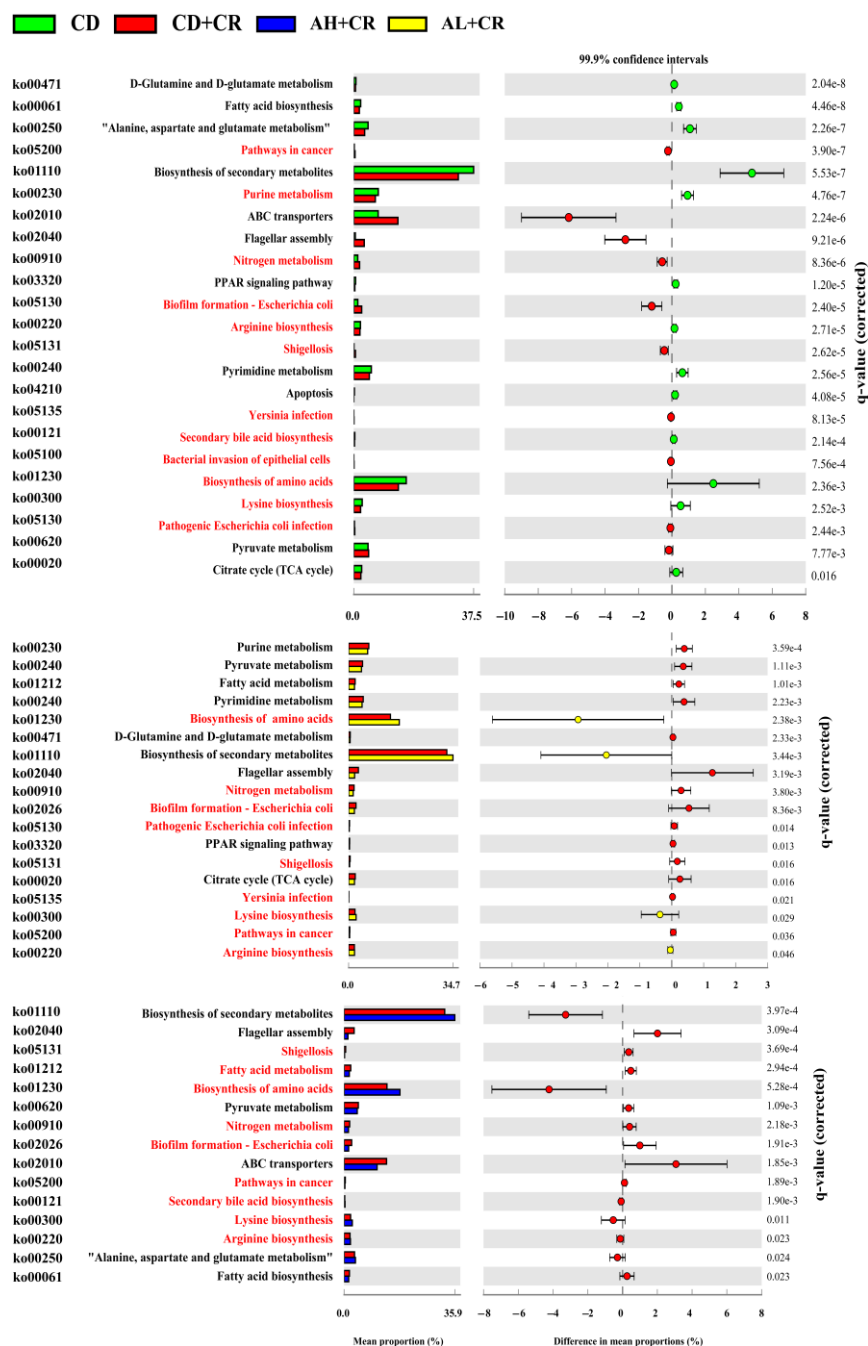


Figure S4. Pathways predicted by gut microbiota function to KEGG Level 3 levels.

Table S1

Table S1. The macronutrient composition of chow diet

Ingredients (g/kg of diet)	Chow Diet
Casein	189.58
L-Cysteine	2.84
Corn Starch	298.59
Maltodextrin	33.18
Sucrose	331.77
Cellulose	47.40
Soybean oil	23.70
Lard	18.96
Mineral Mix M1002	9.48
DiCalcium Phosphate	12.32
Calcium Carbonate	5.21
Potassium Citrate	15.64
Vitamin mix V10001	9.48
Choline Bitartrate	1.90
Total	1000

Table S2

Table S2. Disease activity index scores

Score	Weight loss (%)	stool consistency	general health
0	0	Normal	Normal
1	1-5		Mild
2	6-10	Loose	Moderate
3	11-15		Severe
4	>16	Diarrhea	Moribund

Table S3

Table S3. Histopathological scores

Score	Inflammation	Epithelial hyperplasia	Erosion and ulceration	Extent of lesion
0	absent	None	None	0
1	minimal in mucosa	mild	rare erosions	<10
2	mild affecting mucosa and sub-mucosa	mild with minimum goblet cell loss	some erosions	10-25
3	moderate affecting mucosa, sub-mucosa, and sometimes transmural	moderate with mild goblet cell loss	multiple erosions and ulcerations with cryptitis and crypt abscesses	25-50
4	severe: often transmural	marked with moderate to marked goblet cell loss	ulcers associated with necrosis and fibrosis	>50

Table S4

Table S4. Primer sequences

Gene	Primer sequence
<i>rpoA</i> -F	ATTCGTCGTGCGGCTACCATTC
<i>rpoA</i> -R	GAGCGGACAGTCAATTCCAGATCG
<i>Tir</i> -F	CTTCAGGAATGGGAGATGGA
<i>Tir</i> -R	CAACCGCCTGAACAATACCT
<i>EspA</i> -F	AGTGATCTTGCGGCTGAGTT
<i>EspA</i> -R	ATCCACCGTCGTTGTCAAAT
<i>Map</i> -F	AGCGGTTGAAAGCGTGATAC
<i>Map</i> -R	CTTTACCGCACTGCTCATCA