

## Supplementary Materials

Table 1 Information of strains.

Strain	Infant age (days)	Feeding mode	Mode of delivery	Gender of infant
D8	29	Mixed feeding	C-Section	Female
E7	12	Breastfed	Vaginal	Male
F2	94	Mixed feeding	C-Section	Male
I2	19	Breastfed	C-Section	Female
K10	91	Breastfed	Vaginal	Male
K15	91	Breastfed	Vaginal	Male
N2	12	Breastfed	Vaginal	Male
N8	12	Breastfed	Vaginal	Female

Table 2 Evaluation standard of disease activity index (DAI)

Score	Weight loss (%)	Stool consistency	Bleeding
-------	-----------------	-------------------	----------

0	0	Normal	Negative
1	1-5	Loose stool in form	Hemocult positive
2	6-10	Loose stool	Fecal blood
3	>10	Diarrhea	Gross bleeding

Table 3 Primer sequences for receptor and cytokines by RT- PCR.

Gene	Primer sequence (5'→3')
------	-------------------------

---

Receptor	
TLR4	F: CATCATTGGTGTGTCGGTCCTCAG R: AGCCAGCAAGAAGCATCAGGTG
Pro-inflammatory cytokine	
TNF- $\alpha$	F: TGGCGTGGAGCTGAGAGATAACC R: CGATGCGGCTGATGGTGTGG
IL-1 $\beta$	F: CTCCACCTCCAGGGACAGGATATG R: TCATCTTTCAACACGCAGGACAGG
IL-6	F: GACAGCCACTCACCTCTTCAGAAC R: GCCTCTTTGCTGCTTTCACACATG
Tight junction	
ZO-1	F: AACTGGGCTCTTGGCTTGCTATTC R: TCCAGAAGTCAGCACGGTCTCC
Occludin	F: AACTTCGCCTGTGGATGACTTCAG R: GACCTTCCTGCTCTTCCCTTTGC
Claudin-1	F: GCTGTGGATGTCCTGCGTGTC R: GAGGATGCCAACCACCATCAAGG
Housekeeping gene	
GAPDH	F: AACGGATTTGGTCGTATTG R: : GCTCCTGGAAGATGGTGAT

---

Table 4 General genomic information of *B. dentium* strains

Attribute	Value	
	<i>B. dentium</i> N8	<i>B. dentium</i> E7
Genome size (bp)	2,535,489	2,552,511
DNA G+C (%)	58.52	59.08
Plasmid	0	0
Gene number	2131	2122
rRNA genes	9	9
tRNA genes	57	58
tmRNA genes	1	1
GIs number	4	9
Prophages	1	1
CRISPR arrays	4	5

Table 5 Encoding gene ID related to probiotic characteristics in the genome of *B. dentium* N8 and E7.

Protein	Encoding gene ID	
	<i>B. dentium</i> N8	<i>B. dentium</i> E7
Sortase A	J7M35_00260, J7M35_00820, J7M35_01090, J7M35_01490, J7M35_08440, J7M35_09440	J7M36_00180, J7M36_00695, J7M36_00935, J7M36_01335, J7M36_02645, J7M36_05800,

---

	J7M35_10275	J7M36_08385, J7M36_09070
fimbrial	J7M35_00830	J7M36_00705
pilus assembly	J7M35_01170, J7M35_01175	J7M36_01015, J7M36_01020
Fibronectin	J7M35_07050, 7M35_07050	J7M36_09100
LPXTG-motif cell wall anchor domain protein	J7M35_02355, J7M35_10285	J7M36_08390
Na <sup>+</sup> /H <sup>+</sup> -antiporter	J7M35_06985	J7M36_03400, J7M36_00890
	J7M35_09205,	J7M36_08720,
	J7M35_09210,	J7M36_08725
	J7M35_09215,	J7M36_08730,
	J7M35_09215,	J7M36_08735,
F <sub>0</sub> F <sub>1</sub> -ATPase	J7M35_09220,	J7M36_08740,
	J7M35_09225,	J7M36_08745,
	J7M35_09230,	J7M36_08750,
	J7M35_09235,	J7M36_08755
	J7M35_09240	
Bile salt hydrolytic enzyme	J7M35_01605, J7M35_06030	J7M36_01450

---