

**Table S1** Primer sequences and annealing temperature

Target gene	Forward primer 5'-3'	Reverse primer 5'-3'	Product length	Accession number
EGF	ATCTCAGGAATGGGAGTCAACC	TCACTGGAGGATGGAATACAGC	165	NM_214020.1
GLP-2	ACTCACAGGGCACGTTTACCA	AGGTCCTTCAGCATGTCTCT	149	NM_005671883.1
GLP2R	GACCCTCTCTTGTGTCTTCGTA	AAGATGACGTCCTTCGCCAG	120	NM_001246266.1
IGF-1	CTGAGGAGGCTGGAGATGTACT	CCTGAACTCCCTCTACTTGTGTTC	137	NM_001097417.1
IGF-1R	TTCGCCAGATCCTAGGGGAG	TCCCAGCTTTGATGGTCAGG	120	NM_214172.1
SGLT-1	GCAACAGCAAAGAGGAGCGTAT	GCCACAAAACAGGTCATAGGTC	137	NM_001164021.1
GLUT-2	GACACGTTTTGGGTGTTCCG	GAGGCTAGCAGATGCCGTAG	149	NM_001097417.1
SLC7A1	TCTTTCAGGTCGTTTGGGA	GGCTGATCACCTGTTGGAGT	137	NM_001012613.1
DMT1	GCAGGTGGTTGACGTCTGTA	CACGCCCCCTTTGTAGATGT	100	NM_001128440.1
ZnT1	TGCTCTGCATGCTGTTACTGA	TGGAAGGAGTCCGAGAGCAT	97	NM_001139470.1
Occludin	CAGGTGCACCCTCCAGATTG	GGACTTTCAAGAGGCCTGGAT	110	NM_001163647.2
ZO-1	CTGAGGGAATTGGGCAGGAA	TCACCAAAGGACTCAGCAGG	105	XM_013993251.1
REG3 γ	GGCTTGGAACCAAATGCTGG	TAGCCAGGGTATGAGCTGGT	101	XM_005662419.1
MUC1	GTGCCGCTGCCCACAACCTG	AGCCGGGTACCCCAGACCCA	141	XM_001926883.5
MUC2	GGTCATGCTGGAGCTGGACAGT	TGCCTCCTCGGGGTCGTCAC	181	XM_013989745.1
β -actin	TCTGGCACACACCTTCT	TGATCTGGGTCATCTTCTCAC	114	DQ178122

EGF, epidermal growth factor. IGF-1, insulin-like growth factor-1. GLP-2, glucagon-like peptide-2. IGF-1R, insulin-like growth factor-1 receptor. GLP-2R, glucagon-like peptide-2 receptor. SGLT-1, sodium/glucose cotransporter 1. GLUT-2, glucose transporter type 2. SLC7A1, solute carrier family 7. ZNT1, zinc transporters-1. DMT1, divalent metal transporter-1. ZO-1, zonula occludens. MUC1, mucin 1. MUC2, mucin 2. REGIII γ , regeneration protein III γ . GPR41, G protein coupled receptor-41. GPR43, G protein coupled receptor-43.

Table S2 Primes and probes for real-time PCR analysis of bacteria.

Items	Primer/probe name and sequence(5'-3')	Product length/bp
<i>Escherichia coli</i>	DC-F,CATGCCGCGTGTATGAAGAA	96
	DC-R,CGGGTAACGTCAATGAGCAAA	
	DC-P,(FMA)AGGTATTAACCTTACTCCCTTCCTC(BHQ-1)	
<i>Lactobacillus</i>	RS-F,GAGGCAGCAGTAGGGAATCTTC	126
	RS-R,CAACAGTTACTCTGACACCCGTTCTTC	
	RS-P,(FMA)AAGAAGGGTTTCGGCTCGTAAACTCTGTT(BHQ-1)	
<i>Bifidobacterium</i>	SQ-F,CGCGTCCGGTGTGAAAG	121
	SQ-R,CTTCCCGATATCTACACATTCCA	
	SQ-P, (FMA) ATTCCACCGTTACACCGGGAA(BHQ-1)	
<i>Bacillus</i>	YB-F,GCAACGAGCGCAACCCTTGA	92
	YB-R,TCATCCCCACCTTCCTCCGGT	
	YB-P, (FMA)CGGTTTGTACCGGCAGTCACCT(BHQ-1)	
Total bacteria	Eub338F,ACTCCTACGGGAGGCAGCAG	200
	Eub518R,ATTACCGCGGCTGCTGG	