

Supplementary Table 1 Ingredient composition of the high fat diet

Ingredients	Contents (g/kg)
Casein supplemented with L-cystine	195
Starch	133
Sucrose	342
Butter	210
Cellulose	60
Mineral and vitamin mix	58
Cholesterol	1.5
Tert-butyl hydroquinone	0.042
Total	1000

Supplementary Table 2 Primers used for real-time PCR

Gene Name	Gene ID	Primer Sequence
Lbp	16803	F:5'-TATCCCGACATGAAATTGGAG-3' R:5'-AGGATCACAAAGCCTTCG-3'
TLR4	21898	F:5'-CTTGTCAATCAGCCAGATAGCAC-3' R:5'-CCCTGACTGGCACTAACCAC-3'
F4/80	13733	F:5'-CTTTGGCTATGGGCTTCCAGTC-3' R:5'-GCAAGGAGGACAGAGTTTATCGTG-3'
CD11b	16409	F:5'-GCCTCCTACCATCTAGTCA-3' R:5'-TGCCTTTTACCATTCTTGAGT-3'
CD11c	16411	F:5'-CTGGATAGCCTTTCTTCTGCTG-3' R:5'-GCACACTGTGTCCGAAGTC-3'
CD40	21939	F:5'-GGTACTGGCTAAATAAATCTGT-3' R:5'-ACAAAAGCCATCTTACCTG-3'
CD80	12519	F:5'-GACCGAATCTACTGGCAAA-3' R:5'-GTTCTTATACTCGGGCCACA-3'
CD86	12524	F:5'-GCACATAGTGTATCTATACGG-3' R:5'-CGGAATAGTCTATAGCCCTC-3'
CD163	93671	F:5'-CCTGGATCATCTGTGACAACA-3' R:5'-TCCACACGTCCAGAACAGTC-3'
H2-Aa	14960	F:5'-TCAAGCGACTGTGTTCCC-3' R:5'-GCTATTTCTGAGCCATGTGA-3'
H2-Ab1	14961	F:5'-AAGGCATTTTCGTGTACCAGT-3' R:5'-CACGTACTCCTCCCGGTG-3'
H2-Dma	14998	F:5'-CAAGCTTCTCCTCAGCGACT-3' R:5'-CCTTCCAGATCCATCACGTTT-3'
April	69583	F:5'-GTACTCACCCAGAAGCACAA-3' R:5'-CTGTCACGTCAGAGTCCTTG-3'
BAFF	24099	F:5'-ATGCACAGATTTACGCAAC-3' R:5'-TCAGATTCAACGGGTCACGA-3'
TGF- β	21803	F:5'-GACTCTCCACCTGCAAGACCA-3' R:5'-CGTTTCACCAGCTCCATGTGCG-3'
IL6	16193	F:5'-CCGGAGAGGAGACTTCACAG-3' R:5'-CAGAATTGCCATTGCACAAC-3'
IL-1 β	16176	F:5'-CAGGCAGGCAGTATCACTCA-3' R:5'-TGTCCTCATCCTGGAAGGTC-3'
TNF- α	21926	F:5'-ACGGCATGGATCTCAAAGAC-3' R:5'-GTGGGTGAGGAGCACGTAGT-3'
COX-2	19225	F:5'-TATGAGCACAGGATTTGACCAGTAT-3' R:5'-GGGCTTCAGCAGTAATTTGATTG-3'
MMP3	17392	F:5'-CCTTGGCTGAGTGGTAGAGTC-3' R:5'-TGAACGATGGACAGAGGATGT-3'
iNOS	18126	F:5'-CTTGGAGCGAGTTGTGGATTGTC-3' R:5'-TAGGTGAGGGCTTGGCTGAGTG-3'

β -Actin	11461	F:5'-GCTGAGAGGGGAAATCGTGCGT-3' R:5'-ACCGCTCGTTGCCAATAGTGA-3'
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Note, Lbp, lipopolysaccharide binding protein; TLR4, toll-like receptor 4; F4/80, EGF-like module-containing mucin-like hormone receptor-like 1; H2-Aa, histocompatibility 2, class II antigen A, alpha; H2-Ab1, histocompatibility 2, class II antigen A, beta 1; H2-Dma, histocompatibility 2, class II, locus DMA; April, a proliferation-inducing ligand; BAFF, B-cell activating factor; TGF- β , transforming growth factor beta; IL6, interleukin 6; IL-1 β , interleukin 1 beta; TNF- α , tumor necrosis factor alpha; COX-2, Cyclooxygenase-2; MMP3, matrix metalloproteinase 3; iNOS, inducible nitric oxide synthase.

Supplementary Table 3 Statistical tables of sequencing data for each sample

Category	Parameter	LF			HFW			HFWE		
		1	2	3	1	2	3	1	2	3
Raw Data Clean Data	Total Reads (M)	64.3	64.3	64.3	64.8	64.8	64.8	66.4	66.4	66.4
	Total Reads (M)	61.4	61.7	61.7	62.4	62.3	62.1	62.5	63.0	62.9
	Q20%	98.5	98.5	98.6	98.8	98.7	98.9	97.9	98.0	94.2
	Q30%	92.1	92.3	92.4	92.6	92.4	92.9	90	90.1	94.7
	Clean Read Ratio	95.5	95.9	96.0	96.2	96.2	95.8	95.7	96.1	96.5

Note, Q20%, the proportion of the number of bases with quality greater than 20 in the total number of bases in filtered reads; Q30%, the proportion of the number of bases with quality greater than 30 in the total number of bases in filtered reads.

Supplementary Table 4 Statistical table of sequence alignment between sample sequencing data and selected reference genome

Category	Parameter	LF			HFW			HFWE		
		1	2	3	1	2	3	1	2	3
Mapping to Genome	Total Clean Read(M)	61.4	61.7	61.7	62.4	62.3	62.1	62.5	63.0	62.9
	Total Mapping Genome Ratio(%)	96.2	96.4	96.3	96.5	96.2	96.0	96.0	96.2	96.1
	Uniquely Mapping Genome Ratio(%)	71.8	72.5	70.7	75.3	75.8	75.9	70.7	70.9	68.6