

Supplementary information**Additional file 1**

Table S1. Reagents used in the study

Reagent name	Catalog number	Company
Bufalin (purity $\geq 97\%$, HPLC)	B0261	Sigma-Aldrich
cardamonin	C8249	Sigma-Aldrich
JSH-23	J4455	Sigam-Aldrich
Clodronate liposomes		FormuMax Scientific Inc.
Anti-PD-1 antibody	J43	Bio X Cell
IgG isotype	BE0093	Bio X Cell
8-Gly card (NO inhibitor)	538773	Sigma-Aldrich
Lentivirus packaging murine p50 NF- κ B subunit- expressing CMV constructs		Shanghai Genechem Co. Ltd
Lentivirus packaging control vector		Shanghai Genechem Co. Ltd

Table S2. Anti-mouse surface marker antibodies used in the flow cytometry

Antibody name	Catalog number	Company
CD11b	69-0112-80	Invitrogen
F4/80	48-4801-82	Invitrogen
CD3	14-0032-82	Invitrogen
CD4	11-0041-82	Invitrogen
CD8	12-0081-82	Invitrogen

CD19	25-0193-82	Invitrogen
CD49	17-5971-82	Invitrogen
Foxp3	56-5773-82	Invitrogen
Gr-1	17-5931-82	Invitrogen
CD206	17-2061-82	Invitrogen
CD86	12-0862-82	Invitrogen
CD80	11-0801-82	Invitrogen
CD11c	48-0114-82	Invitrogen
MHC-II	11-5321-82	Invitrogen
CCR7	57-1971-82	Invitrogen
CD163	12-1631-82	Invitrogen
ARG-1	48-3697-82	Invitrogen

Table S3. Surface markers used for the identification of immune cells

Surface markers	Type of immune cell
CD11b ⁺ F4/80 ⁺	macrophage
CD3 ⁺ CD4 ⁺	CD4 ⁺ T cell
CD3 ⁺ CD8 ⁺	CD8 ⁺ T cell
CD3 ⁻ CD19 ⁺	B cell
CD3 ⁻ CD49 ⁺	NK cell
CD4 ⁺ Foxp3 ⁺	Tregs cell
CD11b ⁺ Gr-1 ⁺	MDSC cell

Table S4. Surface markers used for the identification of macrophage phenotype

Surface marker	Macrophage phenotype
CD86	M1
CD80	M1
CD11c	M1
MHC-II	M1
CCR7	M1

CD206	M2
CD163	M2
ARG-1	M2

Table S5. Primer sequences used in quantitative RT-PCR

gene name	primer sequence
<i>Arg1</i>	Forward: 5' GCTGGGAAGGAAGAAAAGGC 3' Reverse: 5' TGCCGTGTTACAGTACTCT 3'
<i>Mgl1</i>	Forward: 5' CAGGTTGTTGACTGGGTGG 3' Reverse: 5' CCTGCTCATGACATCACTGC 3'
<i>Fizz1</i>	Forward: 5' TCCAAGGGCTCTGACATCTG 3' Reverse: 5' TCTTAGGACAGTTGGCAGCA 3'
<i>Ym1</i>	Forward: 5' TGGAATTGGTGCCCCTACAA 3' Reverse: 5' CCACGGCACCTCCTAAATTG 3'
<i>Nos</i>	Forward: 5' AGAACTCTTCACTCTGCCCC 3' Reverse: 5' GGTCCCTCATGCCAATCTCT 3'
<i>Tnfa</i>	Forward: 5' TACGCCACAGAGAAGAAGCA 3' Reverse: 5' TTGACATGAATGCGACGGAC 3'
<i>Il12b</i>	Forward: 5' GACATGTGGAATGGCGTCTC 3' Reverse: 5' TTATTCTGCTGCCGTGCTTC 3'
<i>Ccr7</i>	Forward: 5' TGCTTAACCCCATCCCCTT 3' Reverse: 5' GAGGCCTCCGAAGACTACTC 3'
<i>Slc2a1</i>	Forward: 5' TTGTTGTAGAGCGAGCTGGA 3' Reverse: 5' CACAGCAATACGAGCAGGAC 3'
<i>Pfkm</i>	Forward: 5' TGAAGGGGTGAGGGAACATC 3' Reverse: 5' TGTCTTACATGCTGGTGGTT 3'
<i>Il10</i>	Forward: 5' CGCTGTCATCGATTTCTCCC 3' Reverse: 5' AGCTCTGTCTAGGTCCTGGA 3'
<i>Tgfb</i>	Forward: 5' AGTTTGCTCGCACCTTCAAG 3' Reverse: 5' CCAGGAGGGGCTTGAGTTTA 3'

<i>Cxcl10</i>	Forward: 5' GATGAAGAGGGAGGAGTGGG 3' Reverse: 5' GCTCTTGAGCCTCATTCACG 3'
<i>Tbx21</i>	Forward: 5' TCCGGGAGAACTTTGAGTCC 3' Reverse: 5' TGGAAGGTCGGGGTAGAAAC 3'
<i>Ifng</i>	Forward: 5' TTCTTCAGCAACAGCAAGGC 3' Reverse: 5' ACTCCTTTTCCGCTTCCTGA 3'
<i>Nfkb1</i>	Forward: 5' TAGAATTGCCCTACCCAGC 3' Reverse: 5' AGGAGCAGGACATGGGATT 3'
<i>Cxcr3</i>	Forward: 5' GGGGTCTCTGTCTGCTCTTT 3' Reverse: 5' CCTCATAGCTCGAAAACGCC 3'
<i>Ccr5</i>	Forward: 5' CTCAACCTGGCCATCTCTGA 3' Reverse: 5' CCCCAAAGTTGACCGTTCTG 3'
<i>Cxcr6</i>	Forward: 5' GAAGATGCTTGCAGACCTCG 3' Reverse: 5' ATACGGCCACATATCCTGCA 3'
<i>Ccl5</i>	Forward: 5' TGCCAACCCAGAGAAGAAGT 3' Reverse: 5' AGATGCCCATTTTCCCAGGA 3'
<i>Il2</i>	Forward: 5' TTGTGCTCCTTGTC AACAGC 3' Reverse: 5' CTGGGGAGTTTCAGGTTCT 3'
<i>Icos</i>	Forward: 5' GCGGTGTCCATCAAGAATCC 3' Reverse: 5' TACCACAACGAAAGCTGCAC 3'
<i>Gzmb</i>	Forward: 5' AGAACAGGAGAAGACCCAGC 3' Reverse: 5' GCTTCACATTGACATTGCGC 3'

Table S6. Antibodies used in the immunofluorescence

Antibody	Catalog number	Company
CD206	PA5-101657	Invitrogen
CD86	PA5-88284	Invitrogen
CD3	MA1-7630	Invitrogen
p65 NF-κB	51-0500	Invitrogen
p50 NF-κB	51-3500	Invitrogen

Table S7. Antibodies used in the immunoblotting

Antibody	Catalog number	Company
T-bet	ab91103	Abcam
ICOS	ab138354	Abcam
granzyme B	ab255599	Abcam
MyD88	ab228543	Abcam
IRAK	ab238	Abcam
TRAR	ab33915	Abcam
SIGIRR	ab228977	Abcam
ST2	ab228543	Abcam
SOCS1	ab280886	Abcam
SHIP	ab45142	Abcam
p-I κ B α	ab133462	Abcam
I κ B α	ab7217	Abcam
p50 NF- κ B	ab32360	Abcam
p65 NF- κ B	ab32536	Abcam
Lamin	ab16048	Abcam
β -actin	ab6276	Abcam