Fig. S1

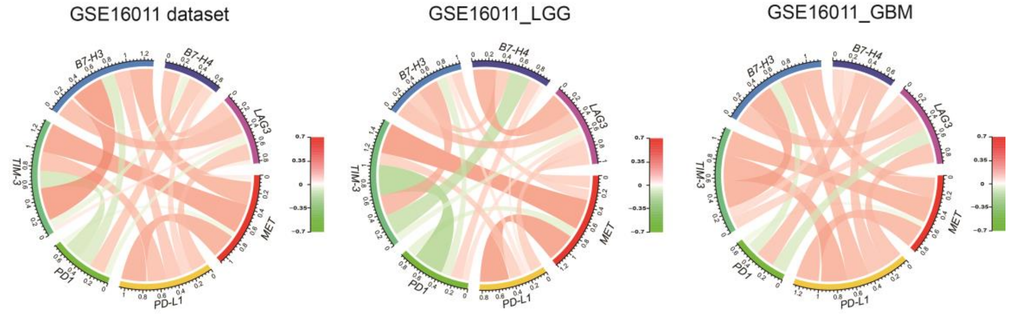


Fig. S1 *MET* expression shows positive association with expression of *PD-L1* in GSE16011 dataset.

Fig. S2

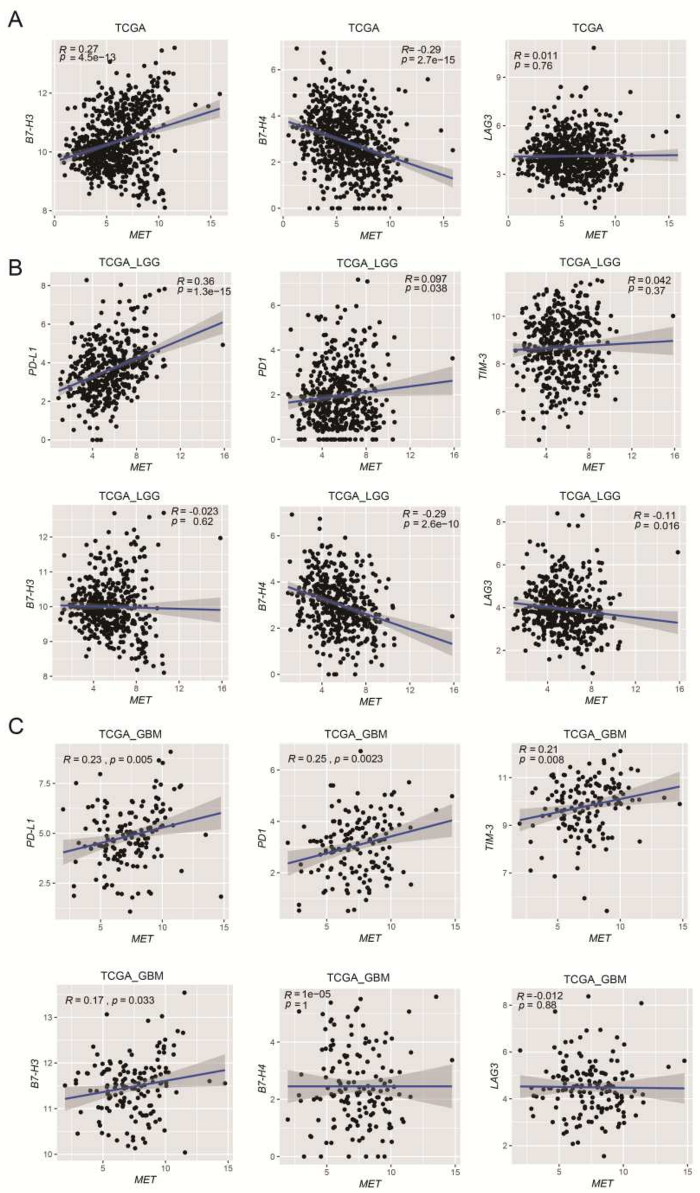
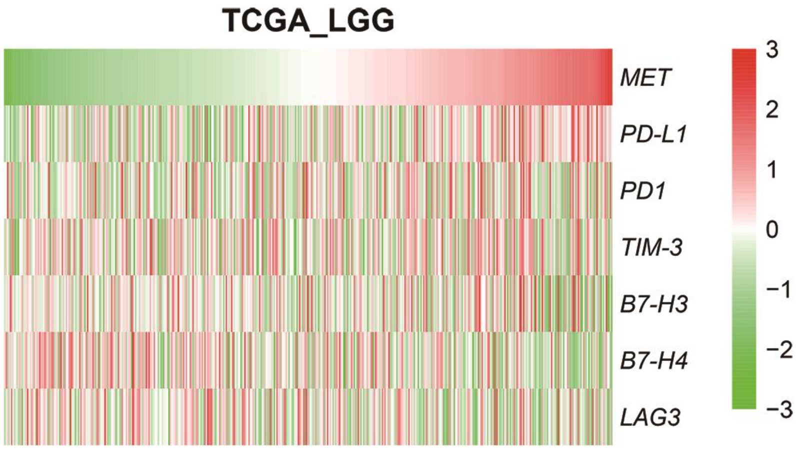


Fig. S2 The scatter diagrams visualize the co-expression patterns of *MET* and checkpoint genes in all grade gliomas (**A**), LGG (**B**) and GBM (**C**).

Fig. S3



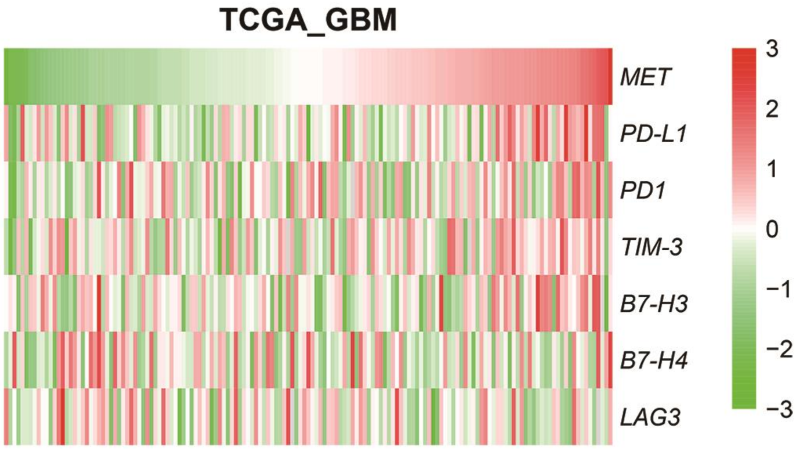


Fig. S3 With increase of *MET* expression, the expression of *PD-L1* increases gradually in LGG and GBM.

Fig. S4

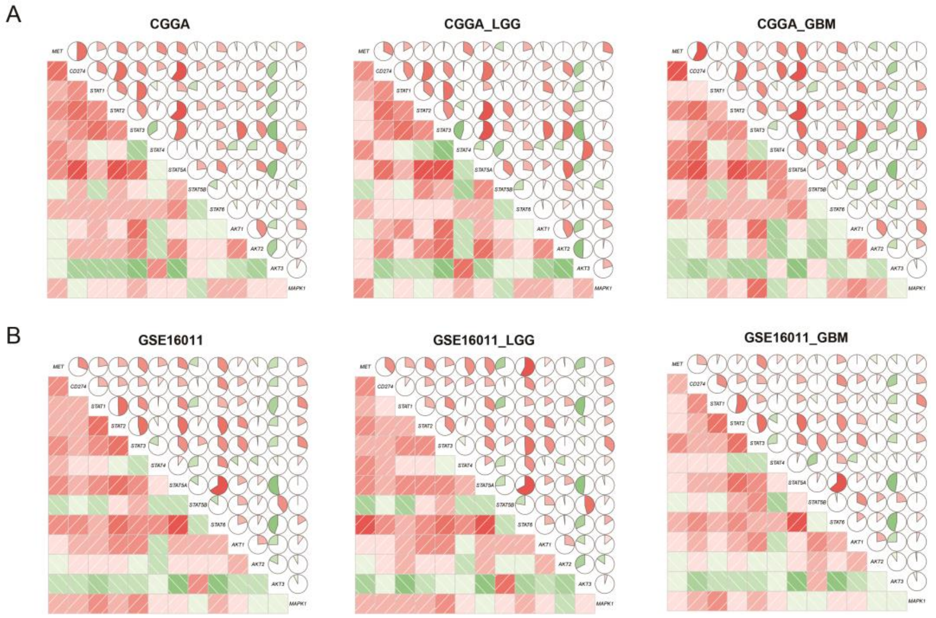


Fig. S4 *MET/PD-L1* expression shows robust correlation with STAT pathway. **A** CGGA dataset. **B** GSE16011 dataset.

Fig. S5

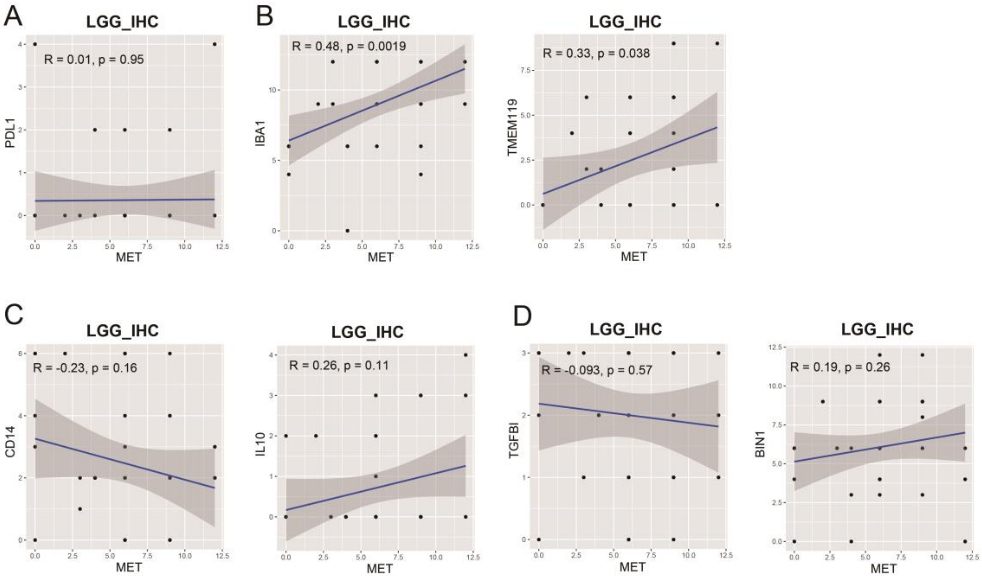


Fig. S5 Primary glioma tissue microarray verifies the association between MET and target protein in LGG. **A** PD-L1. **B** Macrophage-associated markers (IBA1 and TMEM119). **C** M2-like polarization markers (CD14 and IL-10). **D** Blood derived-like marker (TGFBI) and resident-like marker (BIN1).

Fig. S6

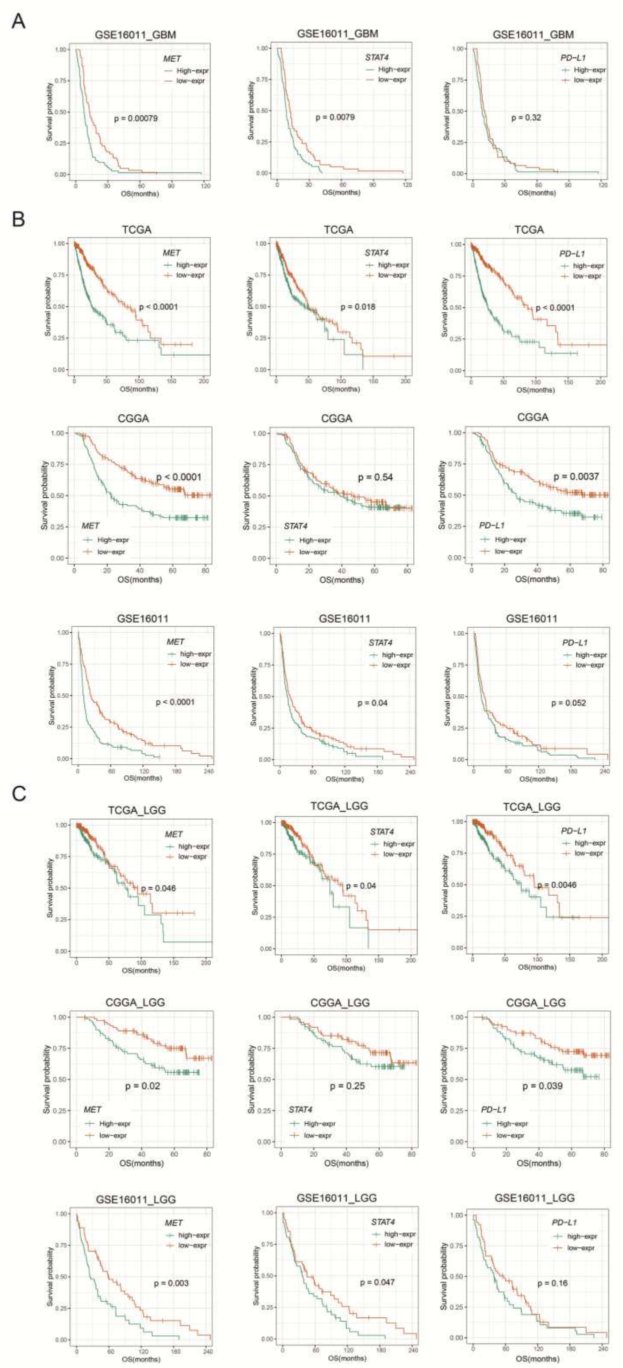


Fig. S6 Kaplan–Meier survival analysis of *MET*, *STAT4* and *PD-L1* in GBM patients of GSE16011 dataset (**A**), all grade glioma (**B**) and LGG **(C)**.

Fig. S7

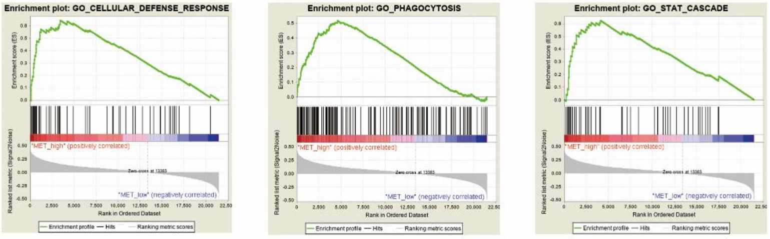


Fig. S7 Other immune-related GO terms show enrichment in *MET* high expression group.

Fig. S8

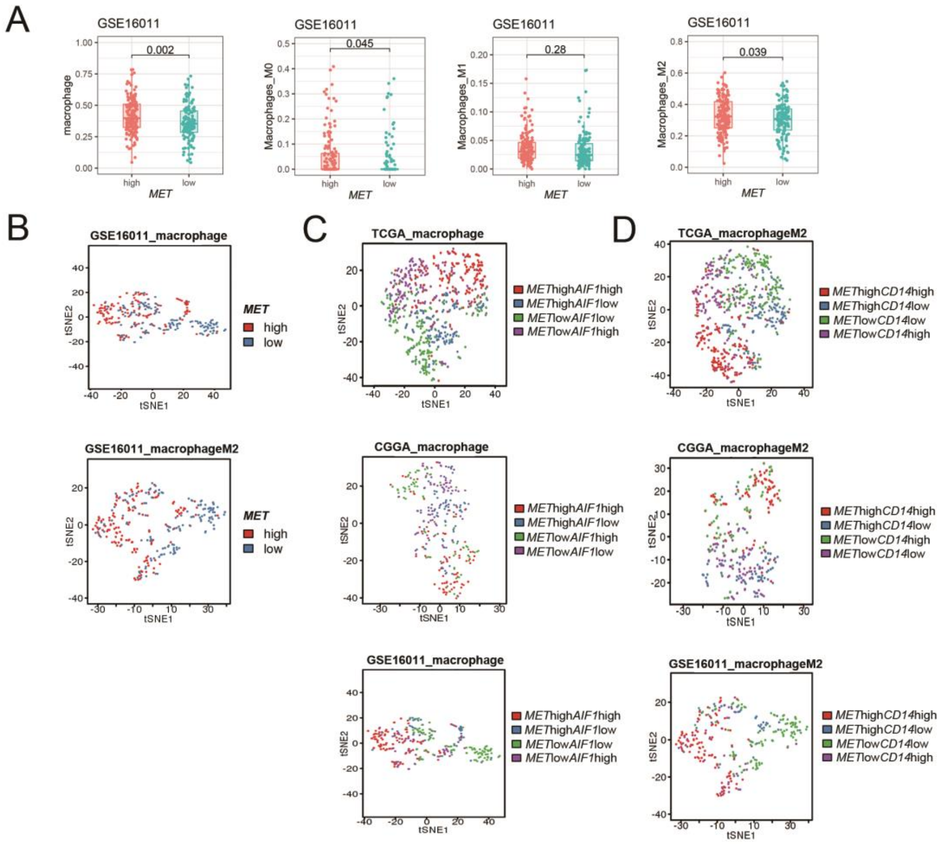


Fig. S8 A Determining macrophage abundance with digital cytometry in CIBERSORTx. The total fraction of macrophages and subtypes (M0, M1, M2) in *MET* high and low expression groups of GSE16011 dataset. **B** TSNE plots show macrophage and M2 macrophage expression difference between *MET* high and low groups of GSE16011 dataset. **C and D** High expression of *AIF1* or *CD14* in the *MET* high group.

Fig. S9

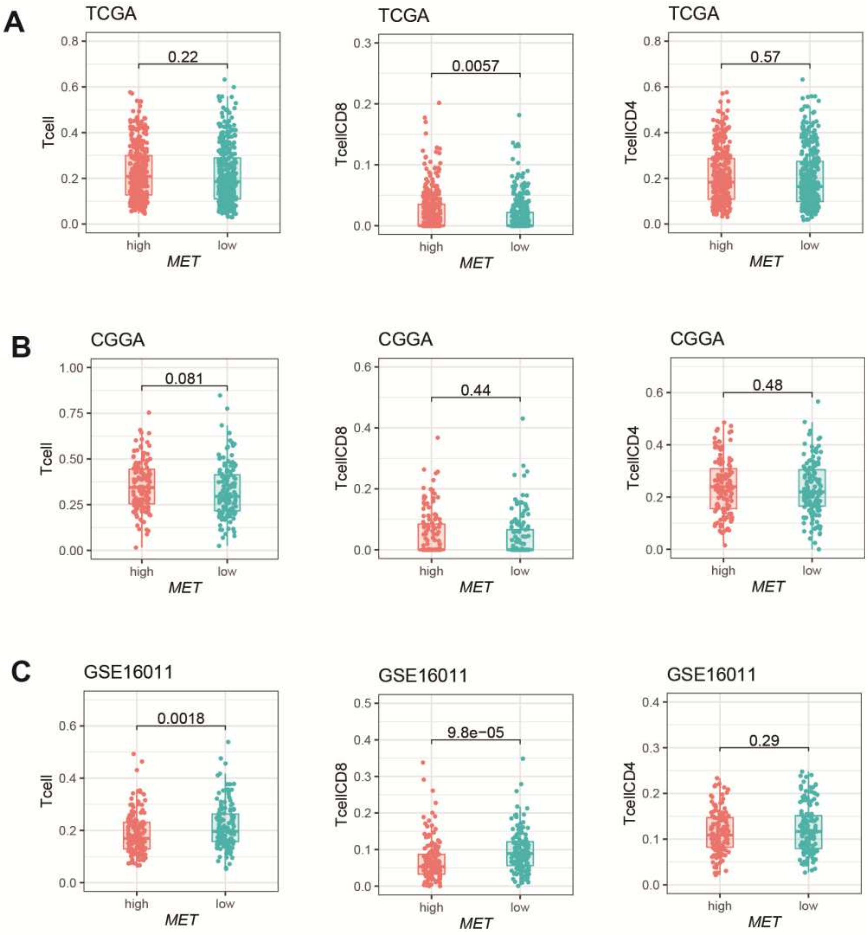


Fig. S9 Determining T cell abundance with digital cytometry in CIBERSORTx. The total fraction of T cells, CD8$^+$ T cells and CD4$^+$ T cells in *MET* high and low expression groups in TCGA (**A**), CGGA (**B**), and GSE16011 (**C**) dataset.

Fig. S10

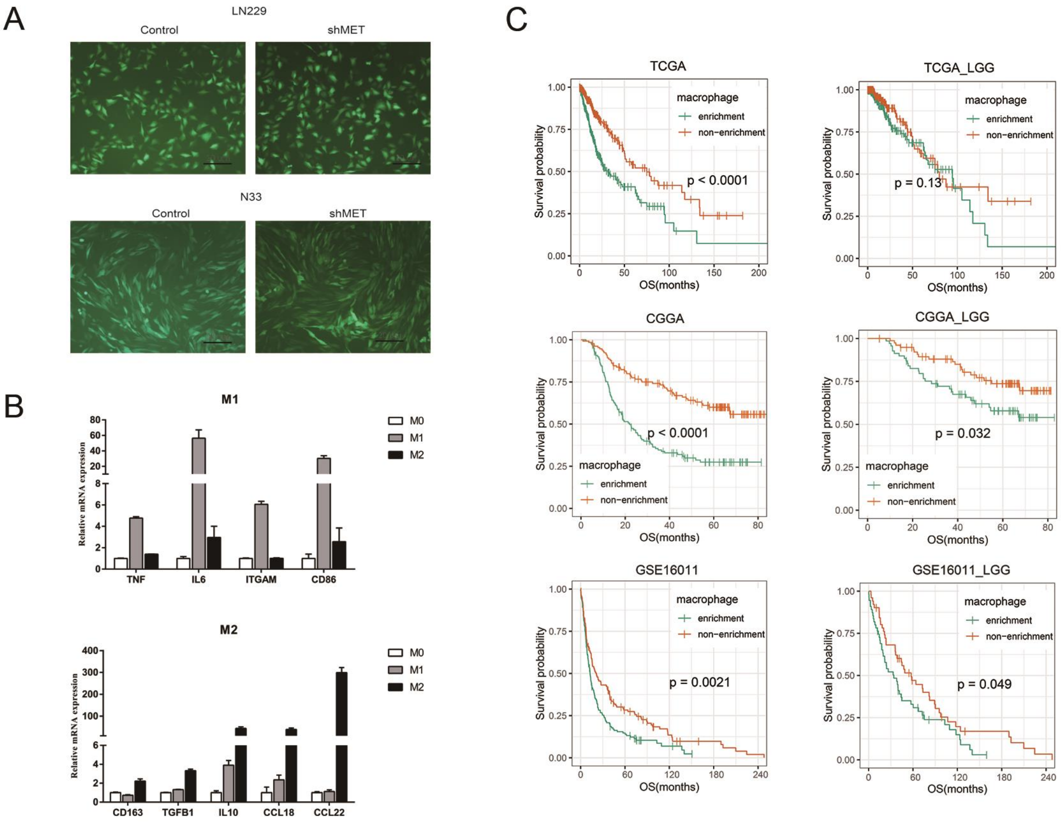


Fig. S10 A Fluorescent images of EGFP reporter protein in stably transfected cell lines. Scale bar, 20 µM. **B** Appearance of the M1- and M2-like phenotype demonstrated by quantitative real-time PCR. *TNF*, *IL6*, *ITGAM* and *CD86* are highly expressed in induced M1-like macrophages. *CD163*, *TGFB1*, *IL10*, *CCL18* and *CCL22* are highly expressed in induced M2-like macrophages. **C** Glioma patients of all grade or LGG with macrophage enrichment lived significantly shorter than other patients in the three datasets.

Table S1 Clinicopathological Characteristics of the patients

Variable		TCGA dataset	CGGA dataset	GSE16011 dataset
Patient number	Total	702	265	276
Age	<45	295	145	106
	⩾45	338	119	170
	NA	69	1	0
Gender	Male	366	159	184
	Female	267	106	92
	NA	69	0	0
Grade	II	222	117	24
	III	246	38	85
	IV	165	110	159
	NA	69	0	8
*IDH*1/2 status	Mutation	441	115	81
	Wild type	245	147	140
	NA	16	3	55
1p/19q status	Codeleted	172	41	46
	Intact	519	224	88
	NA	11	0	142
Histological subtype	Astrocytoma (II, III)	171	71	37
	Oligoastrocytoma (II, III)	117	56	28
	Oligodendroglioma (II, III)	180	28	52
	Glioblastoma (IV)	165	110	159
	NA	69	0	0

Table S2. List of antibodies.

Antibody	Dilution	Source	Identifier	Usage
MET	1: 1000	Cell Signaling	Cat# 8198	WB
pMET (Tyr1234/1235)	1: 1000	Cell Signaling	Cat# 3077	WB
PD-L1	1: 1000	Abcam	Cat# ab213524	WB
pSTAT4 (Tyr693)	1: 1000	Cell Signaling	Cat# 5267	WB
STAT4	1: 1000	Abcam	Cat# ab68156	WB
pSTAT3 (Tyr705)	1: 2000	Cell Signaling	Cat# 9145	WB
STAT3	1: 5000	Abcam	Cat# ab119352	WB
pSTAT6 (Tyr641)	1: 1000	Cell Signaling	Cat# 56554	WB
STAT6	1: 1000	Abcam	Cat# ab32520	WB
GAPDH	1: 5000	Proteintech	Cat# 60004-1-Ig	WB
MET	1: 1000	Abcam	Cat# ab216574	IHC
PD-L1	1: 1	ZSGB Bio	Cat# za-0629	IHC
IBA1	1: 2500	Abcam	Cat# ab178846	IHC
TMEM119	1: 1000	Proteintech	Cat# 27585-1-AP	IHC
IL10	1: 200	Proteintech	Cat# 60269-1-1g	IHC
CD14	1: 200	Proteintech	Cat# 17000-1-AP	IHC
TGFBI	1: 100	Abcam	Cat# ab170874	IHC
BIN1	1: 100	Abcam	Cat# ab182562	IHC
STAT4	1: 50	Cell Signaling	Cat# 2653	CHIP

WB, western blot; IHC, immunohistochemistry; CHIP, Chromatin immunoprecipitation.

Table S3. List of primers.

Number	Primer Name	Sequence(5'to 3')	Base Number
1	CD86-For	TGGAAACTGACAAGACGCGG	20
2	CD86-Rev	AAACACGCTGGGCTTCATCA	20
3	CCL18-For	CTGCTGCCTCGTCTATACCTC	21
4	CCL18-Rev	GGCATAGCAGATGGGACTCT	20
5	CCL22-For	ATGGATCGCCTACAGACTGC	20
6	CCL22-Rev	CGGCACAGATCTCCTTATCCC	21
7	TGFB1-For	AGCCTGAGGCCGACTACTAC	20
8	TGFB1-Rev	GGTTGCTGAGGTATCGCCAG	20
9	ITGAM-For	ATATCAGCACATCGGCCTGG	20
10	ITGAM-Rev	CTGGGCAAGGGGCACAC	17
11	IL10-For	GCCTTCAGCAGAGTGAAGACT	21
12	IL10-Rev	CCACGGCCTTGCTCTTGTTT	20
13	TNF-For	CTGCTGCACTTTGGAGTGAT	20
14	TNF-Rev	GGGAGTAGATGAGGTACAGGC	21
15	IL6-For	GGTACATCCTCGACGGCATC	20
16	IL6-Rev	GCTCTGGCTTGTTCCTCACT	20
17	GAPDH-For	GGTCACCAGGGCTGCTTTTA	20
18	GAPDH-Rev	TGATGACCCTTTTGGCTCCC	20
19	CD163-For	GCTGGGACAGTTACGATGCT	20
20	CD163-Rev	GGCTGCCTCCACCTCTAAGT	20