Table S1. Sequence of primers in this study

Gene	Forward (5' to 3')	Reverse (5' to 3')
SAMHD1	ACTGCCATCATCTTGGAATCCAA	GGGCAAACTTAATAAAGCGCTTGT
MAP2K6	GAAGCATTTGAACAACCTCAGAC	CCTGGCTATTTACTGTGGCTC
KLF4	CCAGAGGAGCCCAAGCCAAAG	ATCCACAGCCGTCCCAGTC
GAPDH	GGGAAGGTGAAGGTCGGAGT	GGGGTCATTGATGGCAACA
SAMHD1-151	CGGGGTACCCCGAAGGGCTCAACTGTC	CCCAAGCTTGGCTACACCTGGCGTCCG
SAMHD1-233	CGGGGTACCTGGCGGGATTGATTTGAG	CCCAAGCTTGGCTACACCTGGCGTCCG
SAMHD1-285	CGGGGTACCTGCCCTCAGTTCTGCTTC	CCCAAGCTTGGCTACACCTGGCGTCCG
SAMHD1-399	CGGGGTACCAGGTGCGGCGGGTAGTGTA	CCCAAGCTTGGCTACACCTGGCGTCCG
SAMHD1-553	CGGGGTACCACTGTGGAATGAAGACACCCTC	CCCAAGCTTGGCTACACCTGGCGTCCG
SAMHD1-667	CGGGGTACCTGGGAATGCAGTTGGGATG	CCCAAGCTTGGCTACACCTGGCGTCCG

SAMHD1-937	CGGGGTACCTAAGCTATTCCGCCTCAT	CCCAAGCTTGGCTACACCTGGCGTCCG
SAMHD1-1950	CGGGGTACCTGGAGTGCAACGGGAAGA	CCCAAGCTTGTTCTCGGGCTGTCATCG
SAMHD1-285 mutant	CTGCTTCTAGCCACGAAATTTCGCGTTCACGT	ACGTGAACGCGAAATTTCGTGGCTAGAAGCAG
SAMHD1-ChIP	GCTCTTTCCTCCCCCTTTCC	GCAGTCCAGTCGTCCTCAAA

Table S2. The information of primary antibodies in this study

Antibodies	Company	Cat.No	Concentration
Anti-SAMHD1	Proteintech	12586-1-AP	WB: 1:2000 IHC: 1:200
Anti-HA-tag	ABclonal	AE008	WB: 1:2000
Anti-MAP2K6	Proteintech	12745-1-AP	WB: 1:500
Anti-Phos-p38	Affinity	AF4001	WB: 1:500
Anti-p38	Affinity	AF6456	WB: 1:500
Anti-GAPDH	Affinity	AF7021	WB: 1:3000
Anti-KLF4	Proteintech	11880-1-AP	WB: 1:500 ChIP: 2 μg

Fig.S1

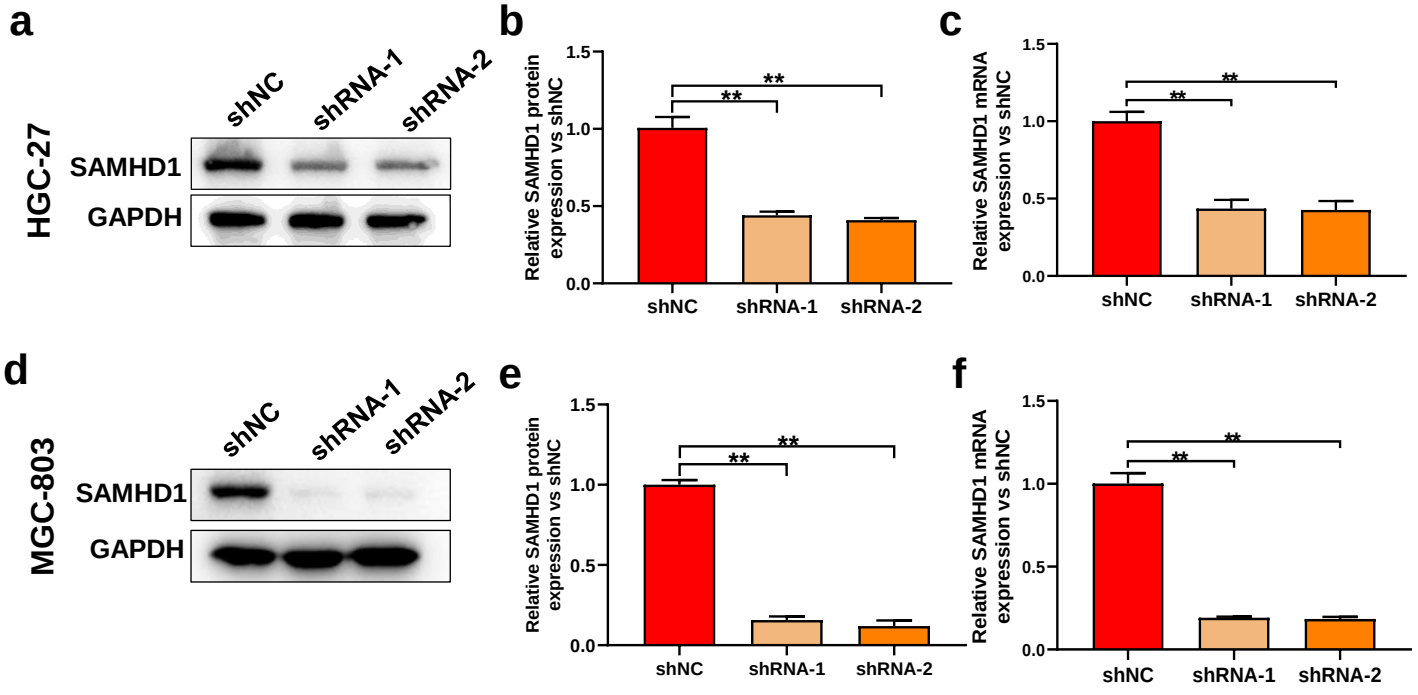

Fig.S1 Establishment of HGC-27 and MGC-803 cells with stable knockdown of SAMHD1. **(a, b)** Western blot was used to detect the expression levels of SAMHD1 protein in HGC-27 cells. **(c)** The expression levels of SAMHD1 mRNA in HGC-27 cells were detected using qRT-PCR. **(d, e)** Western blot was used to detect the expression levels of SAMHD1 protein in MGC-803 cells. **(f)** The expression levels of SAMHD1 mRNA in MGC-803 cells were detected using qRT-PCR.

Fig.S2

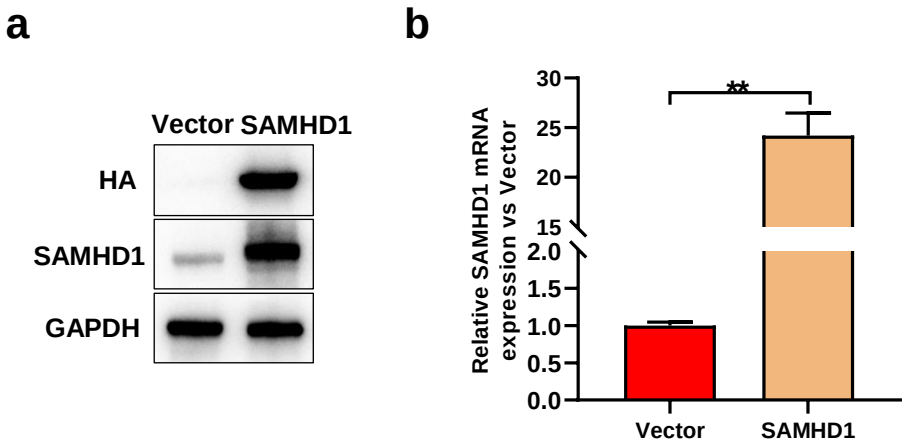

Fig.S2 Establishment of AGS cells with stable overexpression of SAMHD1. **(a)** Western blot was used to detect the expression levels of SAMHD1 protein in AGS cells. **(b)** The expression levels of SAMHD1 mRNA in AGS cells were detected using qRT-PCR.

Fig.S3

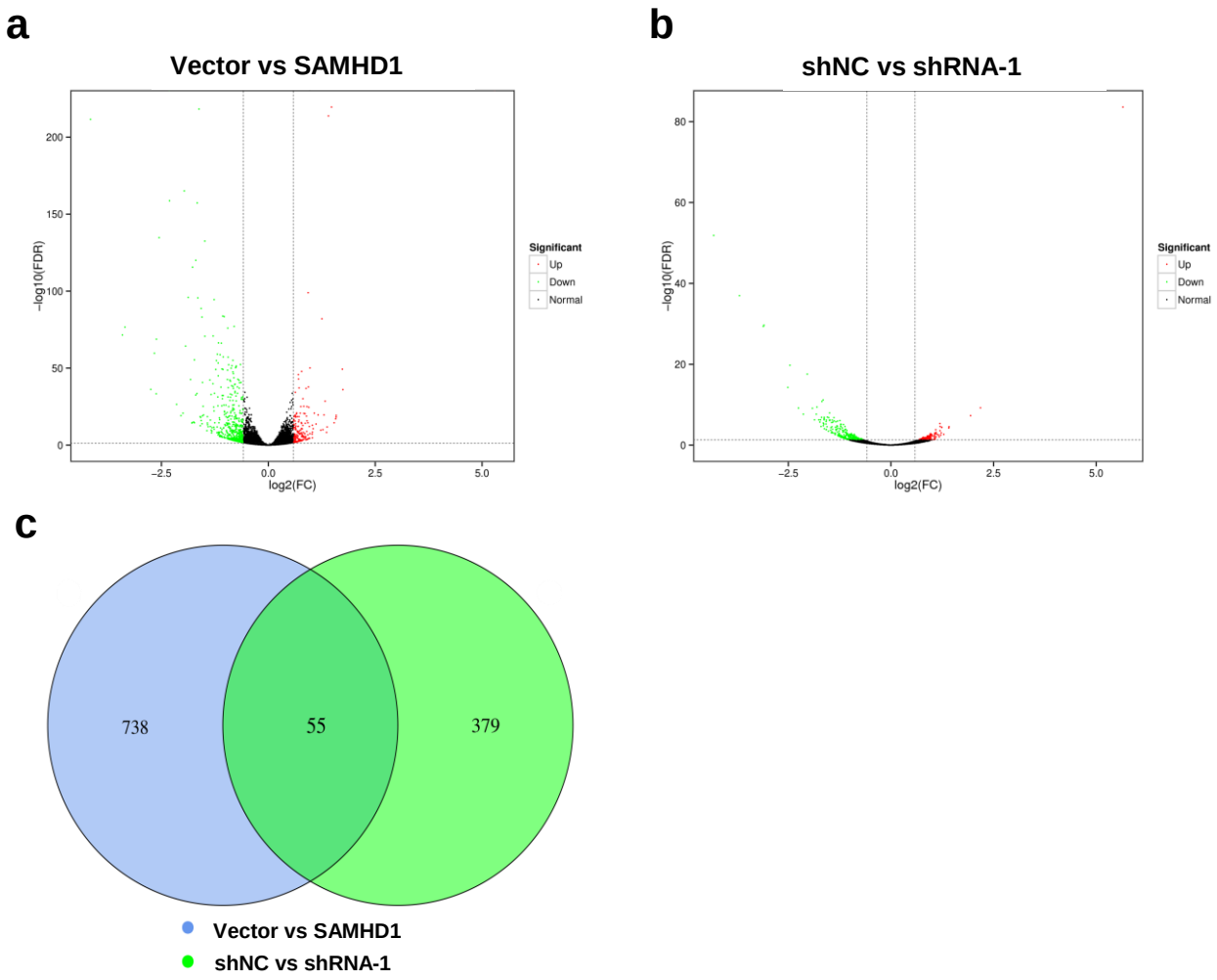

Fig.S3 Analysis of differentially expressed genes in AGS and HGC-27 cells. (a) The RNA seq was performed in AGS cells from SAMHD1 and Vector groups, and the Volcano plot is presented. **(b)** The RNA seq was performed in HGC-27 cells from shRNA-1 and shNC groups, and the Volcano plot is presented. **(c)** Venn diagram of differentially expressed genes in AGS and HGC-27 cells. Each set of mapping data was obtained from two independent RNA-seq.

Fig.S4

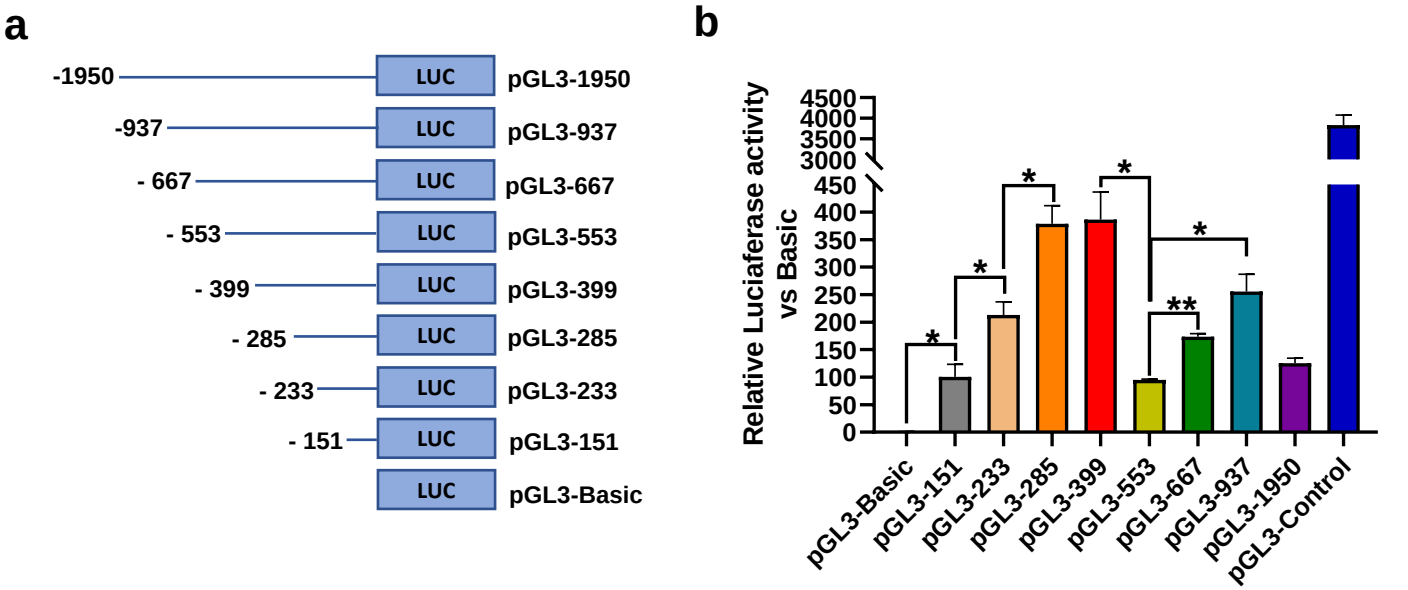

Fig.S4 Identification of core promoter of SAMHD1 gene. **(a)** Schematic diagram of pGL3 plasmids containing SAMHD1 promoter. **(b)** Double luciferase reporting assay was used to identify the core promoter of SAMHD1 gene.