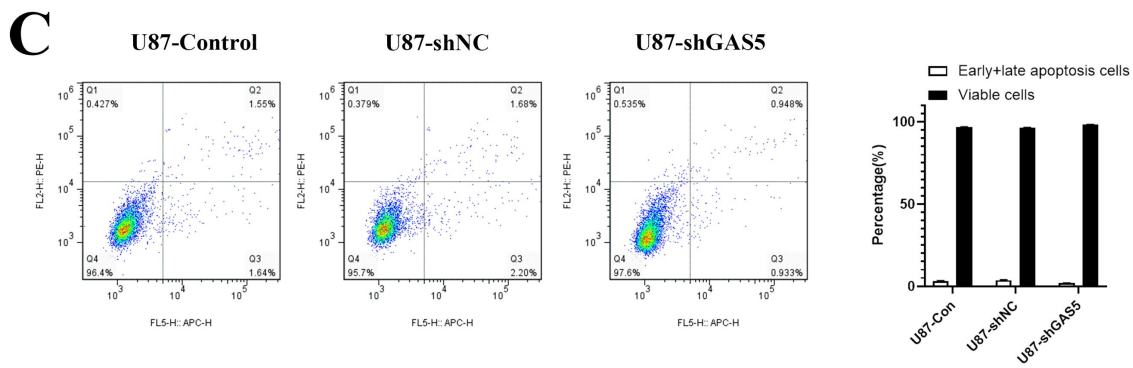
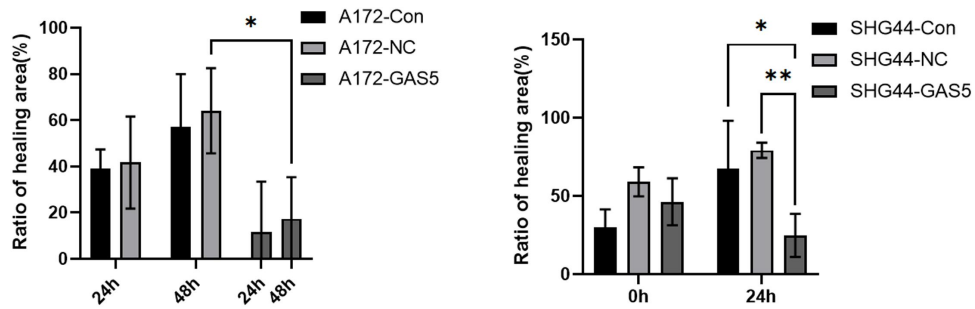
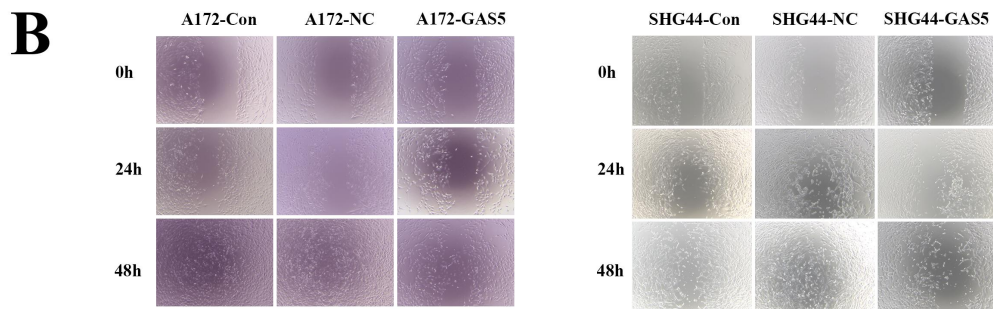
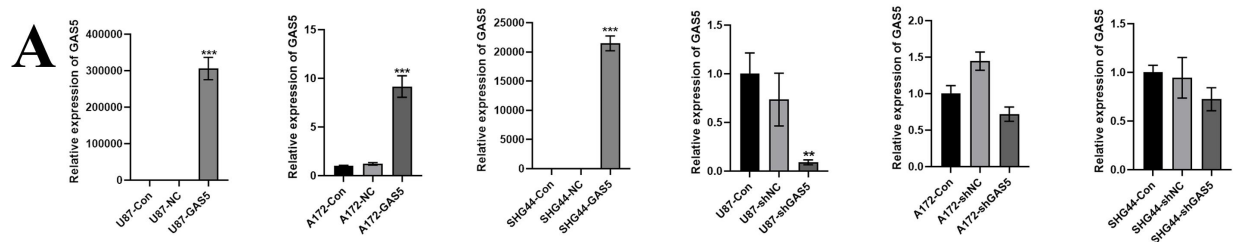
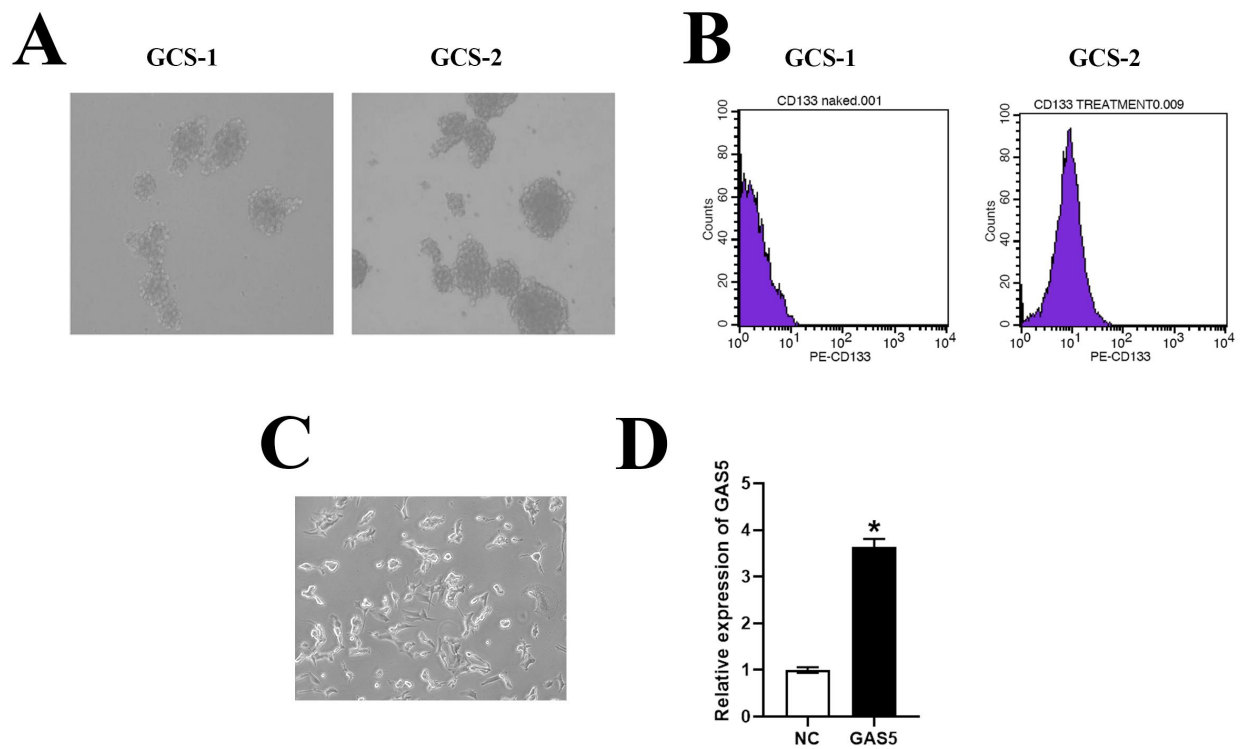


Supplementary Material



Supplementary Figure 1

- (A) We transfect U87, A172 and SHG44 cells with GAS5-overexpression lentivirus or **GAS5-shRNA lentivirus**. Transfection efficiency is verified by the measurement of GAS5 expression level by qRT-PCR using GAPDH as a reference gene (n=3).
- (B) Scratch test show the healing ability of A172 and SHG44 glioma cells (n=3). Representative images and the ratio of healing area are shown (n=3).
- (C) **Flow cytometric analysis of apoptosis in GAS5 knockdown and parental U87 cell lines (n=3).**

**Supplementary Figure 2**

- (A) The images of cells extracted from patients.
- (B) The ratio of cells single-labeled CD133 is assessed by flow cytometry in GSCs-1 and GSCs-2.
- (C) The GSCs are induced into differentiation.
- (D) We transfect GSCs with GAS5 lentivirus. Transfection efficiency is verified by the measurement of GAS5 expression level by qRT-PCR using GAPDH as a reference gene (n=3).

Supplementary Table 1: Sequences of primers used for qRT-PCR

Gene	Forward (5'-3')	Reverse (5'-3')
Inc-GAS5	CAACTTGCCTGGACCAGCTT	TCAAGCCGACTCTCCATACC
CD133	AGTGGCATCGTGCAAACCTG	CTCCGAATCCATTCGACGATAGTA
Hes1	TGGAAATGACAGTGAAGCACCTC	TCGTTCATGCACTCGCTGAAG
Notch1	TGGGTGCACTCTTGGCATACA	CACGCGGATTAATTTGCATCTG
SOX2	ACACCAATCCCATCCACACT	GCAAACCTTCCTGCAAAGCTC
Nanog	CAGATGCAAGAACTCTCCA	GTAGGAAGAGTAAAGGCTG
Oct4	GTGGAGAGCAACTCCGAT	TGCAGAGCTTTGATGTCCTG
ALCAM	ATTATCATACCTTGCCGACTTG	TGTATTCTGGTACATCGTCGTACTG
CDK6	GTGACCAGCAGCGGACAAATAA	AGCAAGACTTCGGGTGCTCTGTA
GABRB3	GCAGAACTGCACTCTGGAAATTGA	TCCACTCCGGTAACAGCCTTG
MARK3	GTAACACAGCATCTGGTGGAATGAC	TGATACTGTGTGTTGAAGCAACTGG
STX6	GAATGCACGCCAGAGCTGAA	AAGTTGTTGGCTACCAGACCCATC
RFWD3	CAGTGTAGGGCCAATGAGAACAA	TGGGTCCTGCTCACCTGAAAG
MYSM1	GGCAGAAGTGATTGGTCTGTTAGGA	GAGGCCTGTGTTTGTGATACAGGA
SPACA6	GGCGACCAGGCTATGTTTTTC	GGCATATCTCGGAAATAGGACAAG

GAPDH	GCACCGTCAAGGCTGAGAAC	TGGTGAAGACGCCGTGGA
miR-125a	TCCCTGAGACCCTTTAACCTGTGA	
let-7e	TGAGGTAGGAGGTTGTATAGTT	
miR-99	CACCCGTAGAACCGACCTTGCG	

Supplementary Table 2: Primary antibodies used in the present study

Antigens	Manufacturer	Catalogue numbers	Application
IL-6	Invitrogen	# M620	1µg/ml for WB
IL-6R	Invitrogen	# PA5-100836	1:1000 for WB.
STAT3	GeneTex	GTX104616	1:1000 for WB.
p-STAT3	GeneTex	GTX118000	1:1000 for WB.

Supplementary Table 3: Sequences of predicted and mutant binding sites used for luciferase reporter assay

Name	Sequence(5'-3')
miR-125a-IL6R-S	TCGAGAAGATGCTTCTCACTGCCATGCCAGCTTATCTCAGGGGTGTGCGGCC TTTGGGC
miR-125a-IL6R-AS	GGCCGCCCAAAGGCCGCACACCCCTGAGATAAGCTGGCATGGCAGTGAGA AGCATCTTC
let-7e-IL6R-S	TCGAGGATGGAGATCACATCTGTAAATAGAATACCTCAACTCTACGTTGTT TTCTTGC
let-7e-IL6R-AS	GGCCGCAAGAAAACAACGTAGAGTTGAGGTATTCTATTTAACAGATGTGAT CTCCATCC
let-7c-IL6-S	TCGAGCCAGATCATTTCTTGGAAGTGTAGGCTTACCTCAAATAAATGGCT

	AACTTAGC
let-7c-IL6-AS	GGCCGCTAAGTTAGCCATTTATTTGAGGTAAGCCTACACTTTCCAAGAAATG ATCTGGC
miR-125b-IL6R- Mut-S	TCGAGAAGATGCTTCTCACTGCCATGCCAGCTTATCACTGCGGTGTGCGGCC TTTGGGC
miR-125b-IL6R- Mut-AS	GGCCGCCCAAAGGCCGCACACCGCAGTGATAAGCTGGCATGGCAGTGAGA AGCATCTTC
let-7c-IL6R-Mut-S	TCGAGGATGGAGATCACATCTGTAAATAGAATTTCGTGAACTCTACGTTGTT TTCTTGC
let-7c-IL6R-Mut- AS	GGCCGCAAGAAAACAACGTAGAGTTCACGAATTCTATTTAACAGATGTGAT CTCCATCC
let-7c-IL6-Mut-S	TCGAGCCAGATCATTTCTTGGAAGTGTAGGCTTTCGTGAAATAAATGGCT AACTTAGC
let-7c-IL6-Mut-AS	GGCCGCTAAGTTAGCCATTTATTTACGAAAGCCTACACTTTCCAAGAAATG ATCTGGC

Supplementary Table 4: Representative results of RAP assay.

The contents of Supplementary Table 4 was separately displayed in the EXCEL file named 'Supplementary Table 4 Representative Results of RAP Assay.xlsx' of supplementary files.