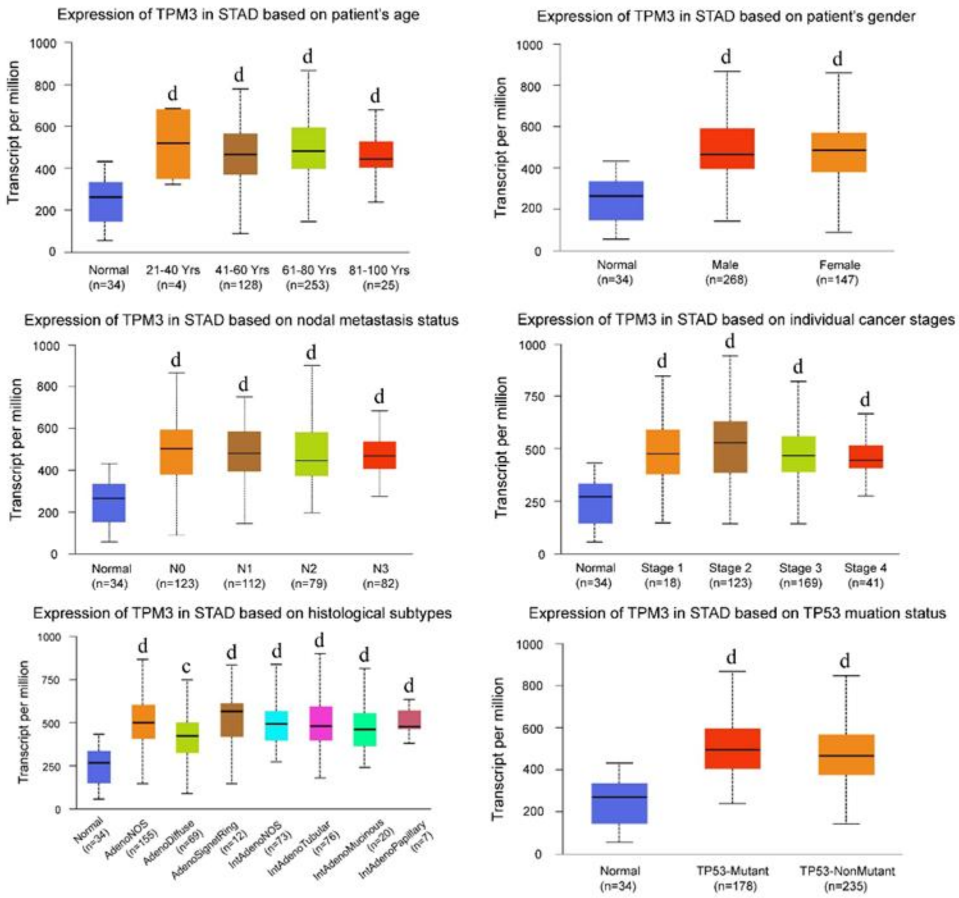
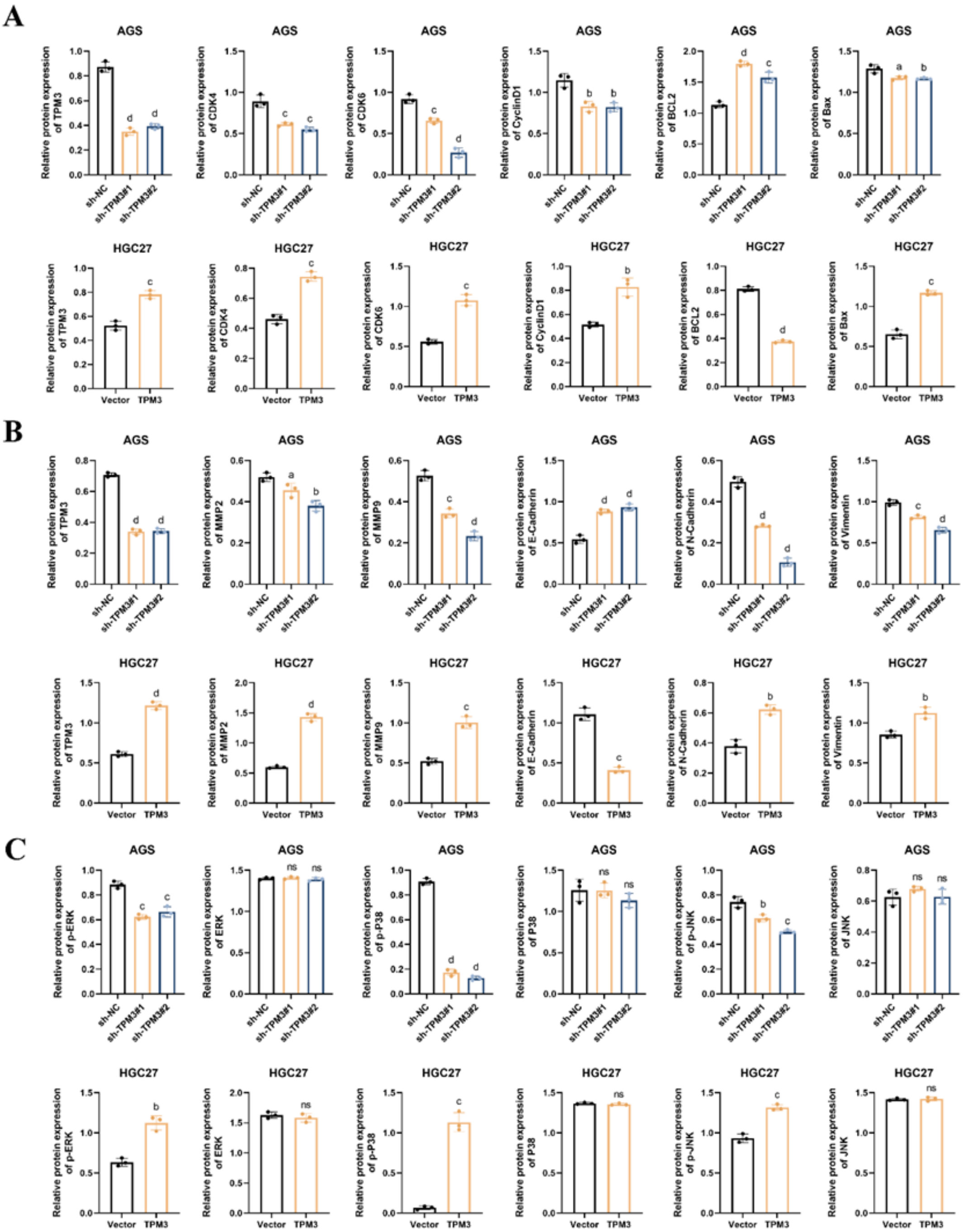
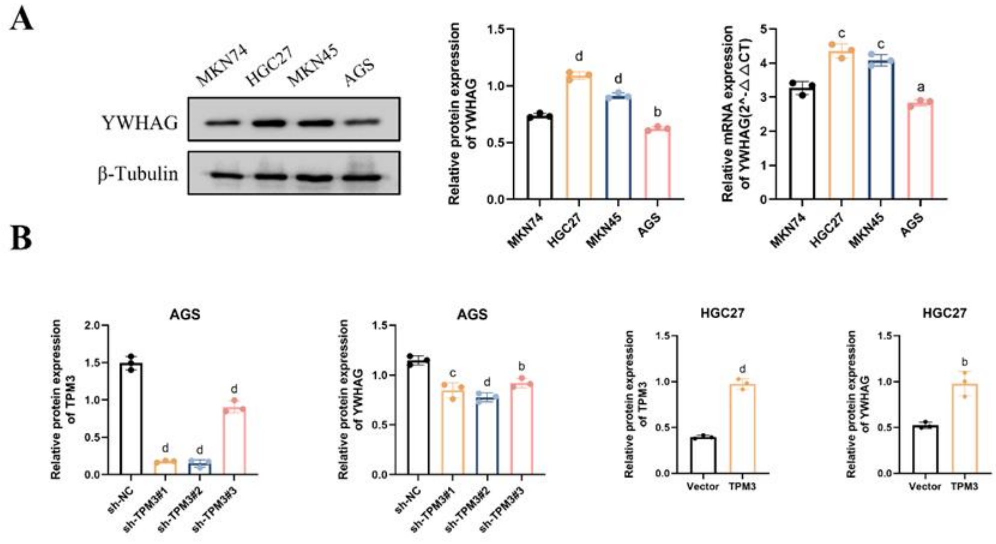


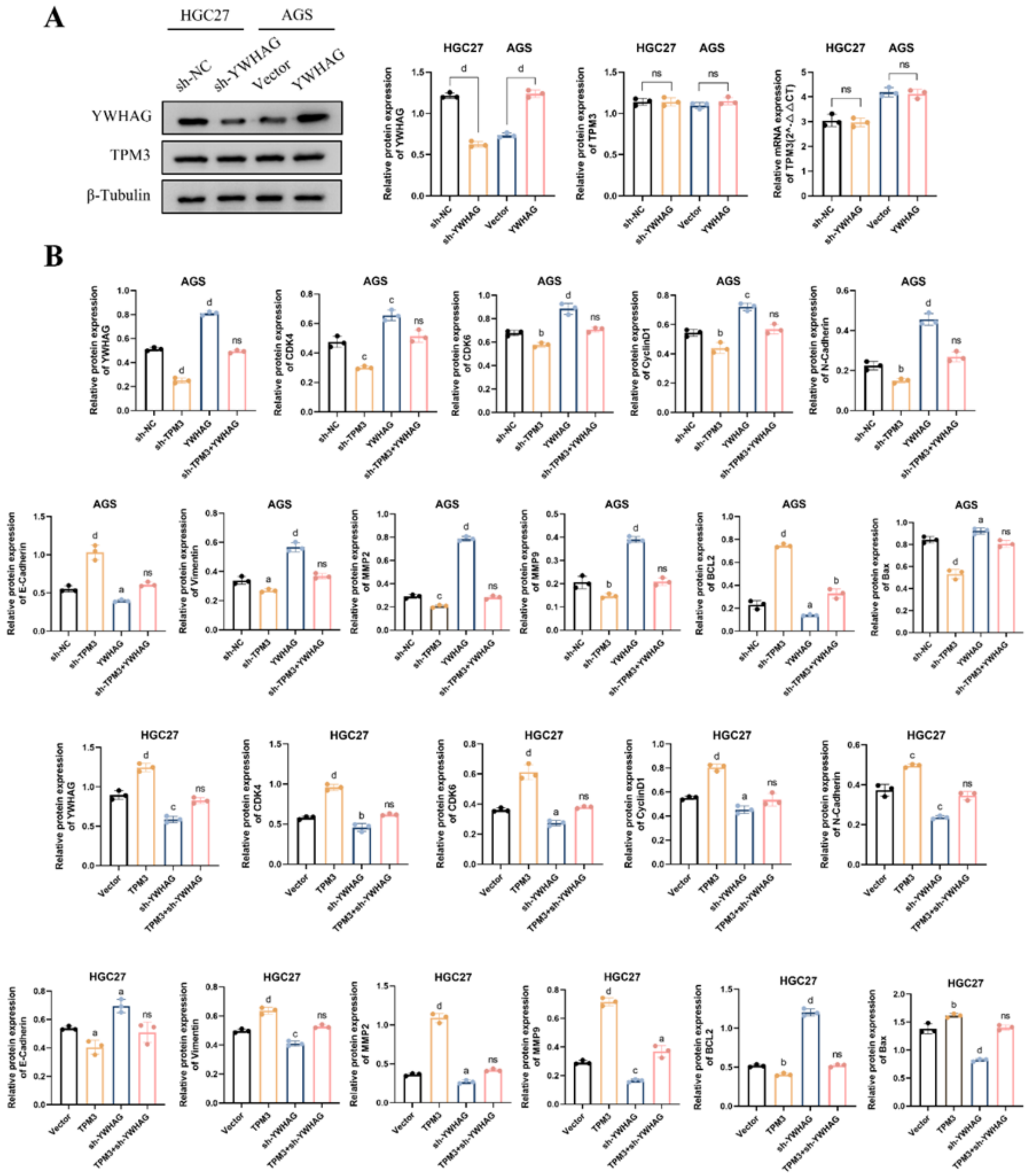
Supplementary Figure 1 Analysis of the relationship between tropomyosin 3 expression and relevant clinical parameters was performed using the University of alabama at birmingham cancer database. $^{c}P < 0.001$, $^{d}P < 0.0001$.



Supplementary Figure 2 Quantification of western blotting in Figures 3E and F and 4C. A: Densitometric analysis of Figure 3E; B: Densitometric analysis of Figure 3F; C: Densitometric analysis of Figure 4C. Protein levels were normalized to β-Tubulin and are presented as mean ± SD (n = 3). $^{a}P < 0.05$, $^{b}P < 0.01$, $^{c}P < 0.001$, $^{d}P < 0.0001$, NS: Not significant.

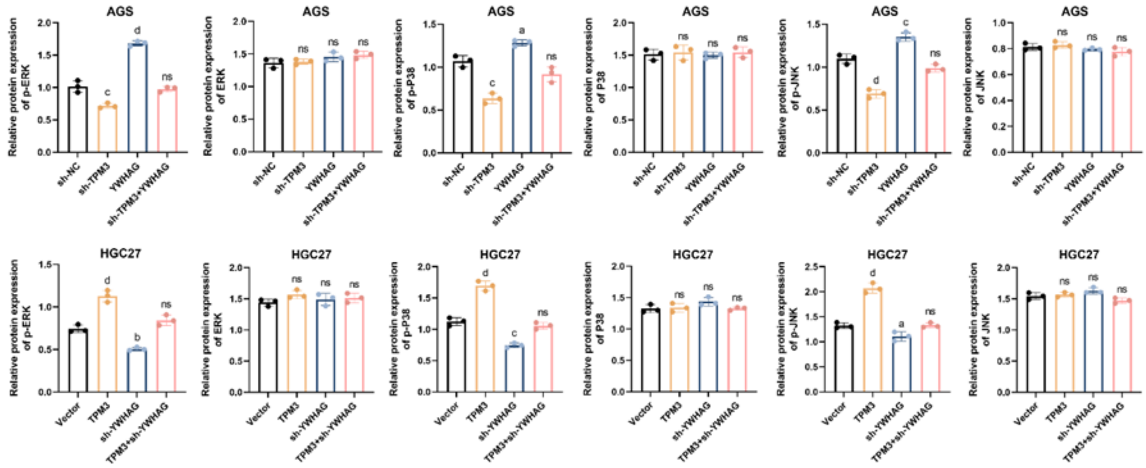


Supplementary Figure 3 Protein and mRNA expression, densitometric analysis. A: Protein and mRNA expression of tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein gamma in gastric cancer cell lines; B: Densitometric analysis of western blotting for Figure 5H. Protein levels were normalized to β-Tubulin and are presented as mean ± SD (n = 3). [a]P < 0.05, [b]P < 0.01, [c]P < 0.001, [d]P < 0.0001, NS: Not significant.

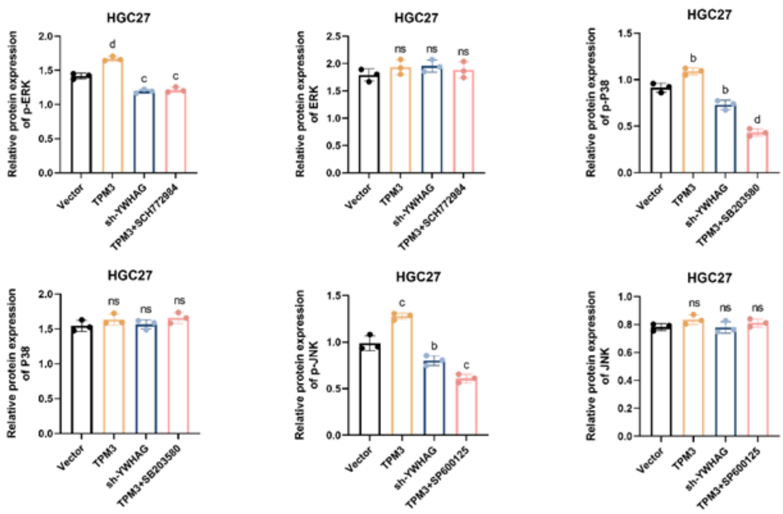


Supplementary Figure 4 Western blotting and qRT-PCR analyses, densitometric analysis of western blotting. A: Western blotting and qRT-PCR analyses of tropomyosin 3 expression after tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein gamma knockdown or overexpression; B: Densitometric analysis of western blotting for Figure 7A. Protein levels were normalized to β-Tubulin and are presented as mean ± SD (n = 3). [a]$P < 0.05$, [b]$P < 0.01$, [c]$P < 0.001$, [d]$P < 0.0001$, NS: Not significant.

A



B



Supplementary Figure 5 Quantification of western blotting in Figure 7B and 7C. A: Densitometric analysis of Figure 7B; B: Densitometric analysis of Figure 7C. Protein levels were normalized to β-Tubulin and are presented as mean ± SD (n = 3). $^{a}P < 0.05$, $^{b}P < 0.01$, $^{c}P < 0.001$, $^{d}P < 0.0001$, NS: Not significant.

Supplementary Table 1 Sequences of shRNA used in this study

Primer name		Sequence (5′-3′)
shRNA NC	Sense strand	UUCUCCGAACGUGUCACGUTT
	Antisense strand	ACGUGACACGUUCGGAGAATT
sh-TPM3#1	Sense strand	CAGAAGAGGCAGAUAGGAATT
	Antisense strand	UUCCUAUCUGCCUCUUCUGTT
sh-TPM3#2	Sense strand	CCAGGAAAUCCAACUCAAATT
	Antisense strand	UUUGAGUUGGAUUUCCUGGTT
sh-TPM3#3	Sense strand	CUGAGAGAUCGGUAGCCAATT
	Antisense strand	UUGGCUACCGAUCUCUCAGTT

The sequences were selected as follows: We first screened and validated the knockdown efficiency of multiple siRNA sequences targeting TPM3, and the results showed that si-TPM3#1 and si-TPM3#2 exhibited significant interference efficiency. Consequently, the lentiviral transduction vectors for TPM3 knockdown in this study were constructed based on the sequences of si-TPM3#1 and si-TPM3#2.

Supplementary Table 2 The primer and Sequence information

Gene	Forward sequence	Reverse sequence
TPM3	5′-GGAGACTTGGAACGCACAGA-3′	5′-TTCAGCAGCACTCAGACACTTC-3′
YWHAG	5′-TGCCTCCTGCTCTGTCCTCATC-3′	5′-CCAGTACATCAGCCAGCGTCTTG-3′
GAPDH	5′-GGAAGCTTGTCATCAATGGAAATC-3′	5′-TGATGACCCTTTTGGCTCCC-3′

Supplementary Table 3 Detailed information of key antibodies and chemical inhibitors

Reagent name	Source	Catalog number	Application
Antibodies			
TPM3	Proteintech	10737-1-AP	WB, Co-IP

YWHAG	Proteintech	12381-1-AP	WB, Co-IP
CDK4	Proteintech	11026-1-AP	WB
CDK6	Proteintech	14052-1-AP	WB
CyclinD1	Proteintech	26939-1-AP	WB
BCL2	Proteintech	12789-1-AP	WB
Bax	Proteintech	50599-2-lg	WB
p-ERK	Proteintech	28733-1-AP	WB
ERK	Proteintech	11257-1-AP	WB
p-P38	Proteintech	28796-1-AP	WB
P38	Proteintech	14064-1-AP	WB
p-JNK	Proteintech	80024-1-RR	WB
JNK	Proteintech	51153-1-AP	WB
β-actin	Proteintech	66009-1-lg	WB
IgG	Proteintech	30000-0-AP	Co-IP
E-Cadherin	Affinity	AF0131	WB
N-Cadherin	Affinity	AF5239	WB
Vimentin	Affinity	AF7013	WB
MMP2	Affinity	AF5330	WB
MMP9	Affinity	AF5228	WB
β-Tubulin	Affinity	AF7011	WB
Goat anti-mouse IgG	Immunoway	RS0001	WB
Goat anti- rabbit IgG	Immunoway	RS0002	WB
Chemical inhibitors			
SCH772984	Ambeed	A378792	Cell culture
SB203580	Ambeed	A248150	Cell culture
SP600125	Ambeed	A155219	Cell culture