

**Supplementary Table 1:** Primer sequences used in this study.

Gene	Forward (5'-3')	Reverse (5'-3')
HMGR	AGGTGGTGCTGTCCTGGAAT	TCCATGTCGCCGTCACATC
SREBP2	GACCTGGAGCCATGGATTGC	AGGCGAGGCTTCTGGAAGTG
$\beta$ -ACTIN	CTCCATCCTGGCCTCGCTGT	GCTGTCACCTTCACCGTTCC

**Supplementary Table 2:** Characteristics of treatment for ED in patients with NSCLC. \*Statistically significant values.

Variables	Total (n = 1185)	ED (n = 382)	No ED (n = 803)	P value
Treatment-1 (%)				<0.001*
No treatment	602 (50.8)	80 (20.9)	522 (65.0)	
Chemotherapy	84 (7.1)	61 (16.0)	23 (2.9)	
Chemotherapy + Other	246 (20.8)	163 (42.7)	83 (10.3)	
Other	253 (21.4)	78 (20.4)	175 (21.8)	
Treatment-2 (%)				<0.001*
No treatment	602 (50.8)	80 (20.9)	522 (65.0)	
Inclusive chemotherapy	330 (27.8)	224 (58.6)	106 (13.2)	
Excluding chemotherapy	253 (21.4)	78 (20.4)	175 (21.8)	

**Supplementary Table 3:** Multivariate analysis for independent predictors of ED in NSCLC patients. Chemotherapy vs. No treatment. \*Statistically significant values.

Variables	Odds Ratio	95%CI	P value
Diabetes	2.30	1.50–3.52	0.005*
Sex	1.24	1.14–1.34	0.013*
Chemotherapy	8.64	2.99–14.29	<0.001*

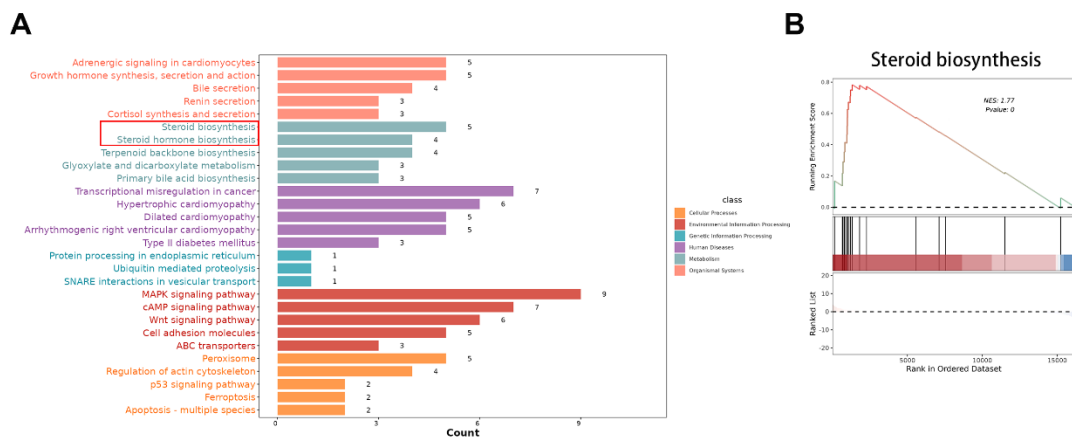
**Supplementary Table 4:** Multivariate analysis for independent predictors of ED in NSCLC patients. Inclusive chemotherapy vs. No treatment. \*Statistically significant values.

Variables	Odds Ratio	95%CI	P value
Diabetes	2.56	1.67–3.45	0.001*
Sex	1.31	1.18–1.44	0.003*
Inclusive chemotherapy	6.52	3.07–9.97	<0.001*

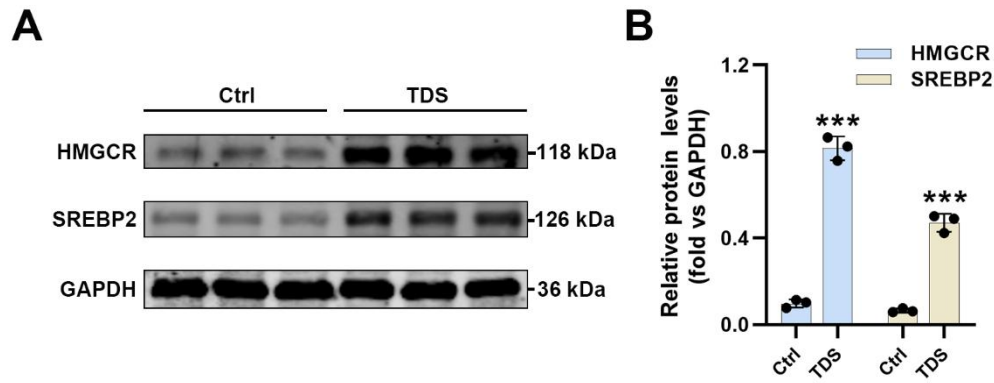
**Supplementary Figure**



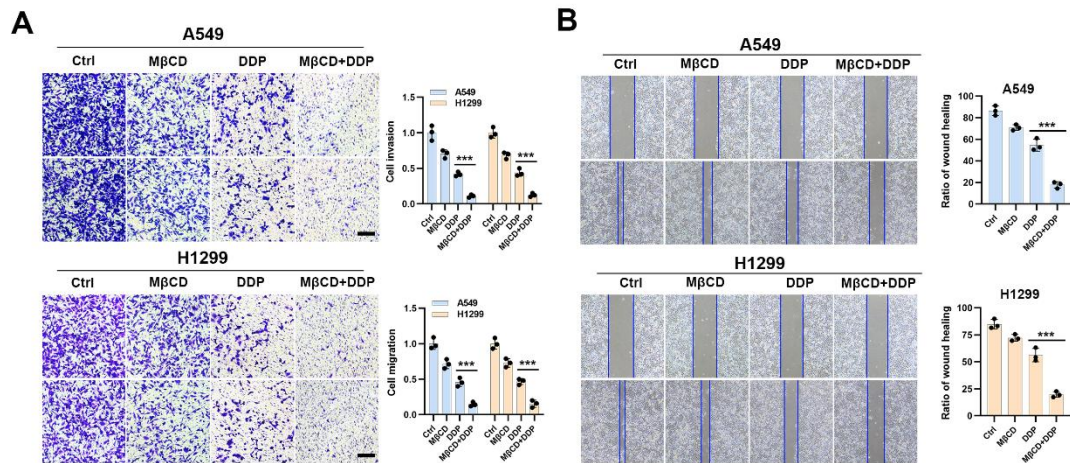
**Supplementary Fig. 1** The effects of tandospirone combined with cisplatin on tumor size are assessed using the mouse xenograft model (n = 5).



**Supplementary Fig. 2** Tandospirone regulates steroid synthesis (A) KEGG pathway enrichment analysis was conducted on differentially expressed genes. (B) GSEA of TDS and Ctrl groups by using a steroid biosynthesis



**Supplementary Fig. 3** Tansospirone up-regulated the expression of HMGCR and SREBP2 in H1299 cells. (A, B) Western blotting revealed that the levels of HMGCR and SREBP2 are increased in H1299 cells treated with TDS. Data are expressed as the mean  $\pm$  SD,  $n = 3$ , \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$ .



**Supplementary Fig. 4** MβCD enhanced the invasion and migration effect of DDP on lung cancer cells. (A) Migration and invasion of A549 and H1299 cells treated with MβCD combined with DDP. Quantitative analysis is presented on the right ( $n = 3$ ), Scale bar = 100  $\mu\text{m}$ . (D) The wound healing assay revealed that MβCD enhances DDP-induced inhibition of A549 and H1299 cell migration. Quantitative analysis is presented on the right ( $n = 3$ ).