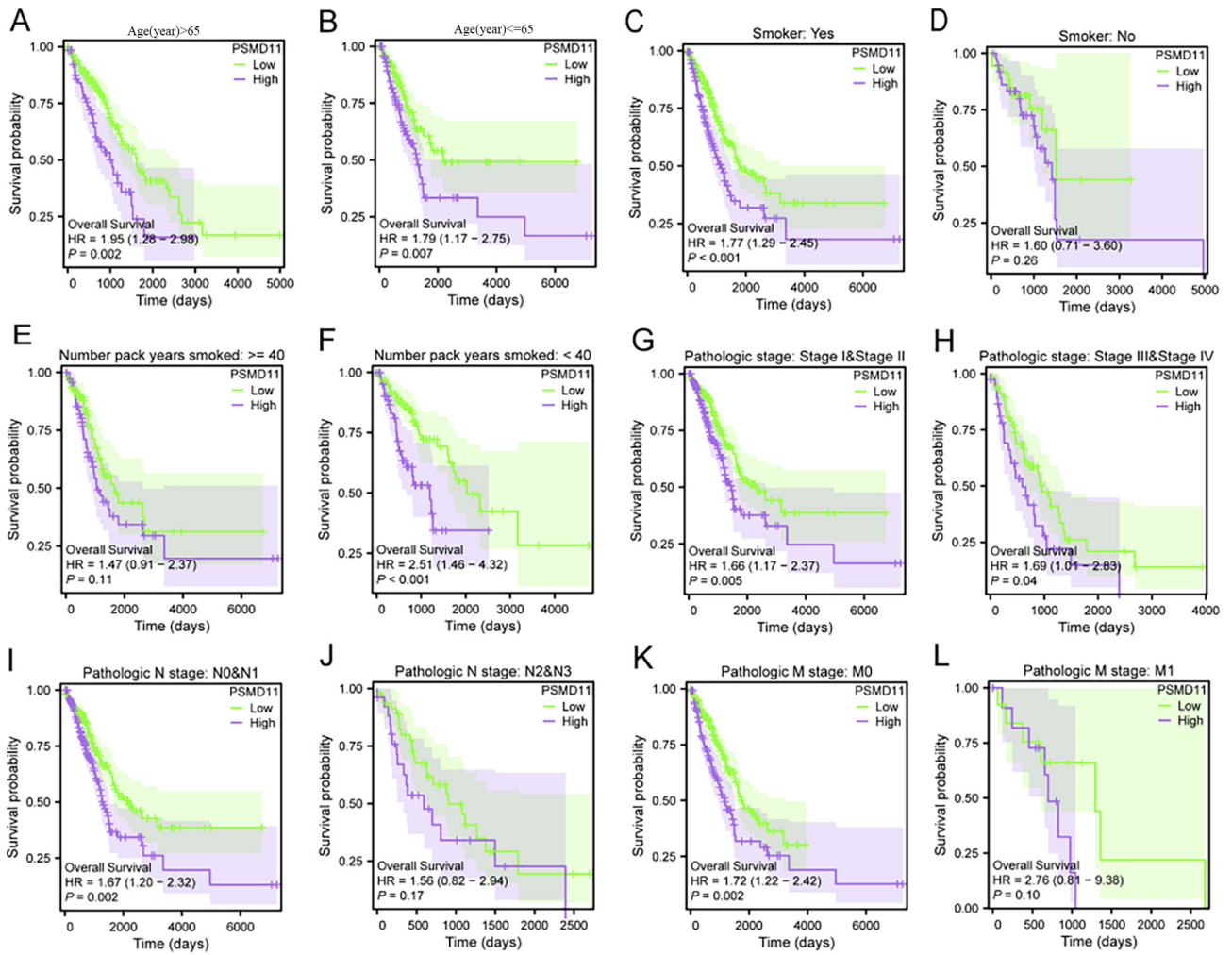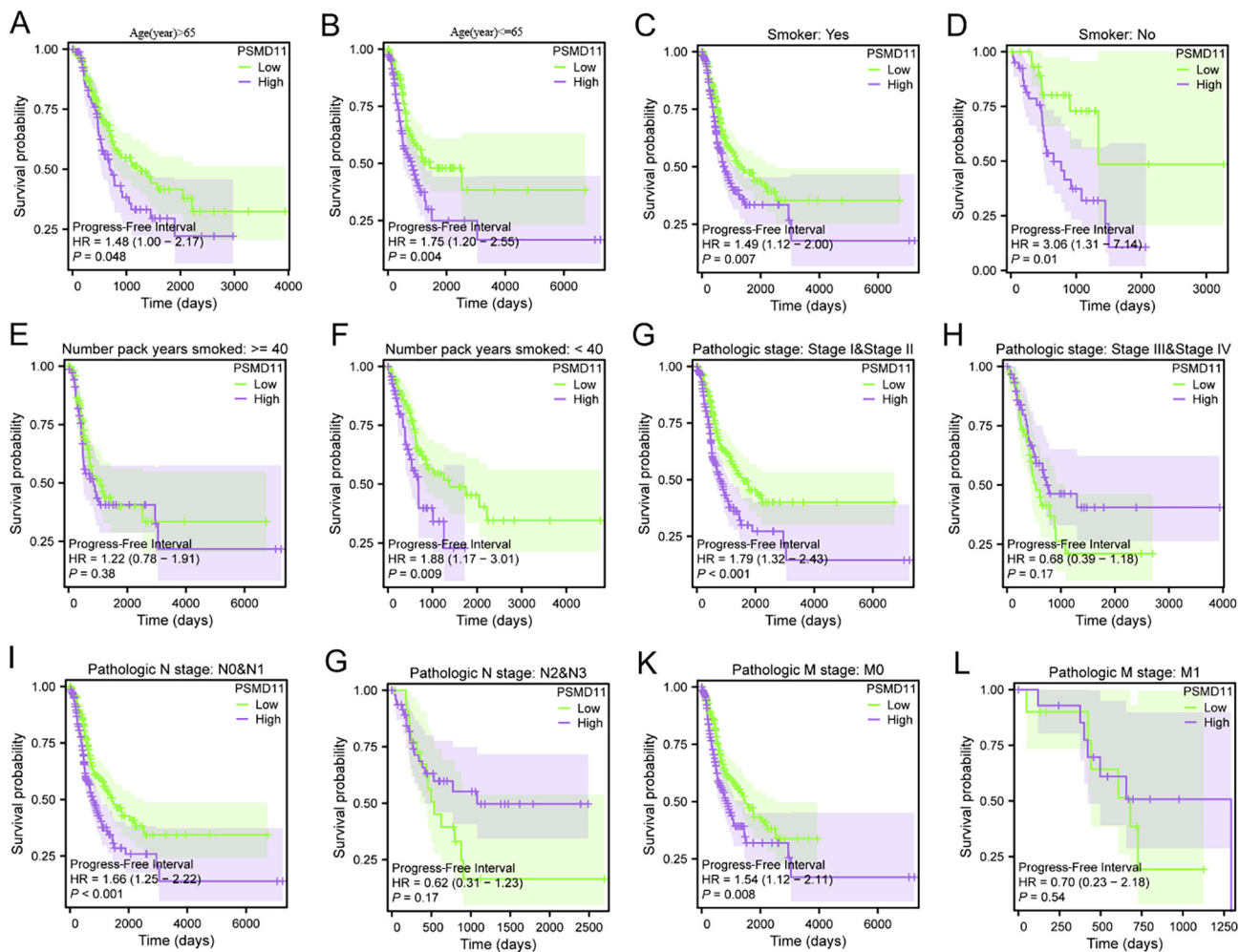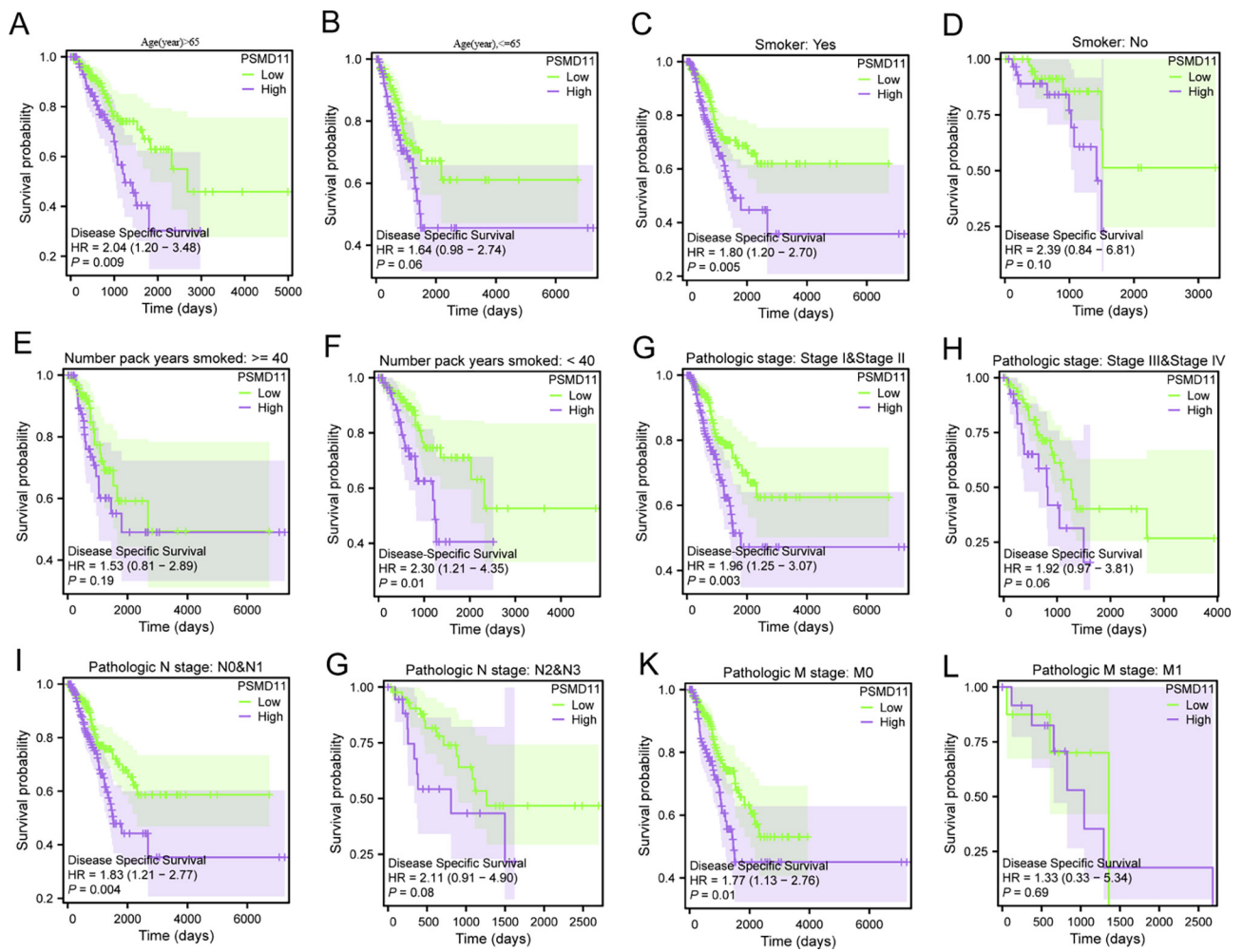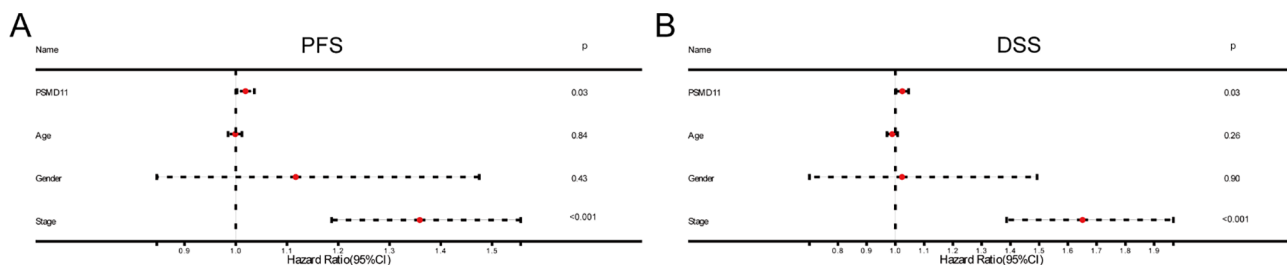**Figure S1** Subgroup analysis of KM-OS, including M stage, N stage, age, smoking status, and smoking amount. OS, overall survival; HR, hazard ratio.
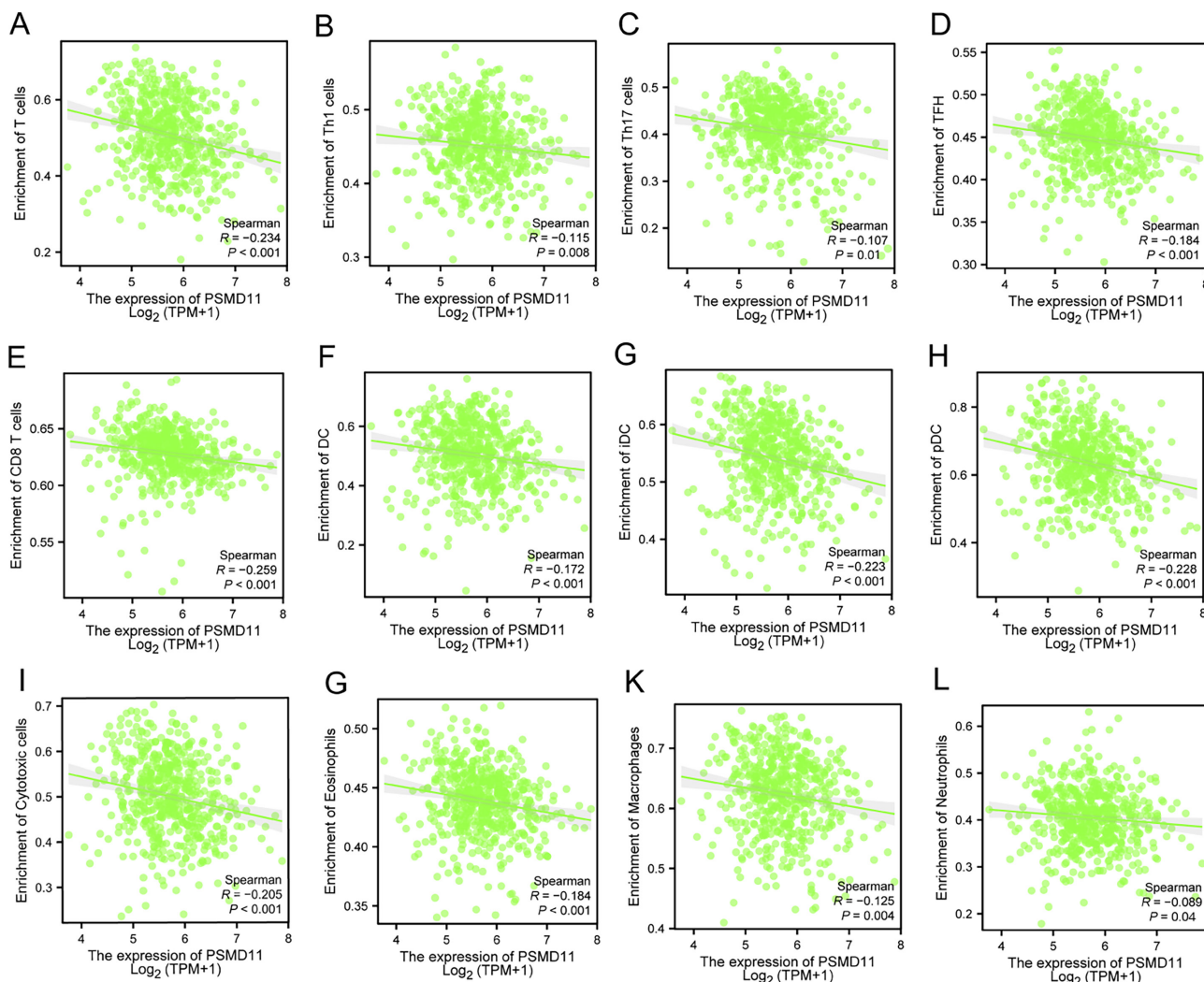
Figure S2 Subgroup analysis of KM-PFS, including M stage, N stage, age, smoking status, and smoking amount. PFS, progression-free survival; HR, hazard ratio.
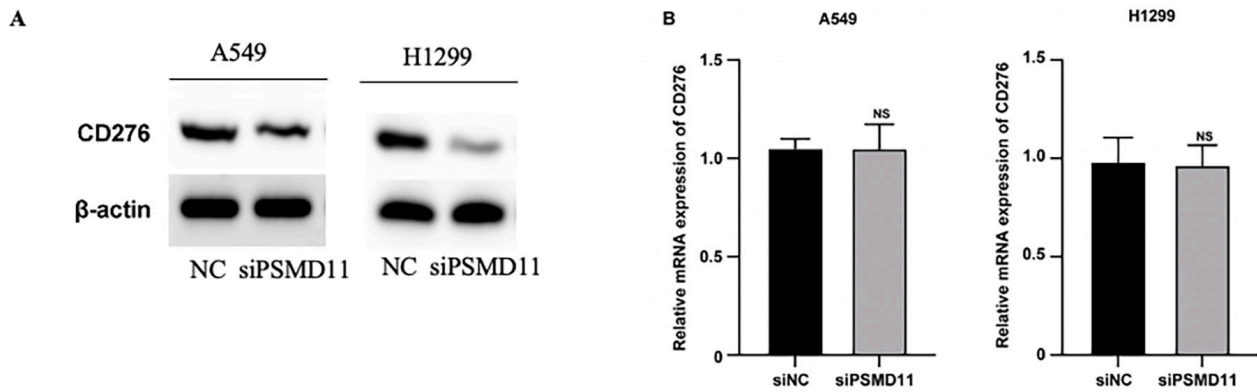
Figure S3 Subgroup analysis of KM-DSS, including M stage, N stage, age, smoking status, and smoking amount. DSS, disease-specific survival; HR, hazard ratio.

Figure S4 Univariate Cox analysis for PFS and DSS, including PSMD11 expression, stage, age, and gender. PFS, progression-free survival; DSS, disease-specific survival; CI, confidence interval.

Figure S5 Scatter plots for the correlation between ssGSEA immune cell scores and *PSMD11* expression. ssGSEA, single-sample gene set enrichment analysis; TPM, transcripts per million.

Figure S6 Knockdown of PSMD11 Represses expression of CD276. (A) The protein levels of PD-L1 and CD276 in A549 and H1299 cells were detected by western blot. (B) The mRNA levels of CD276 in A549 and H1299 cells were detected by qRT-PCR. NS, not significant; siNC, negative control; PD-L1, programmed cell death ligand 1; qRT-PCR, quantitative real-time polymerase chain reaction.

Table S1 Comparison of clinical characteristics between high and low *PSMD11* expression

Characteristics	Low expression of PSMD11 (N=245)	High expression of PSMD11 (N=245)	Total (N=490)	P value	False discovery rate
Age, n (%)				0.06	0.17
≤65 years	107 (21.84)	129 (26.33)	236 (48.16)		
>65 years	138 (28.16)	116 (23.67)	254 (51.84)		
Gender, n (%)				0.59	0.59
Female	136 (27.76)	129 (26.33)	265 (54.08)		
Male	109 (22.24)	116 (23.67)	225 (45.92)		
Stage, n (%)				0.15	0.31
Stage I & II	199 (40.61)	185 (37.76)	384 (78.37)		
Stage III & IV	46 (9.39)	60 (12.24)	106 (21.63)		