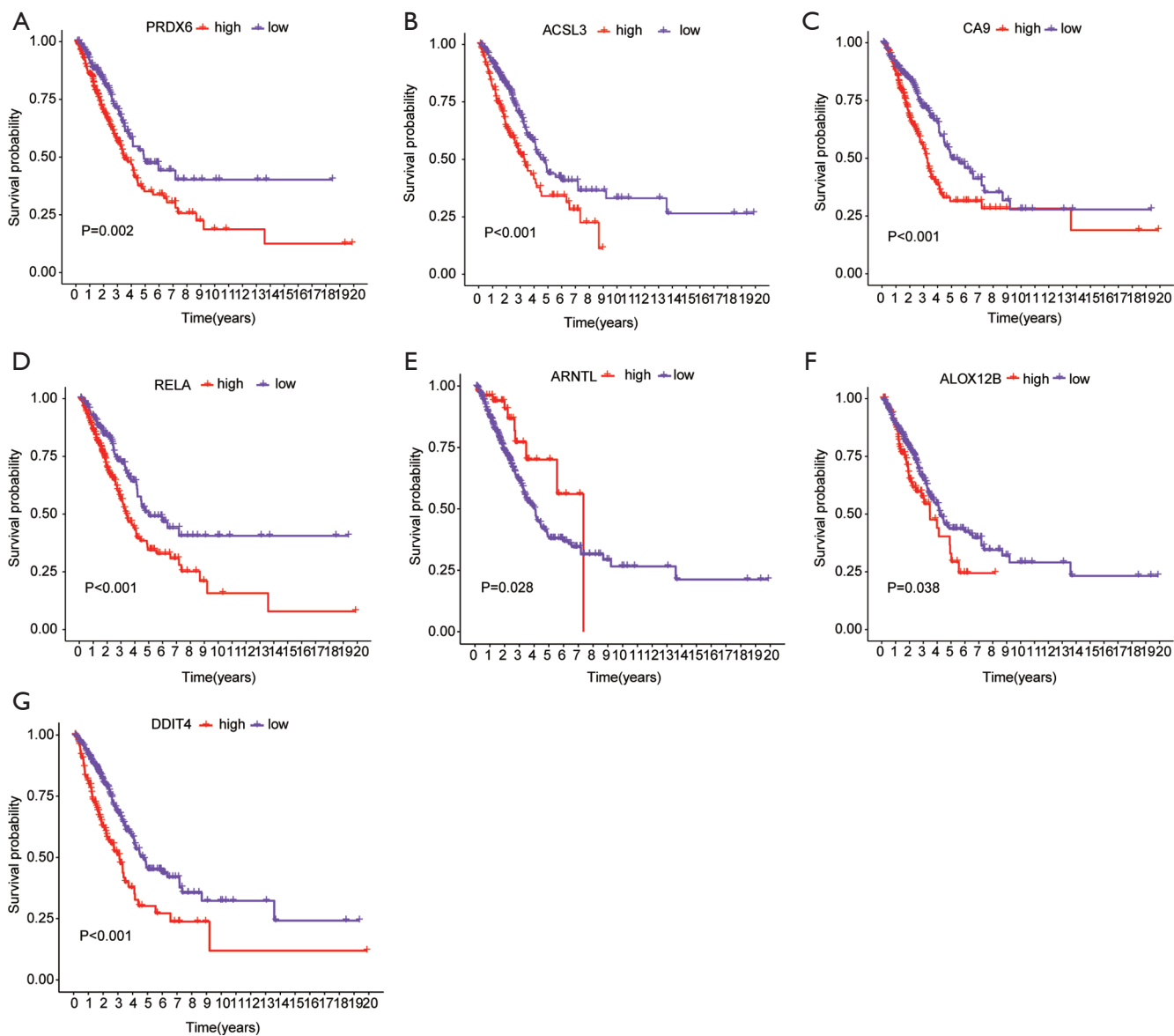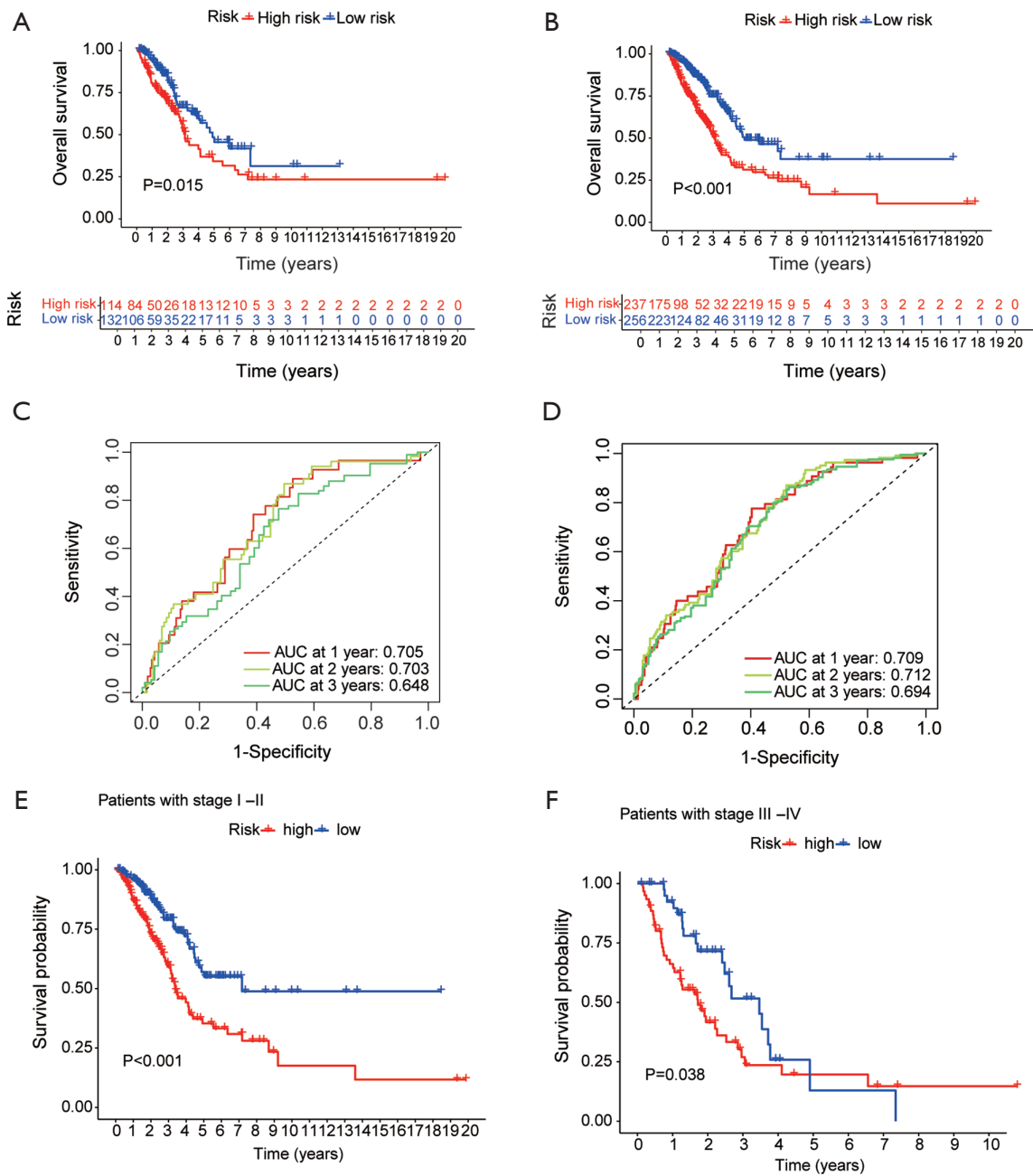**Table S1** Clinical characteristics of LUAD samples used for verified the expression of ACSL3 or PRDX6

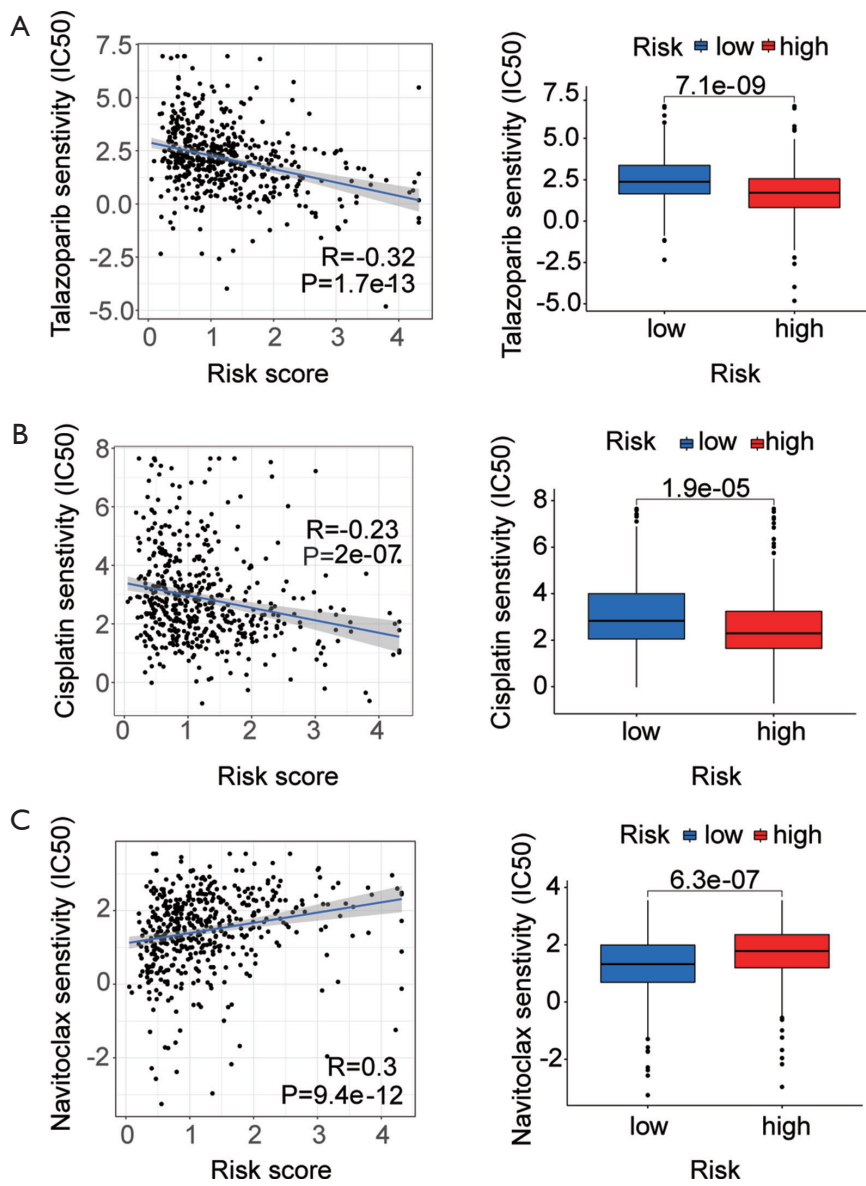| Covariates	Type	Total, n (%)
Age (years)	≤65	10 (55.56)
	>65	8 (44.44)
Gender	Female	9 (50.00)
	Male	9 (50.00)
Clinical stage	I	9 (50.00)
	II	4 (22.22)
	III	3 (16.67)
	IV	2 (11.11)
TNM stage		
T	T1	11 (61.11)
	T2	3 (16.67)
	T3	3 (16.67)
	T4	1 (5.56)
N	N0	10 (55.56)
	N1	2 (11.11)
	N2	4 (22.22)
	N3	2 (11.11)
M	M0	16 (88.89)
	M1	2 (11.11)

ACSL3, Acyl Coenzyme A Synthetase Long-Chain Family, Member 3; PRDX6, Peroxiredoxin 6; LUAD, lung adenocarcinoma; T, tumor; N, node; M, metastasis.

Figure S1 K-M analysis of ferroptosis-related genes, including *PRDX6* (A), *ACSL3* (B), *CA9* (C), *RELA* (D), *ARNTL* (E), *ALOX12B* (F), and *DDIT4* (G) in LUAD. PRDX6, Peroxiredoxin 6; ACSL3, Acyl Coenzyme A Synthetase Long-Chain Family, Member 3; CA9, carbonic anhydrase 9; RELA, RELA proto-oncogene; ARNTL, aryl hydrocarbon receptor nuclear translocator-like protein 1; ALOX12B, 12R-lipoxygenase; DDIT4, DNA damage induced transcript 4.

Figure S2 Validation the prognostic signature. OS of both risk groups from the validation cohort (A) or all patients (B). ROC curves showing prognostic capability of the signature in the validation cohort (C) or all patients (D). Survival analysis of OS for stage I-II (E) or III-IV (F) cases. OS, overall survival; ROC, receiver operating characteristic; AUC, area under the curve.

Figure S3 Analysis of drug sensitivity. (A-C) Talazoparib; cisplatin; navitoclax.