

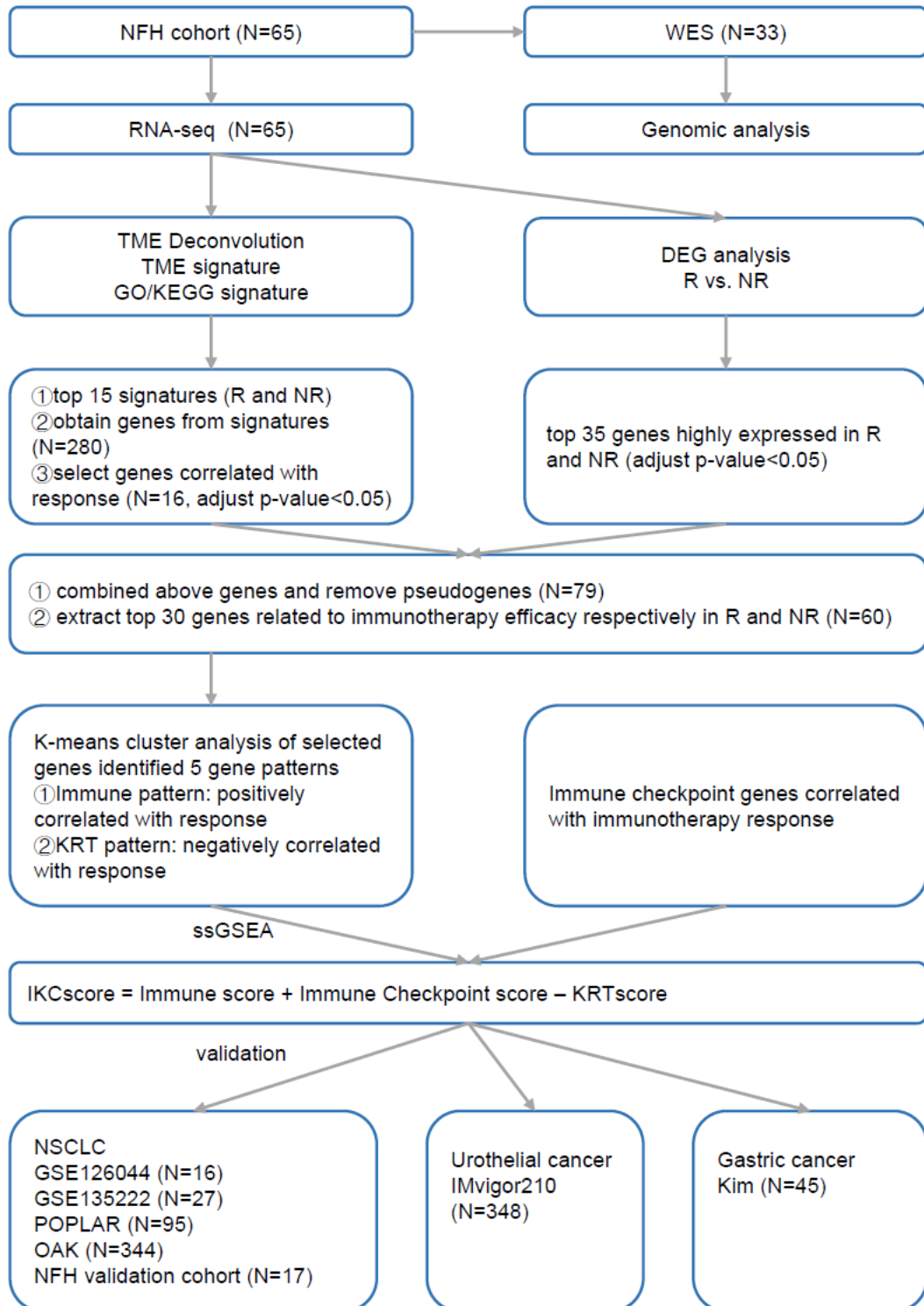
**Supplemental information**

**Tumor microenvironment assessment-based  
signatures for predicting response  
to immunotherapy in non-small cell lung cancer**

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# Supplementary Materials

# Figure S1

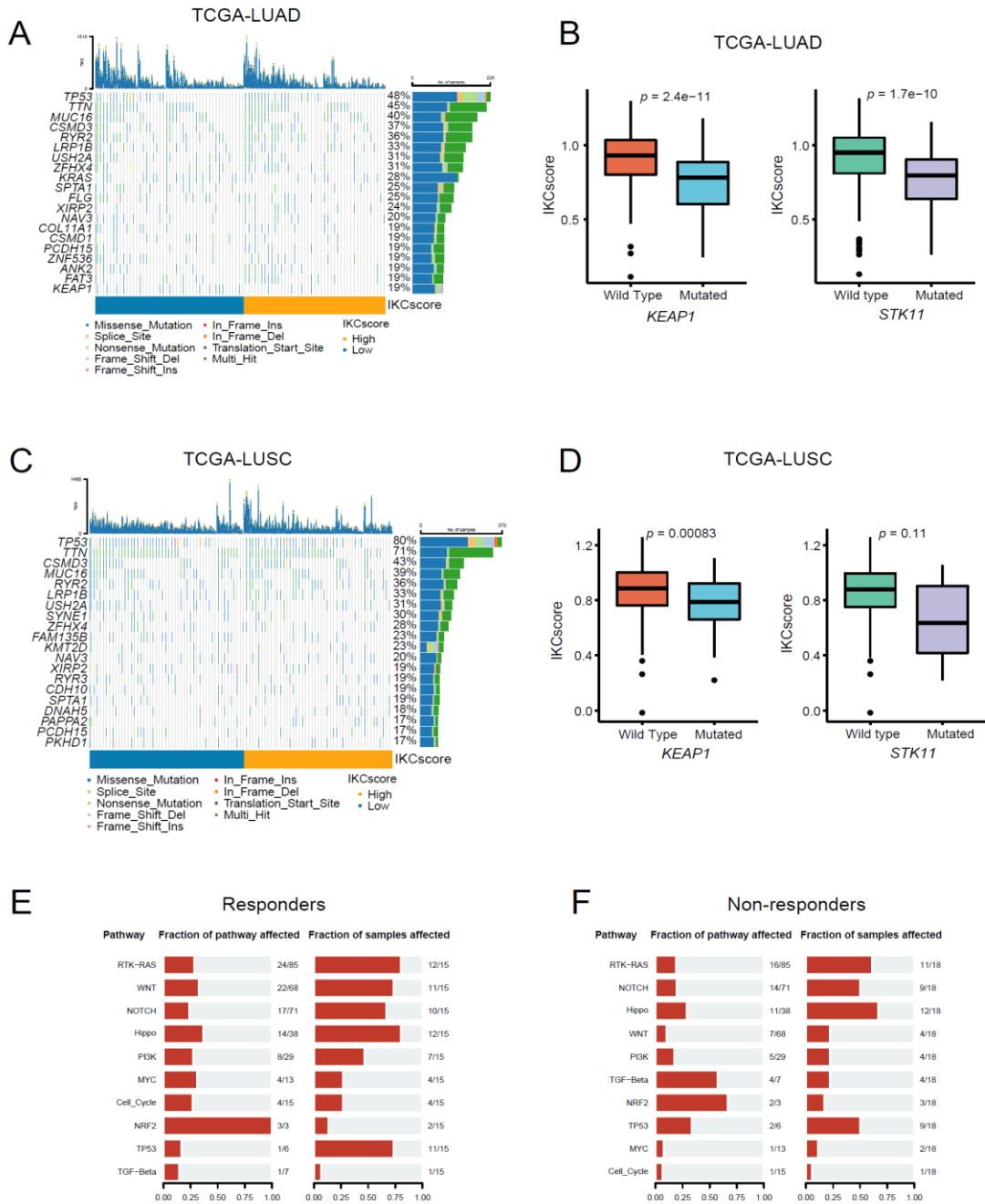


**Figure S1 IKCscore construction flowchart, related to Figure 1.**

The flowchart shows the IKCscore construction process including signature selection, gene selection and calculation.



# Figure S3



**Figure S3 Mutational features associated with IKCscore and responses to immunotherapy, related to Figure 6.**

(A) The oncoPrint of the top 20 mutated genes in high and low IKCscore groups in the TCGA-LUAD cohort. (B) KEAP1 and STK11 mutations were significantly correlated with lower IKCscore compared with wild type (Wilcoxon test,  $p = 2.4e-11$ ,  $p = 1.7e-10$ , respectively). (C) The oncoPrint of top 20 mutated genes in high and low IKCscore groups in TCGA-LUSC cohort. (D) KEAP1 and STK11 mutations were significantly correlated with lower IKCscore compared with wild type (Wilcoxon test,  $p = 0.00083$ ,  $p = 0.11$ , respectively). (E-F) Mutant pathway enrichment in responders (E) and non-responders (F).

**Table S1**

Patient_ID	Response	Age	Tumor_types	Sex	Treatment
Patient_1	NR	41	Others	M	Combination
Patient_2	NR	43	SQC	M	Combination
Patient_3	R	56	ADC	M	Combination
Patient_4	NR	65	ADC	M	Combination
Patient_5	NR	51	Others	F	Combination
Patient_6	NR	63	ADC	M	Monotherapy
Patient_7	NR	51	ADC	M	Combination
Patient_8	NR	68	ADC	M	Combination
Patient_9	NR	63	Others	M	Combination
Patient_10	NR	63	SQC	M	Combination
Patient_11	NR	39	SQC	F	Combination
Patient_12	R	74	SQC	M	Combination
Patient_13	NR	59	ADC	M	Combination
Patient_14	NR	46	ADC	M	Combination
Patient_15	NR	68	Others	M	Combination
Patient_16	NR	53	ADC	M	Combination
Patient_17	R	52	SQC	M	Combination
Patient_18	R	56	ADC	M	Combination
Patient_19	NR	49	ADC	M	Combination
Patient_20	NR	57	ADC	M	Combination
Patient_21	R	31	SQC	F	Combination
Patient_22	NR	68	SQC	M	Monotherapy
Patient_23	NR	55	Others	F	Combination
Patient_24	NR	59	SQC	M	Monotherapy
Patient_25	NR	53	ADC	F	Monotherapy
Patient_26	R	54	ADC	M	Monotherapy
Patient_27	R	64	Others	M	Monotherapy
Patient_28	NR	58	SQC	M	Monotherapy
Patient_29	R	54	ADC	M	Monotherapy
Patient_30	R	65	ADC	M	Combination
Patient_31	R	76	ADC	M	Combination
Patient_32	R	50	ADC	F	Combination
Patient_33	NR	81	SQC	F	Monotherapy
Patient_34	R	50	ADC	F	Monotherapy
Patient_35	NR	52	Others	F	Combination
Patient_36	NR	56	ADC	M	Combination
Patient_37	NR	58	ADC	M	Monotherapy
Patient_38	R	72	ADC	M	Combination
Patient_39	NR	54	SQC	F	Combination
Patient_40	R	75	ADC	M	Monotherapy
Patient_41	R	62	SQC	M	Combination
Patient_42	NR	66	ADC	F	Combination
Patient_43	R	52	ADC	M	Combination
Patient_44	R	54	ADC	M	Combination
Patient_45	R	69	SQC	M	Combination
Patient_46	R	54	SQC	M	Combination
Patient_47	R	59	ADC	M	Combination
Patient_48	NR	55	ADC	M	Combination
Patient_49	NR	63	ADC	M	Combination
Patient_50	NR	66	SQC	M	Combination
Patient_51	R	56	Others	M	Combination
Patient_52	NR	56	ADC	M	Combination
Patient_53	R	58	ADC	M	Combination
Patient_54	NR	59	Others	M	Combination
Patient_55	R	78	ADC	M	Monotherapy
Patient_56	NR	69	ADC	M	Combination
Patient_57	NR	48	ADC	M	Combination
Patient_58	NR	75	SQC	M	Combination
Patient_59	R	69	SQC	M	Combination
Patient_60	NR	59	ADC	M	Combination
Patient_61	R	68	ADC	M	Combination
Patient_62	NR	66	SQC	M	Combination
Patient_63	NR	58	SQC	F	Monotherapy
Patient_64	NR	62	ADC	F	Combination
Patient_65	NR	57	SQC	M	Combination

**Table S1 Patient characteristics of the advanced NFH cohort treated with anti-PD-1 immunotherapy, related to Figure 1 and Table 1.**

## Table S2

Immune score	KRT score	Immune Checkpoint score
MS4A6A	KRTAP5-5	CD274
C1QC	KCNC1	PDCD1LG2
HLA-DQB1	ADAM30	CTLA4
RAMP2	CELF3	PDCD1
MATN3	PNMA5	LAG3
CDK15	POU3F2	HAVCR2
WNT2	UNC80	TIGIT
FOLR2	TMEM132D	
HPGD	ATP2B3	
KDR	CPLX2	
LGMN	ZFP42	
PTGER2	INA	
F13A1	KRTAP5-1	
SLCO2B1	GP2	
TMEM100	SCGN	
	ST18	
	BLOC1S5-TXNDC5	
	FMN2	
	ANO3	

Table S2 Gene lists of immune, KRT, and Immune Checkpoint patterns, related to Figure 1.