

Supplementary figure 1 Representative IHC images (100×)

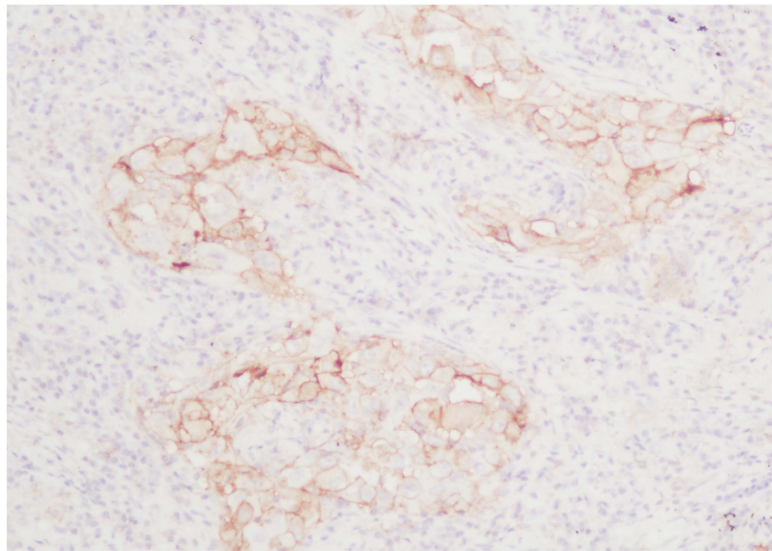
Supplementary figure 2 (A) GO analysis of differentially mutant genes between low and high TMB group; (B) KEGG analysis of differentially mutant genes between low and high TMB group

Supplementary figure 3 Differentially mutated genes between *EGFR* mutated and wild-type patients. (A) The mutational frequency of *KRAS* in *EGFR* mutated and wild-type patients; (B) The mutational frequency of *BRCA2* in *EGFR* mutated and wild-type patients

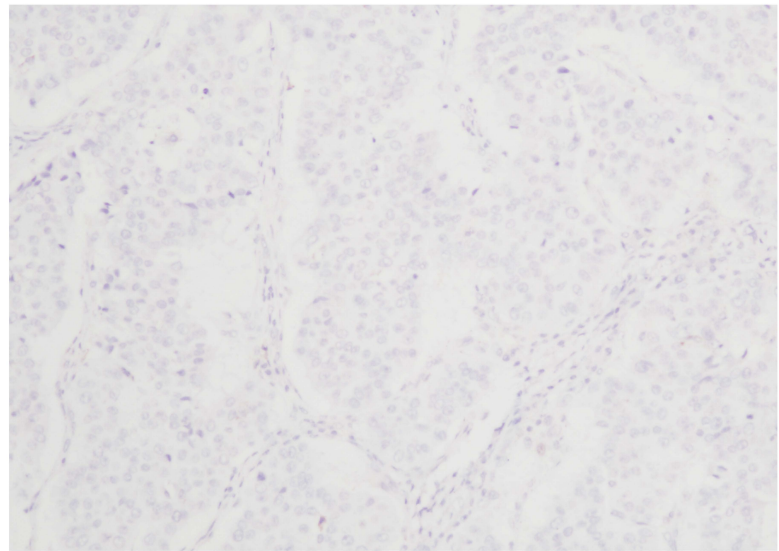
Supplementary figure 4 Differentially mutated genes between high TMB+*EGFR*-mutant and low TMB+*EGFR*-mutant patients. (A) The mutational frequency of *BRCA2* in two groups; (B) The mutational frequency of *RBI* in two groups; (C) The mutational frequency of *CDKN2A* in two groups; (D) The mutational frequency of *CYP2D6* in two groups; (E) The mutational frequency of *TP53* in two groups

Supplementary figure 5 Differentially mutated genes among three immune phenotypes. (A) The mutational frequency of *ALK* in different immune phenotypes; (B) The mutational frequency of *CDKN2A* in different immune phenotypes; (C) The mutational frequency of *IDH2* in different immune phenotypes; (D) The mutational frequency of *MAP2K1* in different immune phenotypes; (E) The mutational frequency of *PTEN* in different immune phenotypes

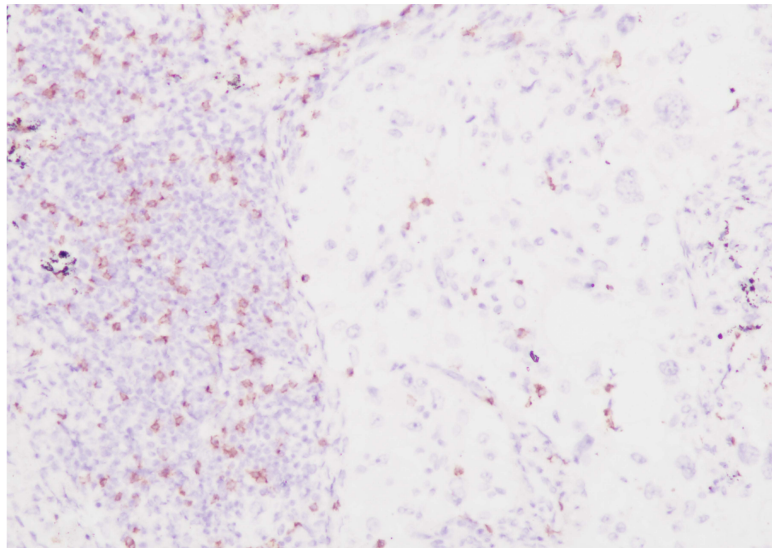
Supplementary Figure 1



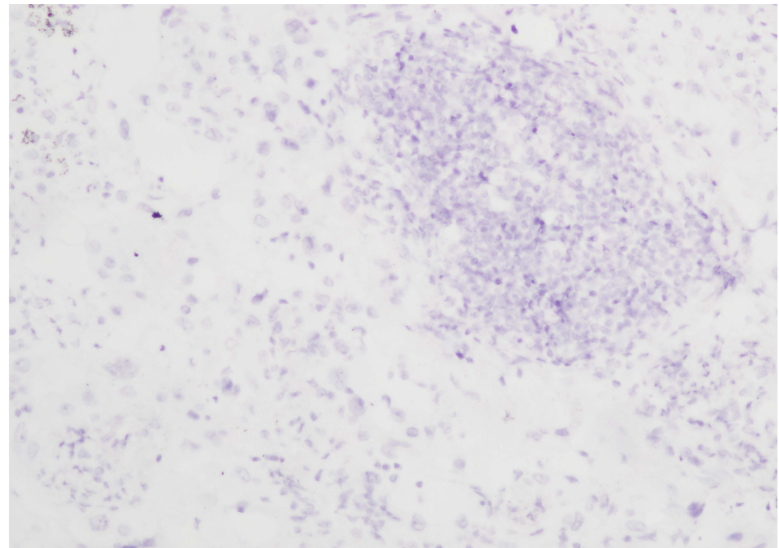
PD-L1 positive



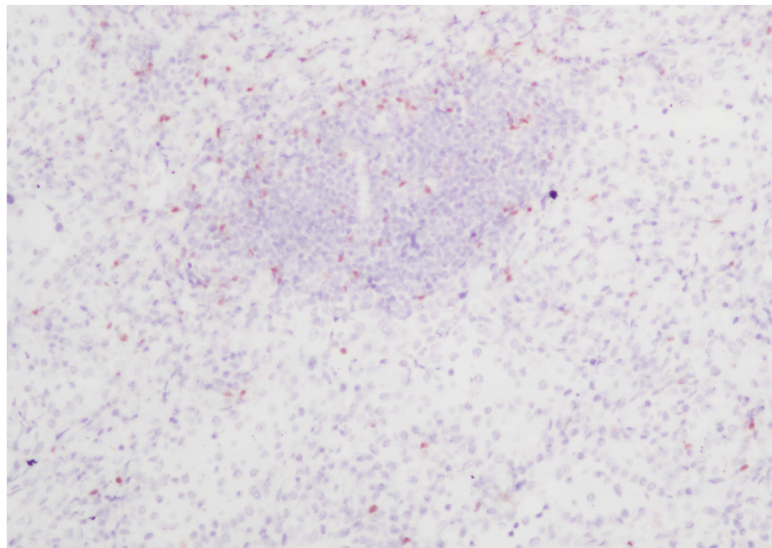
PD-L1 negative



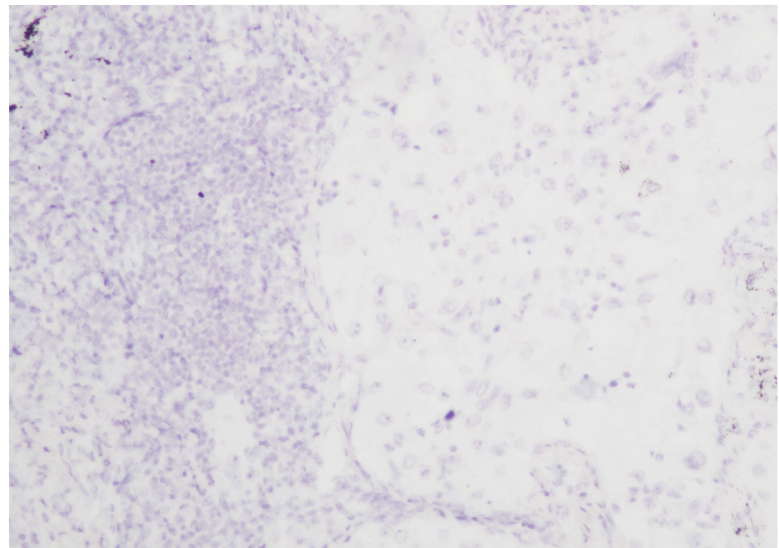
inflamed (CD8)



non-inflamed (CD8)

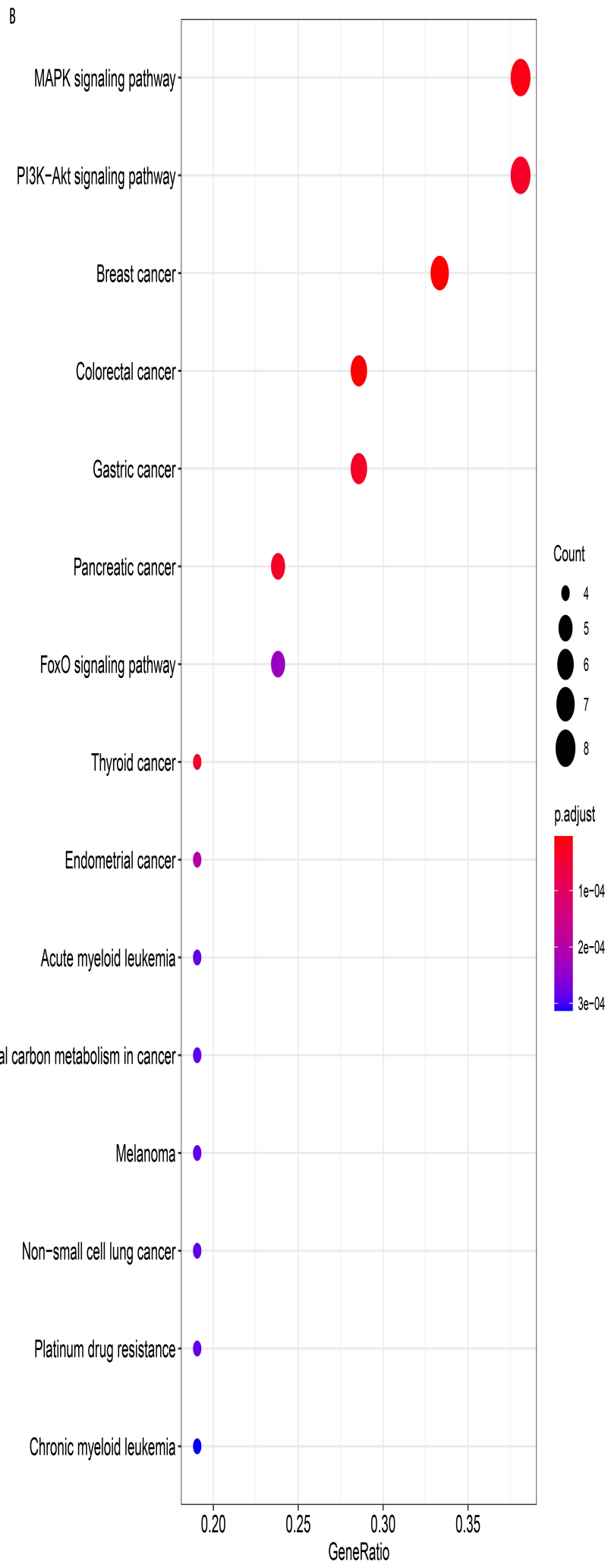
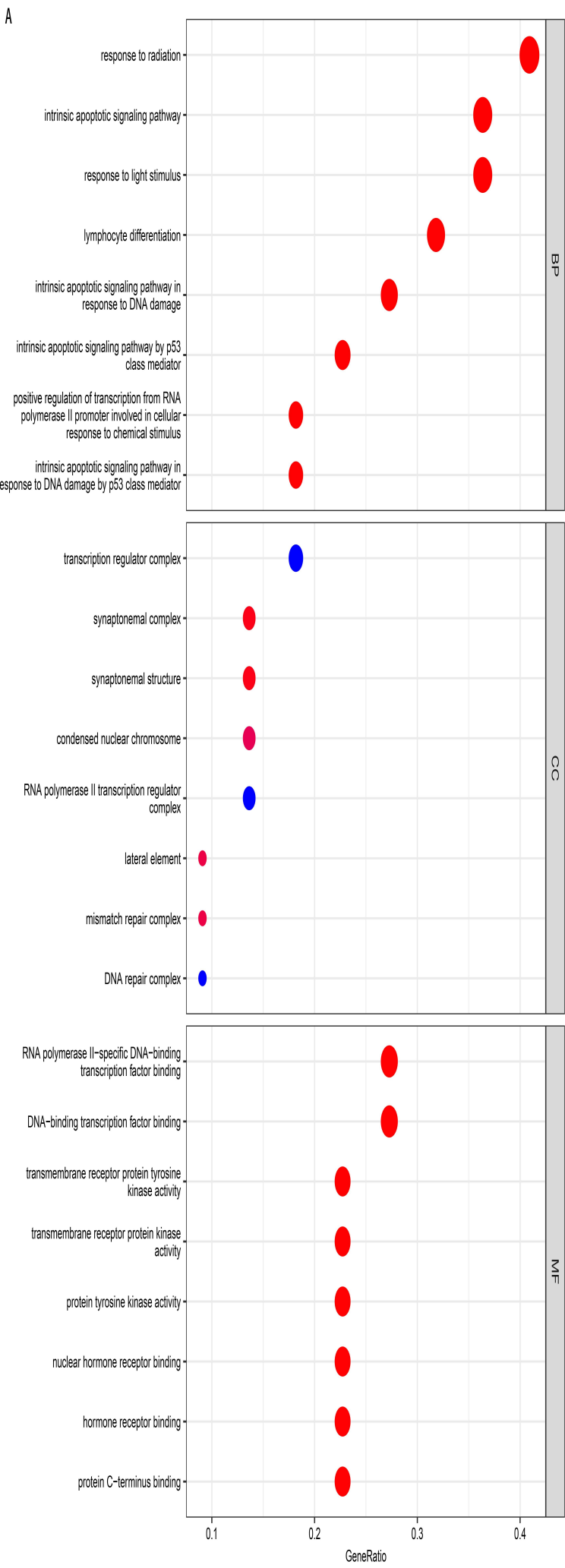


FoxP3 positive

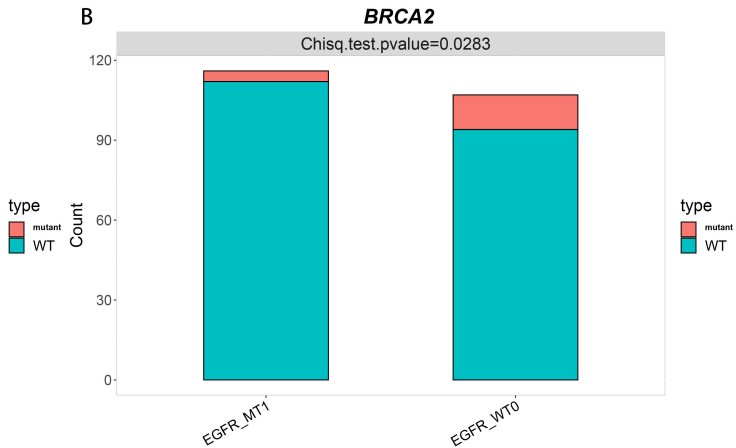
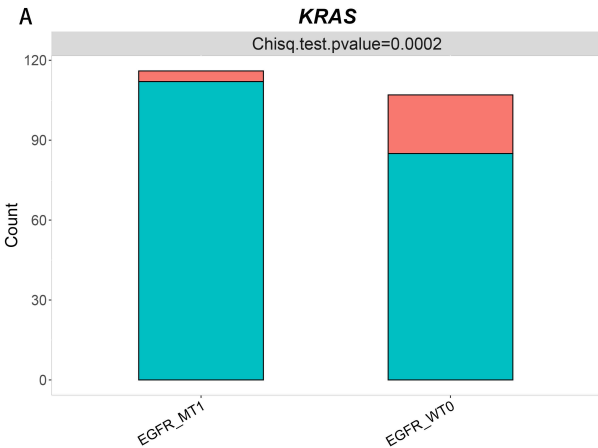


FoxP3 negative

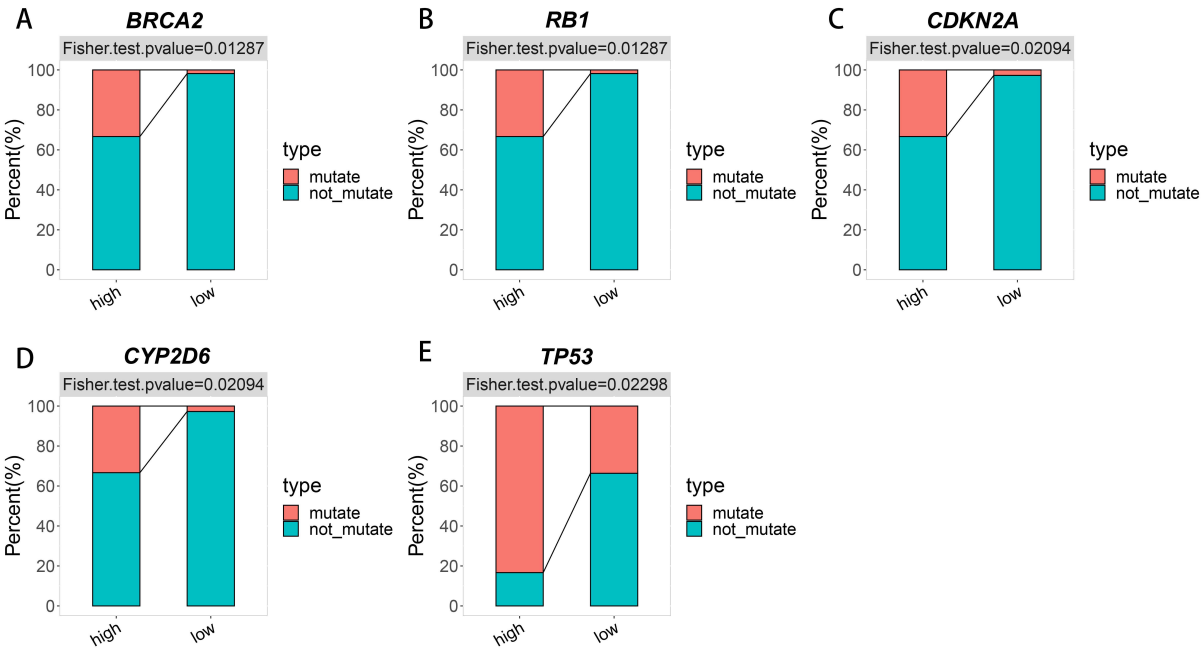
Supplementary Figure 2



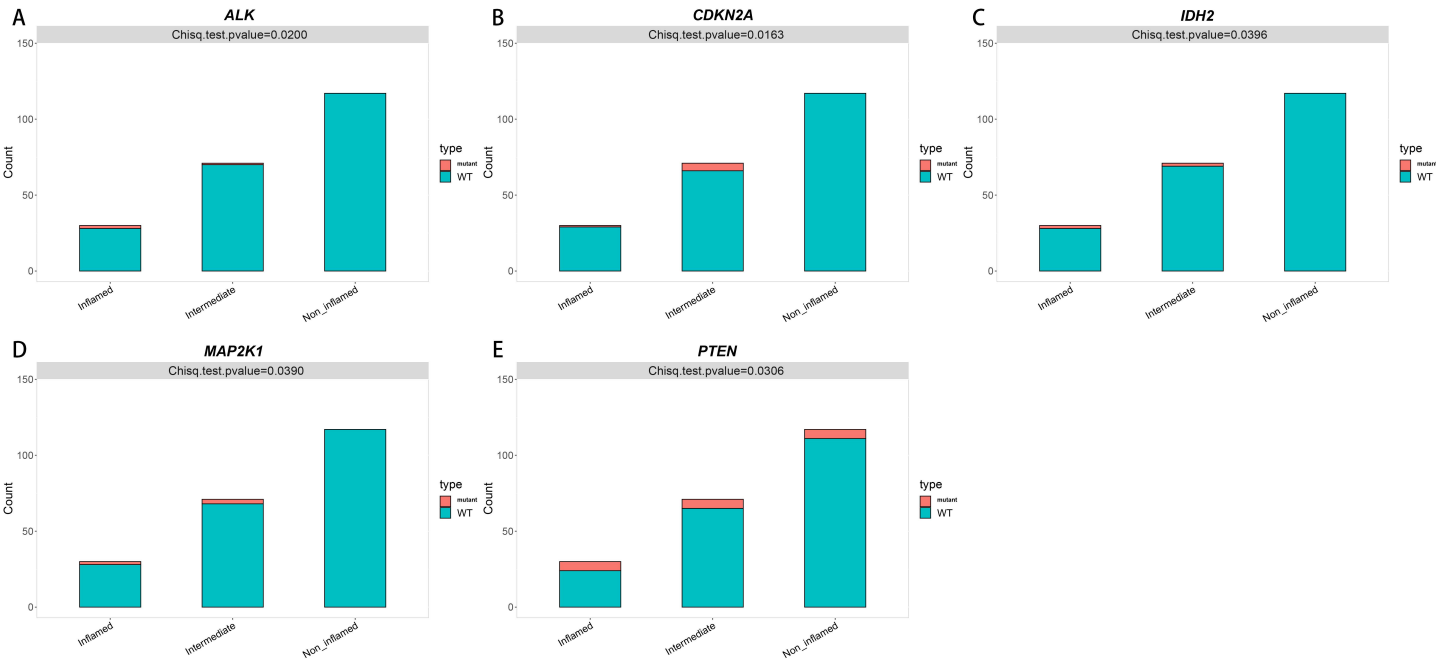
Supplementary Figure 3



Supplementary Figure 4



Supplementary Figure 5



Supplementary table 1 Comparison of TMB level among different types of EGFR mutation

EGFR mutation	TMB level		P value
	Low	High	
uncommon	7 (100.0%)	0 (0.0%)	0.611
19del	54 (96.4%)	2 (3.6%)	
L858R	49 (92.5%)	4 (7.5%)	

Supplementary table 2 Differentially mutated genes between high and low TMB patients

Gene	mutational frequency		P value
	TMB_high (%)	TMB_low (%)	
<i>TP53</i>	85.71	27.23	2.11E-07
<i>FLT3</i>	19.05	0	5.97E-05
<i>BRCA2</i>	33.33	4.95	0.000253
<i>KRAS</i>	38.1	8.91	0.000854
<i>ALK</i>	14.29	0.5	0.002738
<i>MSH2</i>	23.81	3.96	0.003586
<i>SMAD4</i>	33.33	9.41	0.004936
<i>FGF3</i>	14.29	0.99	0.006426
<i>BRCA1</i>	28.57	10.4	0.007848
<i>EP300</i>	9.52	0	0.008484
<i>B2M</i>	9.52	0	0.008484
<i>PPARG</i>	9.52	0	0.008484
<i>MED12</i>	9.52	0	0.008484
<i>EPHB1</i>	9.52	0	0.008484
<i>NFE2L2</i>	9.52	0	0.008484
<i>KIT</i>	9.52	0.5	0.023993
<i>ERBB3</i>	9.52	0.5	0.023993
<i>OTOP1</i>	9.52	0.5	0.023993
<i>MLH1</i>	23.81	7.43	0.027514
<i>STK11</i>	9.52	0.99	0.045247
<i>NF1</i>	9.52	0.99	0.045247
<i>BRAF</i>	9.52	0.99	0.045247

Supplementary table 3 Comparison of immune phenotypes among different types of EGFR mutation

EGFR mutation	immune phenotype			P value
	non-inflamed	intermediate	inflamed	
uncommon	4 (57.1%)	3 (42.9%)	0 (0.0%)	0.812
19del	29 (51.8%)	18 (32.1%)	9 (16.1%)	
L858R	26 (49.1%)	16 (30.2%)	11 (20.8%)	

Supplementary table 4 Comparison of Foxp3 expression between EGFR mutated and wild-type

	FoxP3 negative	FoxP3 positive	P value
EGFR mutant	99 (85.3%)	17 (14.7%)	0.066
EGFR wild-type	77 (75.5%)	25 (24.5%)	