

Supplementary Information

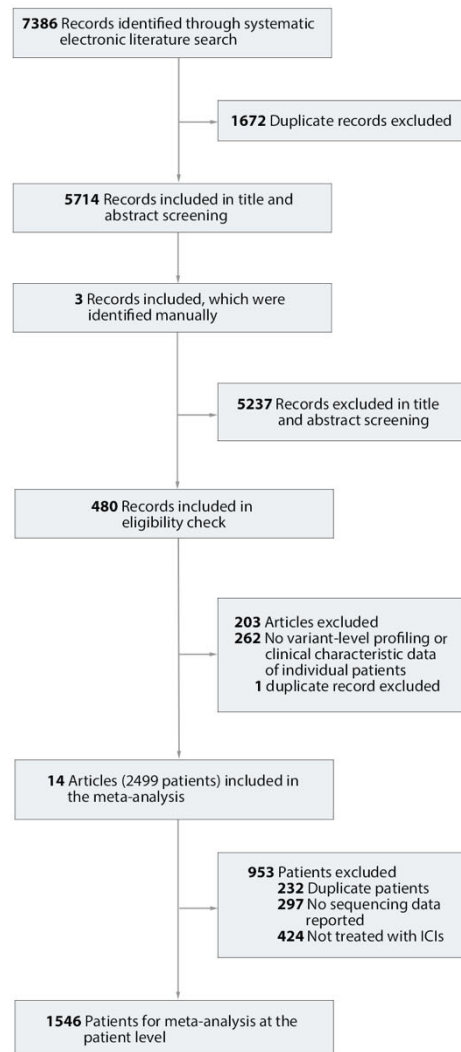


Fig. S1 Flow diagram of the study selection process.

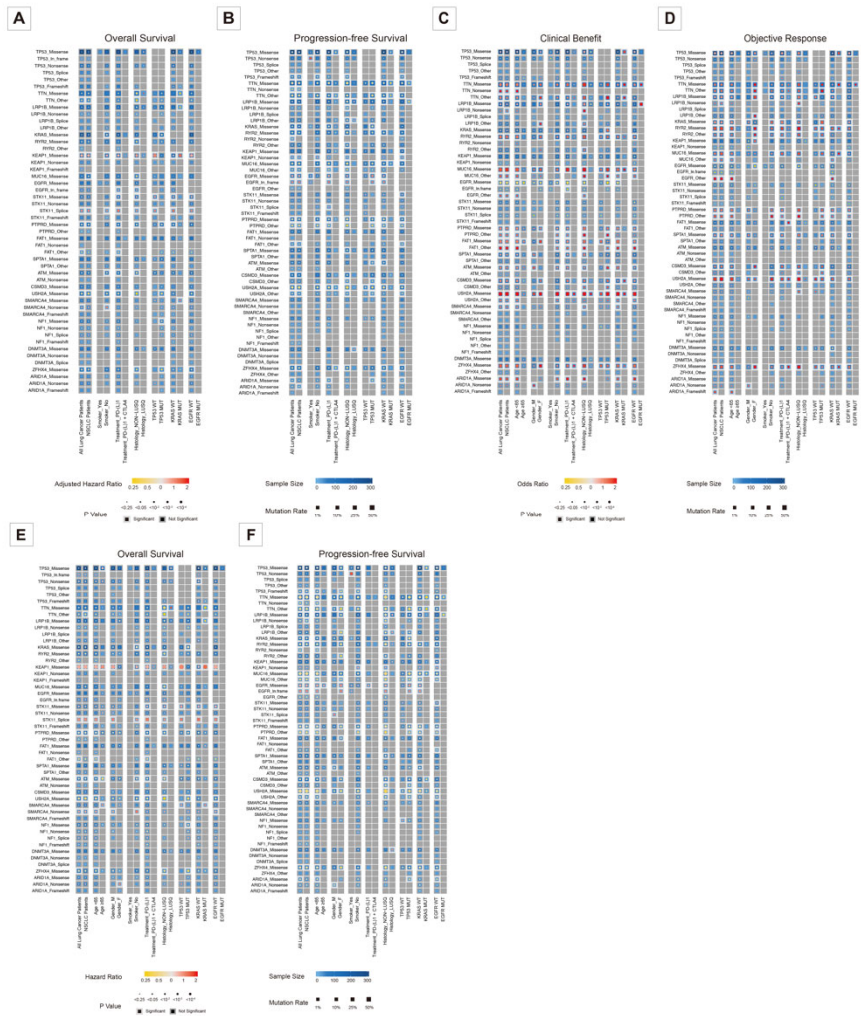


Fig. S2 Summary of gene subtypes with clinical and genetic features associated with overall survival after adjustment (A); progression-free survival after adjustment (B), clinical benefit (C), objective response (D), overall survival (E), and progression-free survival (F) in patients with lung cancer treated with immune checkpoint inhibitors.

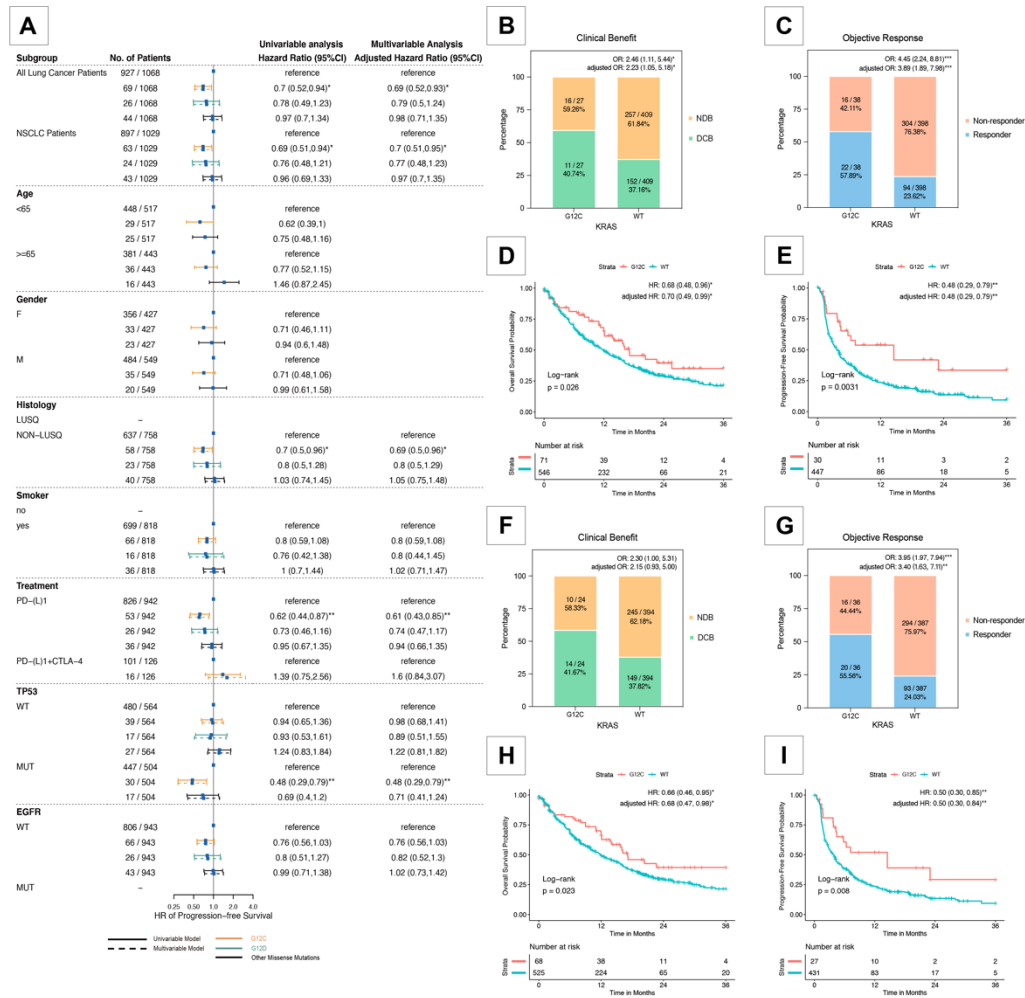


Fig. S3 (A) Forest plot describing the hazard ratio of progression-free survival in patients classified by KRAS mutation subtype. (B-I) Clinical benefit, response, overall survival, and progression-free survival of all lung cancer (B-E) and NSCLC (F-I) patients with $KRAS^{G12C}$ missense mutation and KRAS wild-type to immune checkpoint inhibitors.

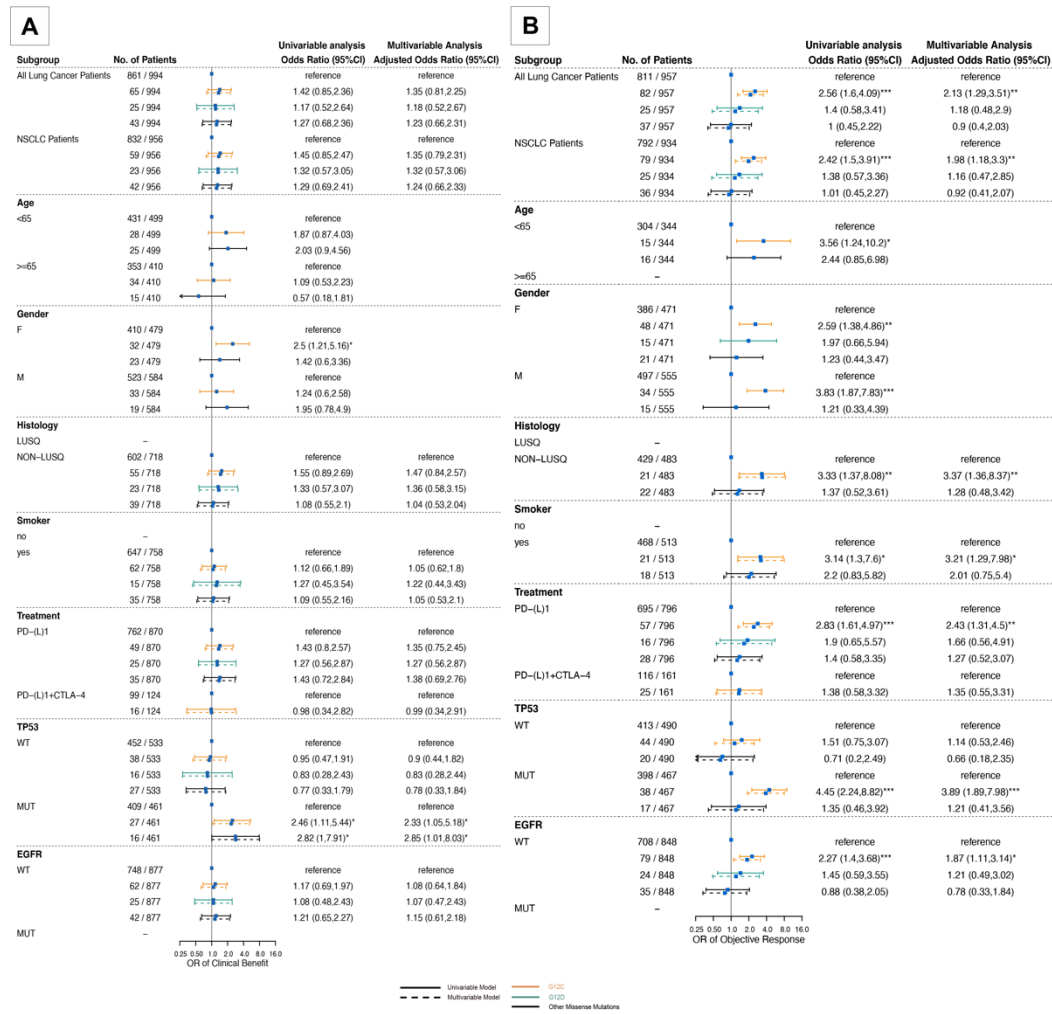


Fig. S4 Forest plot describing the odds ratio of clinical benefit (A) and objective response (B) in patients classified by *KRAS* mutation subtype.

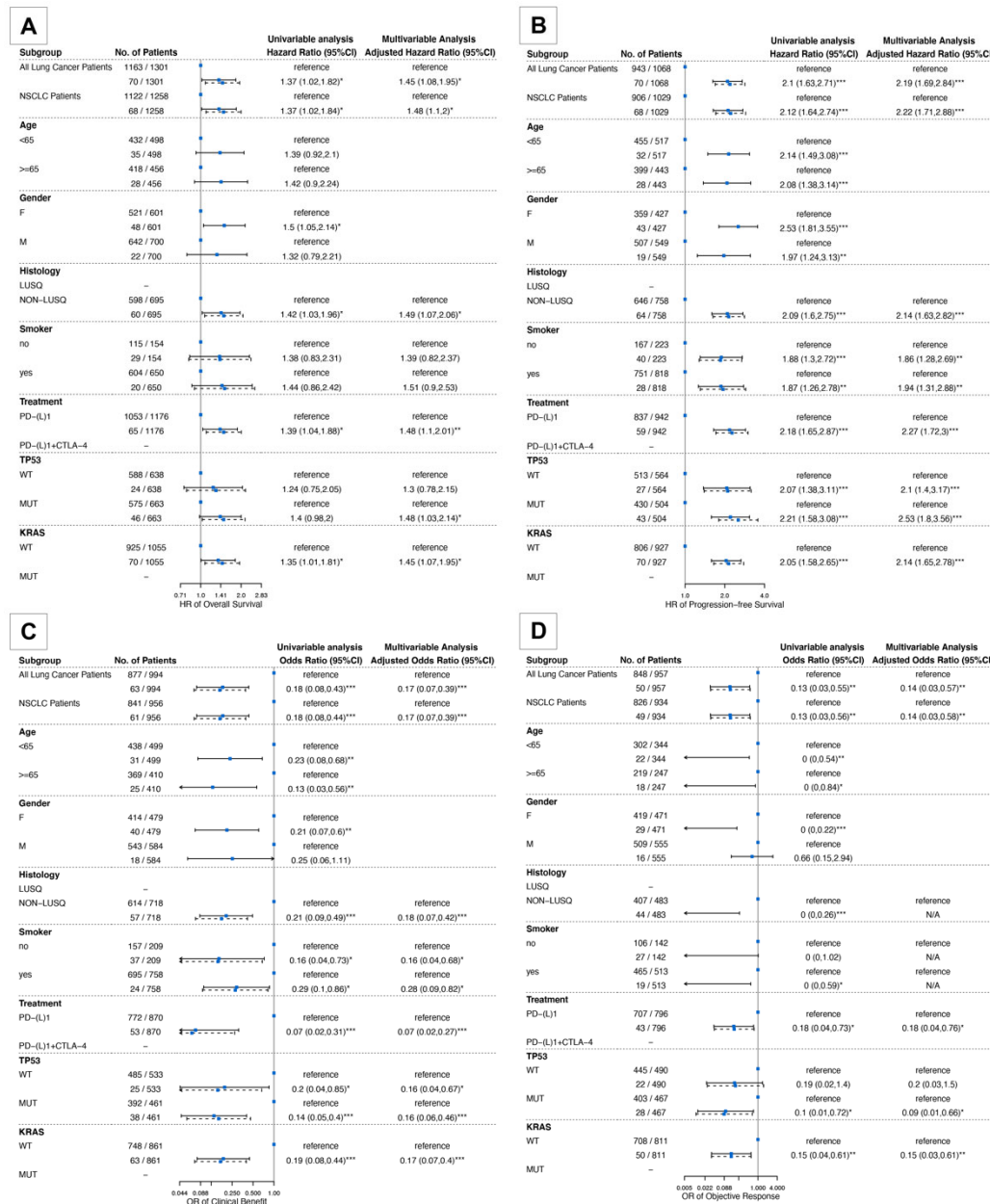


Fig. S5 Forest plot describing the hazard ratio of overall survival (A), progression-free survival (B), odds ratio of clinical benefit (C), and objective response (D) in patients with *EGFR* classical activating mutation compared with *EGFR* wild-type patients.

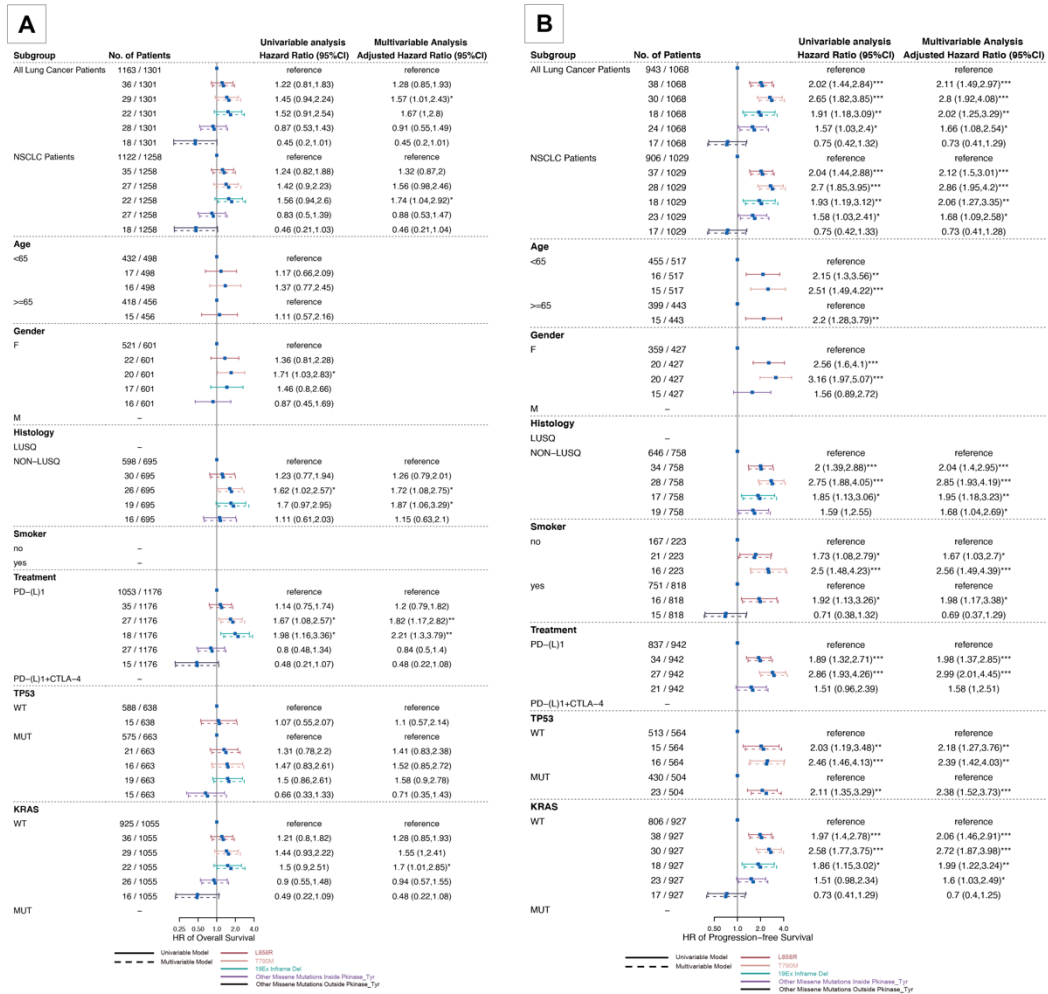


Fig. S6 Forest plot describing the hazard ratio of overall survival (A) and progression-free survival (B) in patients classified by *EGFR* mutation subtype.

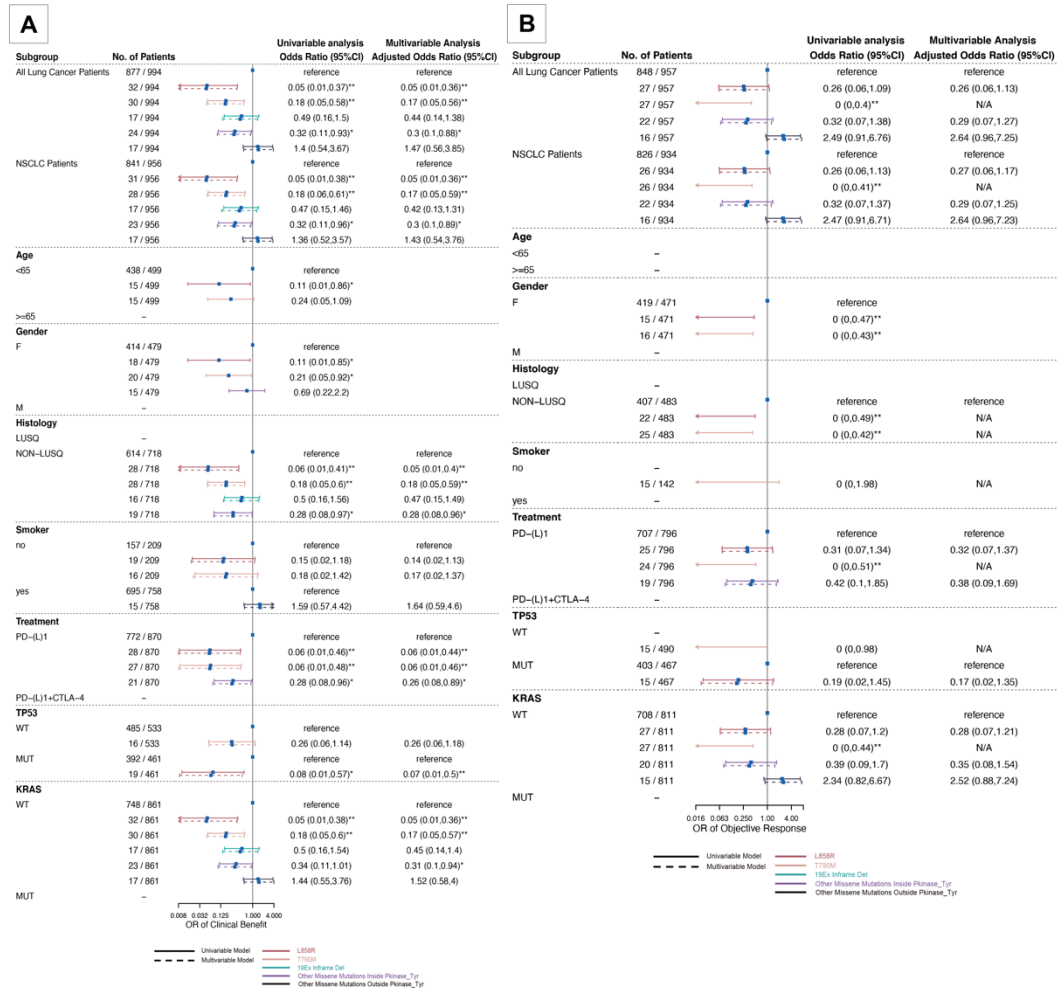


Fig. S7 Forest plot describing the odds ratio of clinical benefit (A) and objective response (B) in patients classified by *EGFR* mutation subtype.

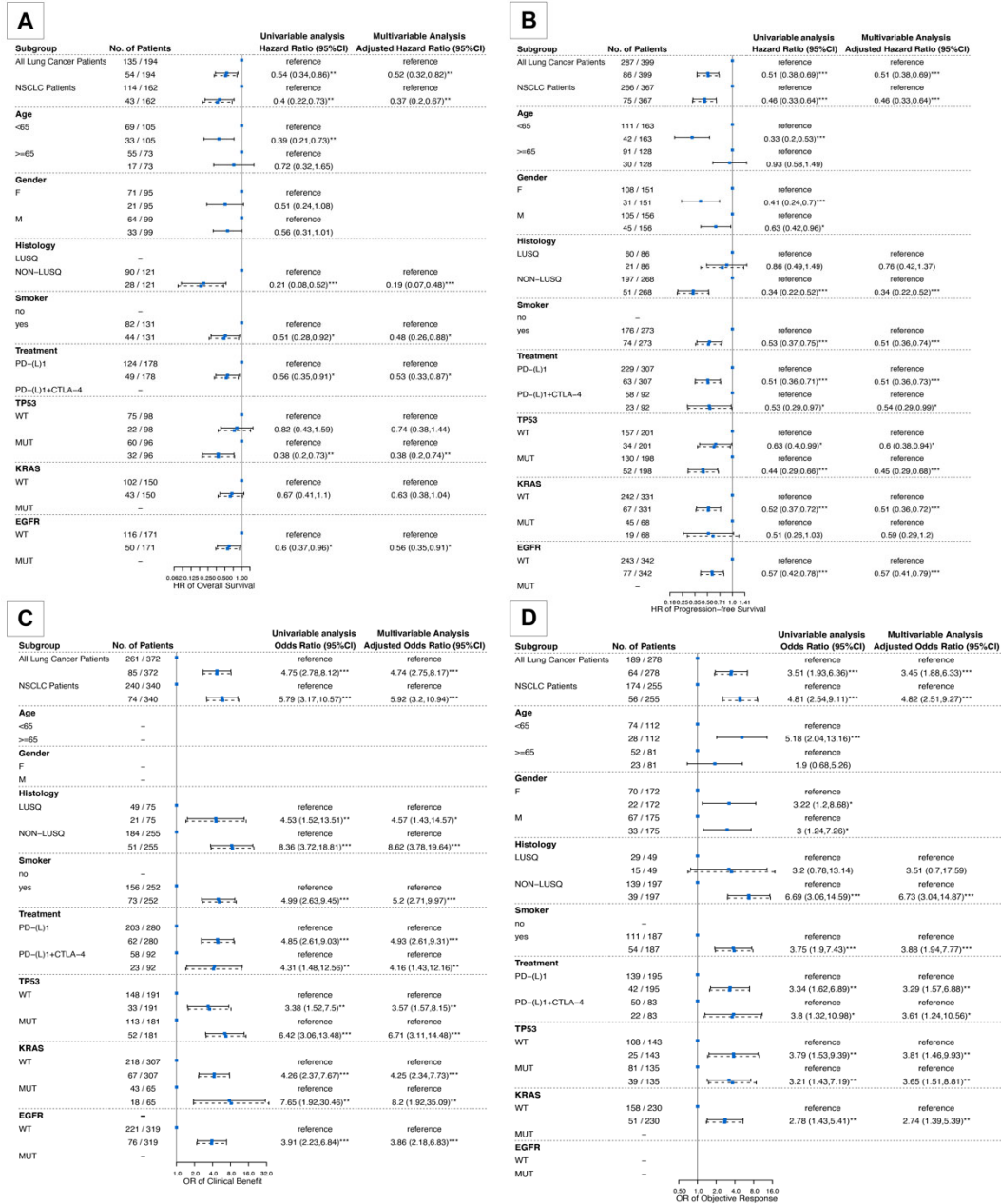


Fig. S8 Forest plot describing the hazard ratio of overall survival (A), progression-free survival (B), odds ratio of clinical benefit (C), and objective response (D) in patients with *USH2A* missense mutation compared with *USH2A* wild-type patients.

Table S1 Adjusted ORs of DCB in different subgroups

Table S2 Adjusted ORs of ORR in different subgroups

Table S3 Adjusted HRs of OS in different subgroups

Table S4 Adjusted HRs of PFS in different subgroups

Table S5 ORs of DCB in different subgroups

Table S6 ORs of ORR in different subgroups

Table S7 HRs of OS in different subgroups

Table S8 HRs of PFS in different subgroups