

LUAD - Lung adenocarcinoma

Subtype	Biology & Expression	Genomic Alterations	Clinical Features
Terminal Respiratory Unit (TRU)	Resembles alveolar type II pneumocytes & club cells; high surfactant proteins (SFTPA/B) & NKX2-1	Enriched for EGFR (and other RTK) mutations; low overall mutational burden; few broad CNAs	Better prognosis; often non-/light smokers; sensitive to EGFR TKIs
Proximal-Proliferative (PP)	Upregulated cell-cycle & DNA-replication programs (E2F targets, G2M); high MKI67, PCNA	Common KRAS mutations; frequent STK11 & KEAP1 co-alterations; widespread arm-level CNAs	Poorest prognosis; heavy-smoking signature; relatively "immune-cold"
Proximal-Inflammatory (PI)	Enriched immune/inflammatory pathways (IFN response, IL6/JAK/STAT3); high CXCL9/10, PD-L1, macrophage markers	Intermediate rates of KRAS, NF1, BRAF mutations; moderate CNA burden	Intermediate prognosis; high immune infiltration; good candidates for immunotherapy