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Cellular Heterogeneity of Lung Adenocarcinoma is Correlated with EGFR Inhibitor Resistance

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ABSTRACT Although EGFR inhibitors have high curative effect on lung adenocarcinoma, EGFR inhibitor resistance is still a difficult problem that must be overcome at present. By integrating bulk RNA-seq data from EGFR inhibitor-sensitive and resistant lung adenocarcinoma cell lines, the researchers identified key genes associated with EGFR inhibitor resistance. By integrating single-cell RNA-seq data from 12 clinical lung adenocarcinoma samples, 22 subpopulations of lung adenocarcinoma cells were identified. This study not only confirmed that the cellular heterogeneity of lung adenocarcinoma is associated with EGFR inhibitor resistance, but also cell subpopulations with EGFR inhibitor resistance properties, such as cluster6, may be closely related to tumor malignancy, suggesting that the study focusing on EGFR inhibitor resistant subpopulations will help to find suitable strategies to overcome EGFR inhibitor resistance.