

南华大学附属第一医院医学伦理审查表

批准编号: 2023LL0701001

项目名称: 单细胞 hdWGCNA 整合生物信息学分析: 构建 T 细胞相关预后模型并分析肺腺癌淋巴结转移的免疫微环境		
项目负责人: 吴思璇	职称: 主治医师	单位: 南华大学附属第一医院
请求审查类型: ☒ 申请项目 ☐ 批准后项目 ☐ 延续项目 ☐ 委托项目		
研究项目来源: 自选课题		
递交审查资料 ☒ 实验方案 (版本号/版本日期 1.0 版本) ☐ 知情同意书 (版本号/版本日期) ☐ 其他资料 包括: 试验用品安全性资料、生产企业资质证明、试验用品提供者的资质证明。		
涉及人或动物的医学研究内容及研究方案摘要 本研究为回顾性队列研究, 旨在利用 GEO 数据库中 LUAD 患者的转移性胸腔内淋巴结单细胞 RNA 测序数据, 表征肿瘤细胞异质性及免疫微环境特征, 重点分析 T 细胞在免疫逃逸中的作用。通过高维加权基因共表达网络分析 (hdWGCNA)、差异表达分析及 Cox/LASSO 回归构建预后模型, 并通过免疫组化 (IHC) 和免疫荧光 (IF) 分析验证 CD69、GOLGA8A 和 IL16 基因在患者组织中的表达模式, 评估其与免疫微环境、肿瘤突变负荷及免疫治疗反应性的关系。 项目负责人 (签字): 吴思璇 2023 年 7 月 1 日		

伦理委员会审查意见

经审查，“单细胞 hdWGCNA 整合生物信息学分析：构建 T 细胞相关预后模型并分析肺腺癌淋巴结转移的免疫微环境”项目，将采取研究对象肺腺癌患者的临床组织标本用于分子机制的研究，经院伦理委员会审核，此项目符合相关医学伦理和知情同意等问题的有关规定和要求，同意开展研究。

南华大学附属第一医院医学伦理审查委员会章：2022年10月10日



Medical Ethics Review Form of the First Affiliated Hospital of University of South China

Approval Number: 2025LL0701001

Project Name: Single-cell hdWGCNA and experimental validation identify an innovative T-cell-associated prognostic model and immune microenvironment in lung adenocarcinoma with lymph node metastasis

Project Leader: Wu Sixuan Title: Attending Physician

Affiliation: The First Affiliated Hospital of University of South China

Request for Review Type: ☒ Application for Project ☐ Approval of Project
☐ Extension of Project ☐ Assignment of Project

Research Project Category: Self-Selected

Submitted for Review Materials:

☒ Experiment Method (Version Number/Date): 1.0 version ☐ Informed Consent Form ☐ Other Materials

Summary of Medical Research Involving Humans or Animals and Research Plan

This study is a retrospective cohort study aimed at utilizing single-cell RNA sequencing data of metastatic intrathoracic lymph nodes from LUAD patients in the GEO database to reveal the heterogeneity of tumor cells and immune microenvironment characteristics. A prognostic model was constructed using high-dimensional weighted gene co-expression network analysis (hdWGCNA), differential expression analysis, and Cox/LASSO regression. The expression patterns of CD69, GOLGA8A, and IL16 genes in patient tissues were validated through immunohistochemistry (IHC) and immunofluorescence (IF) analysis, and their relationship with the immune microenvironment, tumor mutational burden, and immune treatment response was

evaluated.

Project Leader (Signature): Sixuan Wu

July 1, 2025

Ethics Committee Review Opinion

Upon review, the project titled "Single-cell hdWGCNA Integrated Bioinformatics Analysis: "Single-cell hdWGCNA and experimental validation identify an innovative T-cell-associated prognostic model and immune microenvironment in lung adenocarcinoma with lymph node metastasis" will use clinical tissue samples from lung adenocarcinoma patients for molecular mechanism research. After evaluation by the hospital's ethics committee, this project complies with relevant medical ethics, informed consent, and other regulations and requirements. The research is approved to proceed.

July 1, 2025