Project number　31

The role of IL-17A-IL-17RA signaling in chronic lung allograft dysfunction

［1］Research group

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Expenditure report of research funds：
Consumables 130,000YEN
Travel cost 0YEN

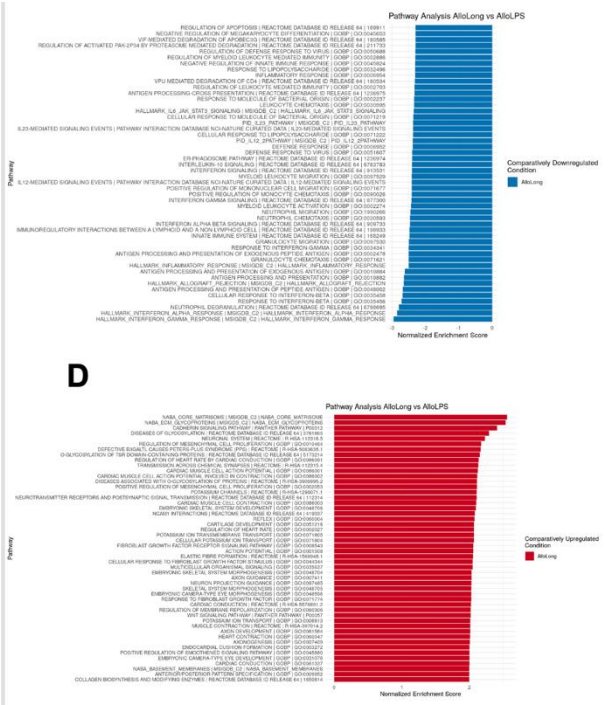
［2］Research setup

Chronic lung allograft dysfunction (CLAD) remains a major limitation to long-term survival after lung transplantation. The purpose of this research is to investigate the mechanisms underlying CLAD using a mouse model of lung transplantation.
We held online meetings every four weeks to discuss the progress of the project. The results of this study were presented at a Japanese conference, and we are currently preparing a manuscript based on these findings.

［3］Research outcomes

（3－1）Results

We are currently analyzing RNA samples from two distinct mouse models of CLAD. In addition, human CLAD samples have been analyzed to link the mouse data with the subtypes of human CLAD. This work is expected to provide a deeper understanding of the molecular mechanisms underlying CLAD.
The figure below shows part of the results obtained from RNA sequencing analysis.



（3－2）Future perspectives

We are working on followings;

1) Further characterize innate immunity dependent mechanisms of CLAD by using mouse lung transplantation model.
2) Analyze our data by using RNAseq.
3) Link our findings generated with mouse model with the data obtained from human CLAD lung samples at Toronto General Hospital.

［4］List of research achievements

(1) Moshkelgosha S, Levy L, Safavi S, Karunagaran S, Wilson G, Renaud-Picard B, Madu G, Ramchandani R, Oliver J, Watanabe T, Bei KF, Joe B, Li Q, Huszti E, Cheung M, Hedley D, Yeung J, Keshavjee S, Martinu T, Juvet S. Emergence of a senescent and inflammatory pulmonary CD4 T cell population prior to lung allograft failure. Sci Adv. 2025 Mar 21;11(12):eadp9052. doi: 10.1126/sciadv.adp9052. Epub 2025 Mar 21. PMID: 40117366; PMCID: PMC11927631.