

Project number 7

Investigation of pathways of chronic lung allograft dysfunction in two mouse models of lung transplantation

[1] Research group

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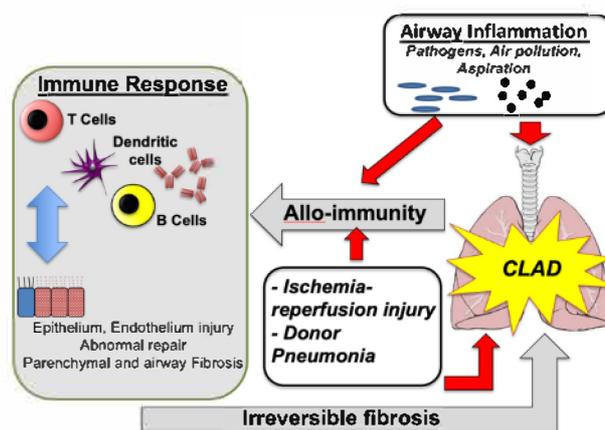
Expenditure report of research funds :

Consumables 200,000YEN

[2] Research setup

Chronic lung allograft dysfunction (CLAD) limits long term survival after lung transplantation. The purpose of this research is to investigate the mechanism of CLAD from the aspects of interplay between innate and adaptive immunities.

We had several online meetings in 2021 for this project. Also, we have published one paper. We are currently working on a revision of a paper submitted to JCI insight.



[3] Research outcomes

(3 - 1) Results

We have published a paper about the mechanism of the development of CLAD in Transplant immunology. In the paper, we described the effect of IL17A-IL17RA axis in CLAD.

Also, we are working on 3 other projects. One of the projects is submitted to JCI insight and it is under revision. We are also aiming to submit another paper soon.

One of the projects, which is we used RNAseq for the analysis needs more time to finish. Several online meetings will be held this year to complete this project.

(3 - 2) Future perspectives

After publication of previous works, we will work on followings;

- 1) Further characterize innate immunity dependent mechanisms of CLAD.
- 2) Prove our findings by using database and samples obtained at clinical lung transplantation.

- 3) Further characterize innate immunity dependent mechanisms of CLAD.
- 4) Prove our findings by using database and samples obtained at clinical lung transplantation.

[4] List of Papers

We had published a paper generated from this joint project. We are preparing 3 other papers.

(1) Watanabe T, Juvet SC, Boonstra K, Guan Z, Joe B, Teskey G, Keshavjee S, Martinu T. Recipient bone marrow-derived IL-17 receptor A-positive cells drive allograft fibrosis in a mouse intrapulmonary tracheal transplantation model. *Transpl Immunol.* 2021. Dec;69:101467. doi: 10.1016/j.trim.2021.101467. Epub 2021 Sep 20.