

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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Host researcher at IDAC :

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Expenditure report of research funds :

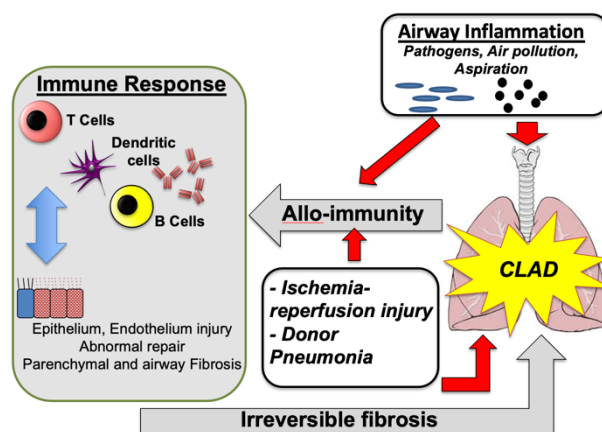
Consumables 70,980YEN

Travel cost 129,020YEN

### [ 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 2022 for this project. Also, we have published one paper. We are currently working on a revision of a paper submitted to JCI insight. In addition, we have published a paper in Mucosal immunology.



### [ 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 have published a paper using this experimental model. The paper was about the role of BATF3, which is indispensable for classical dendritic cells, in lung allograft rejection.

#### ( 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 another papers.

(1) Watanabe T, Lam C, Oliver J, Oishi H, Teskey G, Beber S, Boonstra K, Mauricio Umaña J, Buhari H, Joe B, Guan Z, Horie M, Keshavjee S, Martinu T, Juvet SC. Donor Batf3 inhibits murine lung allograft rejection and airway fibrosis. *Mucosal Immunol.* 2023 Feb 24;S1933-0219(23)00012-0. doi: 10.1016/j.mucimm.2023.02.004. Online ahead of print.