

Report for Joint/Usage Research Program for Endocrine/Metabolism (Fiscal Year 2022)

Date: 2023/3/30

To Director of Institute for Molecular and Cellular Regulation, Gunma University

Principal Applicant	
Institution	The Hong Kong University of Science and Technology
Position	Assistant Professor
Name	Yukinori Hirano

We report on the results of joint research in fiscal 2022 as below.

(Program No. 22003)

1. Research Title	Study of the transcriptomic and metabolomic variability occurring among aged individuals in <i>Drosophila</i>				
2. Purpose and Significance of the research project	Aging process can be variable between individuals, although underlying mechanisms are unknown. We will investigate how the transcriptome and metabolome are variable in aged individuals using flies as a model organism. This multiomics analysis will suggest an entry point to uncover the mechanisms of the aging variability.				
3. Period of The Program	April 1, 2022 ~ March 31, 2023				
4. Project Members					
Name	Age	Sex	Affiliation	Position	Role
(Principal Applicant) Yukinori Hirano	42	M	The Hong Kong University of Science and Technology, Division of Life Science	Position : Assistant professor Degree : PhD Acquisition date : 2008.3.31	Project director
(Research Collaborators)					
※If additional space is required, please attach a separate sheet.					
5. Collaborating Researcher of IMCR	Name of Laboratory	Metabolic Regulation and Genetics		Name	Takashi Nishimura



6. Research Plans

The individual flies will be analyzed to study the correlation between transcriptome and metabolome, which is related to specific aging phenotype.

7. Research results:

As we found different phenotypic aging phenotypes within the population, we found that subgroup among the population shows changes in gene expression and metabolome. The obtained results suggest that the metabolome analyses from subgroups of the population can indicate the mechanism underlying specific types of aging. The obtained models will be further pursued in the coming collaborative research.

8. Present status of academic conference presentations and research papers associated with the results of the joint research, and exchange of information on the joint research with the collaborating researcher at IMCR.

(As much as possible, please state papers that include the names of the collaborating researcher at IMCR or papers stating that the research was supported by the Joint Research Program with IMCR.

Regarding papers, please send a PDF file together with the report to the email address of the general affairs section of the Institute.) Office of General Affairs: kk-msomu4@jimu.gunma-u.ac.jp

- ① Please list the publications that include the name of the collaborating researcher from IMCR and send a reprint of each publication to IMCR.

No paper is published yet.

- ② Please list the publications that include a description that the research was supported by the Joint Research Program with IMCR and send a reprint of each publication to IMCR.

No paper is published yet.

- ③ List up to 3 conferences (name of conference, date of conference, and title of the presentation).

No presentation in conference yet.

- ④ Exchange of information exchange with collaborating researcher from IMCR (please list main points of communication).

Expertise regarding the sample preparation, and data analyses