

Laboratory of Epigenetics and Metabolism, Institute for Molecular and Cellular Regulation

1. Staff

Takeshi Inagaki (Professor, PI) , Komatsu Tetsuro (Associate Professor) , Tomohiro Suzuki (Assistant Professor)

2. Research Projects

We seek to understand the molecular mechanisms which will provide novel approaches for the treatment of lifestyle-related diseases such as obesity and diabetes mellitus.

Transcription factors and epigenetic factors are the two main focuses of our study. These factors regulate gene expression in response to chronic changes of environmental conditions as well as acute stimuli from outside of the body. We try to elucidate how lifestyle affects future development of metabolic diseases through epigenetic memory of environmental changes.

One of our on-going projects is translating multivalent histone codes written in adipocytes in response to extracellular stimuli or differentiation. We speculate that some of extracellular stimuli result in the changes of concentration of intra-cellular metabolites, which affect the enzyme activity of histone modifiers. Thus, the certain metabolic state is memorized as physical constitution through modulating histone mark. We seek to establish a new technique to re-write epigenetic memory and reduce the risk of future development of metabolic diseases.

3. Admission to Our Laboratory

If you have any questions, or would like to join our laboratory, please contact our PI at inagaki@gunma-u.ac.jp.

4. Career Options after the Course

We hope you would be successful in the field of academic research, industry, clinical works or starting new business.

5. Message from PI

We welcome new passionate and patient members to join our laboratory for advancing our research together.