

第 1 5 9 回
東 北 大 学 加 齢 医 学 研 究 所

集談会

プログラム

**159th IDAC Biannual Meeting
Program**



日時：令和 5 年 2 月 10 日（金曜日）13:00～
February 10, 2023, 13:00~ at Web conference

共催：東北大学加齢医学研究所

Institute of Development, Aging and Cancer, Tohoku University

東北大学加齢医学研究所研究会同窓会

Society of Institute of Development, Aging and Cancer, Tohoku University

13:00 – Opening remarks Dr. Ryuta Kawashima

第 30 回加齢医学研究所研究奨励賞受賞記念講演

30th IDAC Young Investigator Award Lecture

13:00 – 13:15 Ceremony Dr. Ryuta Kawashima

13:15 – 13:55 Lecture Chair: Dr. Yoshinori Okada

Psychological and neural mechanisms of body image disturbance

Department of Psychology, Northumbria University

Yumi Hamamoto

Body image disturbance is a disturbed recognition of one's own body, which is the core psychopathology of eating disorders and predictive of their development in healthy populations. It is believed that there are two components in body image disturbance; the perceptual component related to body-size overestimation and the affective component related to excessive dissatisfaction toward one's body. However, previous studies only focused on the comparison between people with eating disorders and healthy people instead of investigating the degree of each component of body image disturbance. Thus, psychological and neurological associations with the two components remained unclear. The degree of each component was quantified and then correlated with questionnaire scores of eating disorder characteristics and neural responses during estimating participants' own and ideal body sizes in an MRI scanner. Regarding the psychological aspect, the perceptual component correlated with negative self-evaluation while the affective component correlated with body dissatisfaction. Regarding the neurological aspect, the perceptual component was related to attentional processing brain regions while the affective component was related to socio-cognitive processing brain regions, which were partially inconsistent with previous fMRI studies implying the perceptual component was related to visual processing and the affective component was related to emotional processing. These results implied the independence of the perceptual and the affective components. Moreover, inconsistencies with previous fMRI studies

may provide a discussion about the importance of quantitatively dealing with body image disturbance as a continuous concept that is also present in healthy people.

Common and distinct neural bases of multiple positive emotion regulation strategies: A functional magnetic resonance imaging study

Department of Functional Brain Imaging, Institute of Development, Aging and Cancer (IDAC), Tohoku University

Masayuki.Tsujimoto

In daily life, we change our emotions through various emotional coping behaviors (emotion regulation strategies). Appropriate emotion regulation is crucially involved in mental and physical health. The neural basis of negative but not positive emotion regulation has been well investigated. Several strategies should be compared to elucidate the neural correlates of positive emotion regulation. However, there are no studies on multiple positive emotion regulation strategies. We aimed to investigate the neural bases of positive emotion regulation with multiple emotion regulation strategies and identify common and differential brain areas involved in positive emotion upregulation. We acquired functional magnetic resonance imaging data from healthy college student volunteers while they upregulated positive emotions through instructed strategies or by viewing positive pictures. The instructed strategies included Attentional Deployment (changing the direction of attention), Cognitive Change (changing the evaluation of emotional events), and Response Modulation (changing the behavior induced by emotional events). These strategies increased subjective positive emotions and activation of the prefrontal cortex and anterior cingulate cortex. Region of interest analysis revealed greater activation of the ventral striatum during positive emotion regulation. There are different networks involved in Cognitive Change and Response Modulation. Our findings indicate that multiple strategies for positive emotion upregulation involve common (e.g., prefrontal cortex, anterior cingulate cortex, and ventral striatum) and unique networks.

13:55 – 14:05 *break*

14:05 – 15:05 Session 1 Presentations 1-4

Chairs: Yukiko Tando, Masayuki Tsujimoto

1 、 Selenophosphate synthetase 1 (SEPHS1) coordinates NRF2-mediated redox homeostasis

Md. Morshedul Alam^{1,2,4}, Tor Eriksson^{1,3}, Wang Xuan¹, Hiroki Sekine¹,
Hozumi Motohashi¹

¹ Dept. of Gene Expression Regulation, IDAC, Tohoku University, Sendai-shi,
Japan.

² Dept. of Genetic Engineering and Biotechnology, Bangabandhu Sheikh
Mujibur Rahman Maritime University, Dhaka, Bangladesh.

³ Uppsala University, Uppsala, Sweden.

⁴ Tokyo Biochemical Research Foundation (TBRF) Fellow, Japan.

2 、 Retinoin synergistically enhances the antitumor effect of combined BRAF, MEK, and EGFR inhibition in *BRAF*^{V600E} colorectal cancer cells

Yuya Yoshida¹, Masanobu Takahashi^{1,2*}, Sakura Taniguchi¹, Ryunosuke
Numakura¹, Keigo Komine², Chikashi Ishioka^{1,2}

¹ Department of Clinical Oncology, Tohoku University Graduate School of
Medicine, Miyagi, Japan

² Department of Medical Oncology, Tohoku University Hospital, Miyagi, Japan

3 、 Differential roles of Kif18A in spindle formation and chromosome oscillation

Ami Sato, Kenji Iemura, Kozo Tanaka

Department of Molecular Oncology, Institute of Development, Aging and
Cancer, Tohoku University

4 、 Effects of dorsomedial hypothalamus-specific *Prdm13* deficiency in brain aging

Akiko Satoh

Department of Integrative Physiology, Division of Brain Science, Institute of
Development, Aging, and Cancer, Tohoku University

15:05 – 15:15 *break*

15:15 – 16:00 **Session 2** **Presentations 5-7**

Chairs: Akiko Ogawa, Hiroki Kataoka

- 5、 **Remote solid cancers rewire hepatic nitrogen metabolism via host nicotinamide-*N*-methyltransferase**
Shinpei Kawaoka
Department of Integrative Bioanalytics, Institute of Development, Aging and Cancer, Tohoku University
- 6、 **LILRB4/gp49B Co-localize with Integrin via Fibronectin at Focal Adhesion Sites on Mast cells**
Shotaro Miyamoto¹, Takumi Chiba¹, So Itoi^{1,2}, Mei-Tzu Su¹ and Toshiyuki Takai¹
¹Department of Experimental Immunology, Institute of Development, Aging and Cancer, Tohoku University
²Department of Hematology and Rheumatology, Tohoku University Hospital
- 7、 **The Molecular Mechanism of Autophagosome-Lysosome Fusion**
Masaki Tateishi, Kota Goto, Hisanori Horiuchi, and Ryutaro Shirakawa
Department of Molecular and Cellular Biology, Institute of Development, Aging and Cancer, Tohoku University

16:00 – 16:10 *break*

16:10 – 16:55 **Session 3** **Presentations 8-10**

Chairs: Koyu Ito, Chunlin Liu

- 8、 **Generation of induced endothelial progenitor-like cells and possible application for pulmonary vascular engineering.**
Takaya Suzuki¹, Golnaz Karoubi², Fumiko Tomiyama¹, Yoshinori Okada¹, Michael Wilson³, Thomas K. Waddell²
¹Department of Thoracic Surgery, Institute of Development, Aging and Cancer, Tohoku University
²Latner Thoracic Surgery Research Laboratories, University Health Network,

University of Toronto

³SickKids Research Institute, The Hospital for Sick Children

9、 Analysis of a transcription factor involved in skeletal muscle atrophy

Atsushi Kubo, Toshihiko Ogura

Department of Developmental Neurobiology, Institute of Development, Aging and Cancer, Tohoku University

10、 Establishing Cell Lines

Shuntaro Ikawa¹,Yosihisa Suzuki^{1,2}

¹Department of Project Programs, Institute of Development, Aging and Cancer (IDAC), Tohoku University

²FACT Inc.

一般口演について

発表時間 12分，討論 3分とします。時間厳守にてお願いします。

座長は研究員会集談会コンテスト審査員が行ないます。

16:55 – 17:00 Closing remarks Dr. Hozumi Motohashi

集談会終了後の研究員会主催新年会は中止です。

東北大学加齢医学研究所集談会に関するガイドライン

【趣旨】

定期開催される東北大学加齢医学研究所集談会(以下、「集談会」という)において、加齢医学研究所同窓会メンバー(以下、メンバーという。)向けに、所属研究者等の日頃の成果を発表いただいておりますが、その中にはメンバー向けのため、公知となっていない研究データ等を発表いただける場合もございます。

ご存じのとおり、研究者のマナーとしまして、不用意に口外しないことを前提に発表いただいておりますが、昨今、ウェブ等で開催することもあり、URLをご存じの方は、メンバー以外でもご参会いただけるため、発表者に不利益が生じないよう、守秘義務を講じて開催いただきますようお願いいたします。

注意事項「本集談会を聴講するにあたり、同会において提供又は開示され、若しくは同発表会を通じて知得した一切の情報について秘密に保持すること。

但し、聴講を受ける前に公知であったこと又は自ら正当に保有していたことを証明できる情報、若しくは聴講を受けた後、貴学が公開したことを証明できる情報についてはこの限りではないものとします。」