

## The 8<sup>th</sup> Leading Seminar Report

**Date:** 10th of February 2014, 15:00–16:30

**Venue:** Lecture Hall

**Number of participants:** 55

**Student organizer:** Mohamed Elfeky (Laboratory of Biochemistry, D2)

**Seminar title:** Adipokines - from discovery to therapeutic development

**Lecturer:** Dr. Yu Wang

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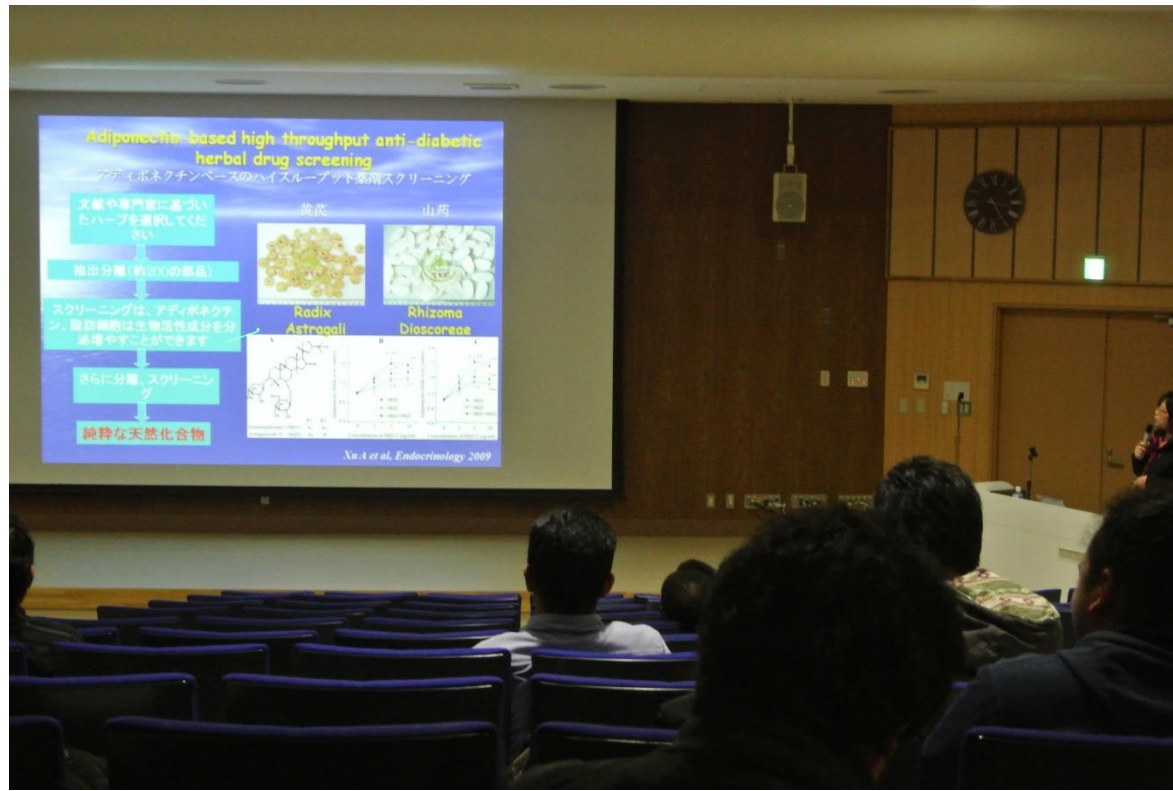
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**Abstract:**

Over a quarter of the world's population is overweight and obese, which directly cause the high prevalence of chronic diseases such as type 2 diabetes, cardiovascular dysfunction and life style-related cancers. Abnormalities in adipose tissue and the aberrant production of adipokines from adipocytes are the major culprits for obesity-related medical complications. Our laboratory has applied a highly integrated approach to identify novel adipokines and investigate their roles in various pathophysiological conditions. Here, the beneficial and harmful functions of two adipokines [adiponectin and lipocalin-2] in the development of obesity-related cardiometabolic syndrome will be presented and discussed.





## ■ Questions and Answers

Q1: Does the exercise increase concentration of adiponectin?

A1: exercise have a lot of beneficial effects ,for instance it can improve insulin sensitivity, glucose metabolism, in terms of adiponectin production, there is no definite pathway to cause adiponectin increase however it reduce oxidative stress which in turn increase adiponectin secretion.





Q2: Why abdominal fat is more important for cardiovascular metabolic syndrome?

A2: abdominal fat contain more inflammatory adipokine more than visceral fat.

Q3: what the mechanism of adiponectin not work properly in obese animals?

A3: this is because the assembly of adiponectin oligomers depend on chaperone which can be affected by abnormal metabolic pathways observed in obese animals.



Q4: what the difference between adiponectin produced using E.coli and mammalian cells? Is binding to receptor is the only difference

A4: the difference is obvious but it can't be reflected at the receptor level only. I think modified adiponectin produced from mammalian cells may have other mechanisms involved especially related to immune system.



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Q5: as you mentioned about use of some Chinese herbal plants to improve adiponectin secretion, did you success?

A5: yes and results was published in endocrinology journals.



Q5: What the main site for post translation of adiponectin? When it happened?

A5: most of lysine resides within the collagen domain. The post translation happened during secretion before it secreted outside the cells before, during and after assembly



**Comment from the organizing student:**

Mohamed Elfeky (Laboratory of Biochemistry, D2)

As we know that Hokkaido university is conducting a program named “Fostering global leader in veterinary science for contributing to one health”. Under this program, they holding a series of special lecture to PhD students to give us opportunity to obtain a wide range of knowledge in the field of veterinary medicine

In my case, I am so pleased to be selected and to have the opportunity to invite Dr.Wang. She have excellent publications records and her research is focusing on obesity and aging related cardiometabolic diseases. From the first moment I met her, we had a great discussions and ideas about the topic of my research and she provide me with valuable and interesting advices and information's that's broaden my understanding about metabolic disorders related to adipokine dysfunction and their association with obesity. She was a very friendly person who had a great willing to help.

I have gained a lot of experience out of this event starting from how to be organize an event and how to be successful chairperson. The leading program is really doing a great job and efforts in teaching us the moral of collaboration and teamwork. I would like to thanks all leading program members especially Prof Dr. Hiroshi for this opportunity. Also I would like to extend my thanks to Mrs. Maki for her their logistic support and kind cooperation in organization of this event.

I hope from deep heart that I will have such opportunity once more in near future.

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### Photographs

#### I- During lecture



#### II- Dinner party





III-Group photo with Dr.Wang.

