13th International Student Seminar (ISS) Presentations

Application Information

This year, our slogan is "Knocking on life science's door: おっしゃ let's do science!" The meaning behind the slogan is to promote scientific and cultural exchange between fellow researchers; overcoming language and cultural barriers and also promoting discussion between different fields of science. For more details on our slogan, please visit our website:

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1. **Day of the Event**
    a. **Date and Time**
    March 3(Tues)-4(Wed), 2015

    b. **Location**
    Kyoto University Shiran-kaikan (芝蘭会館), Kyoto, Japan

    c. **Types of Presentations**
        i. Oral Presentations (Long and Short Talks)
        ii. Posters

2. **Presentation Format**

    a. **All presentations will be in English**

    b. **Oral Presentations**
        i. Long Talk: Presentation 20 min., questions 5 min. Total time = 25min
        ii. Short Talk: Presentation 12 min., questions 3 min. Total time = 15 min

    c. **Posters**
        i. Poster size: A0 (841mm x 1189mm)
        ii. Presenters will stand by their poster for 1 hour at designated times (presenters will be divided into 2 groups to present at different times)

Attention: All oral presenters are required to present a poster.

More information will be provided at a later time.

3. **Who can apply**
    a. Master and Doctoral students from the Graduate School of Biostudies, the Institute for Virus Research, and the Graduate School of Pharmaceutical Sciences
        i. Long Talk

            Requirements: Have sufficient data and presentable results and the ability to present and answer questions in English.

        ii. Short Talk

            Requirements: Does not necessarily have extensive data but would still like to present their work in English.

        iii. Poster

            Requirements: Graduate students at Kyoto University in the aforementioned schools, who would like to present their work via poster and exchange information in English, are encouraged to apply.

4. **Judging and Awards**
    a. Oral Presentations
        i. Judges will consist of invited professors and professors at Kyoto University
        ii. Award(s) for the best presentation(s)
    b. Poster Presentations
        i. Will be judged by all participants (presenters, judges, and visitors)
        ii. Award(s) for the best presentation(s)

Attention: All oral presentations will have feedback from judges and will be available upon request. It is in your best interest to receive advice from judges for comments about your presentation.

Prof. James Hejna from the Graduate School of Biostudies has offered to help those who would like to practice their presentation beforehand or who need some tips and guidance for presenting in English.

(Further information is provided on our website)

5. **Registration**
    a. You can register at the website provided below
    b. Please make sure to follow the format as instructed and fill out all necessary information
    c. Please email your abstract with the subject heading
    13th ISS Abstract (your name)
    and attach your abstract to the email

    Website: http://www.13thiss.lif.kyoto-u.ac.jp/
    Email: 13th.iss.registration@lif.kyoto-u.ac.jp

Deadline for Registration: December 27 (Saturday), 2014

Deadline for Abstract: January 10 (Saturday), 2015

Attention: Make sure to follow the guidelines and to verify that all information is correct.

For those who plan to do an oral presentation, make sure to be signed up for the correct one, long or short talk. Depending on the number of long talks, a selection process may occur under the discretion of the ISS committee. We may ask you to do a long talk, but we will do our best to accommodate your requests.

6. **Questions**
    If you have any questions or concerns please contact us by email with the subject heading: Inquiries about registration of the 13th ISS (your name)
    Email: 13th.iss.registration@lif.kyoto-u.ac.jp

Title (letters font: Times New Roman, 12 point, boldface, left adjust)

Author(s) (Times New Roman, 10.5 point, left justification; please write "*" before the presenter)

Example: *Daisuke Kizawa [1], Kazuhisa Fukue [2], Shuhei Ueda [3] (First name / Family name [running numbers])

Affiliation(s) (Times New Roman, 10.5 point, left justification; your lab's school or institute and university)

Example: 1; Igaki Lab., Graduate School of Biostudies, Kyoto University, 2; Nagao Lab., Graduate School of Biostudies, Kyoto University, 3; Koyanagi Lab., Institute for Virus Research, Kyoto University.

Abstract

Body of text **(**Times New Roman, 10.5 point, right and left justification; maximum 250 words**)**

Keywords: (Times New Roman, 10.5 point, left justification; 6 words or less, separated by commas**)**

*Note

Please read the following instructions carefully before filling out the text.

1. Language: English

2. File format: XXXX.doc (Please do not use XXXX.docx)

3. Please do not change any formats of this text.

4. Please use one-byte characters only.

5. Please fill in all necessary information within a single page (A4).

6. Please fill in your name in the file title before submission.

e.g. "13thISS(your name) format.doc"

→ "13thISS(Tarou Kyoudai) format.doc"

→ "13thISS(Homer Jay Simpson) format.doc

The next page is the sample abstract.

Mutations in the zinc transporter *ZnT2* gene result in zinc deficiency in a breast-fed infant

*Naoya Itsumura, Yusaku Miyamae, Masaya Nagao, Taiho Kambe

Graduate School of Biostudies, Kyoto University

Zinc is an essential mineral and has extensive roles in developmental processes. Therefore, zinc deficiency in infants can result in various disorders including growth restriction, skin lesions, alopecia and immune system dysfunctions. Zinc concentrations in breast milk are considerably higher than those of the maternal serum to meet infant's requirements. Thus, effective mechanisms ensuring secretion of large amounts of zinc into the milk operate during lactation in mammary epithelial cells. The zinc transporter ZnT2 and ZnT4 are thought to be involved in transporting zinc into the milk.

Recently we found a Japanese mother with low milk zinc concentrations (>90% reduction) whose infant developed severe zinc deficiency. To investigate the cause of the milk zinc deficiency, we isolated the genomic DNA from the mother's blood and sequenced the *ZnT2* and *ZnT4* genes. We found no mutations in the *ZnT4* gene, but identified two novel missense mutations, causing W152R and S296L substitution, on different alleles in the *ZnT2* gene. Next, we characterized these ZnT2 mutants biochemically using zinc-sensitive DT40 cells. The W152R mutant abolished the activity to transport zinc and to form dimer complex, which is required for the ZnT2 to transport zinc. These results indicated the W152R mutant is a loss-of-function. The S296L mutant retained both abilities but was extremely destabilized. Taken together, the compound heterozygous mutations in the *ZnT2* gene of the mother caused low milk zinc concentrations and resulted in severe zinc deficiency in the breast-fed infant. Our results show that ZnT2 doubtlessly plays an essential role in zinc secretion into milk.

Keywords: zinc transporter, ZnT2, mutation, human disease