



Department of Biotechnology
Ministry of Science and Technology
Government of India
DBT



National Institute of
Advanced Industrial Science
and Technology
AIST

DBT - AIST International Laboratory for Advanced Biomedicine

DAILAB

Classroom for Advanced & Frontier Education CAFE

DAILAB-CAFE

Series - 002

Date and Time - July 31, 2014/ 4 PM ~

Venue - Central 4-1; 2F (Meeting Room 1)

Speaker – **Mototada SHICHIRI**

Affiliation – Health Research Institute, AIST-Kansai

E-mail: mototada-shichiri@aist.go.jp



Title - Vitamin E and oxidative stress-related diseases

Abstract – Some diseases have been reported to relate to oxidative stress. I am researching about the biomarker of oxidative stress, especially lipid peroxidation products, and the antioxidant therapy. I focused on vitamin E as an antioxidant agent which suppresses lipid peroxidation. When I investigated about the molecular regulation mechanism of the blood vitamin E concentration, I clarified that a lipid transporter of liver cell is involved in the regulation of vitamin E. Then, I noticed that a compound X inhibits this lipid transporter and reduces blood vitamin E concentration. However, I could not think that the compound which lowers the vitamin E level was helpful to human diseases. On the other hand, Prof. Suzuki, Obihiro University of Agriculture and Veterinary Medicine, reported a resistance against malaria infection of α -tocopherol transfer protein knockout mice showing undetectable levels of vitamin E in plasma. Then, we combined our knowledge and examine about the effect of compound X against murine malaria infection. Pre-treatment for 2 weeks of compound X can rescue from death of mice infected with murine malaria. Interestingly, the side effects linked to prolonged vitamin E deficiency were avoided because the results showed that plasma vitamin E concentration was quickly recovered after compound X withdrawal.

Thus, compound X might be a suitable candidate for the treatment of malaria.






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Series - 002
 Date and Time - July 31, 2014 4 PM
 Venue - Central 4, 5, 2F (Meeting Room 2)
 Speaker - Nobuhiko SHICHIRI
 Affiliation - Health Research Institute, AIT Kansai
 E-mail - nobuhiko-shichi@ait.kansai.jp



Title - Vitamin E and oxidative stress-related diseases
Abstract - Some diseases have been reported to relate to oxidative stress. I am researching about the biomarker of oxidative stress, especially lipid peroxidation products, and the antioxidant therapy. I focused on vitamin E as an antioxidant agent which suppresses lipid peroxidation. When I investigated about the molecular regulation mechanism of the blood vitamin E concentration, I clarified that a lipid transporter and reduces blood vitamin E concentration. However, I could not think that the compound which lowers the vitamin E level are helpful to human diseases. On the other hand, Prof. Suzuki, Obihiro University of Agriculture and Veterinary Medicine, reported a resistance against malaria infection of co-spherul transfer protein knockout mice showing undetectable levels of vitamin E in plasma. Thus, we combined our knowledge and examine about the effect of compound X against murine malaria infection. Pre-treatment for 2 weeks of compound X can rescue from death of mice infected with murine malaria. Interestingly the side effects linked to prolonged vitamin E deficiency were avoided because the results showed that plasma vitamin E concentration was quickly recovered after compound X withdrawal. Thus, compound X might be a suitable candidate for the treatment of malaria.

Dear Dr. Shichiri

Please accept our thanks for being the DAILAB-CAFE

Speaker

on July 31, 2014

We enjoyed your talk and appreciate
your efforts!

