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Ministry of Science and Technology
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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**
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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.

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 !