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Antioxidant potential in non-extractable fractions of dried persimmon (*Diospyros kaki* Thunb.)

Dried fruits of persimmon (*Diospyros kaki* Thunb.) are a traditional food in Japan and contain large quantities of tannins. In this study, we investigated the *in vitro* and *in vivo* antioxidant potentials of non-extractable fractions from dried persimmons. Hydrolysed non-extractable fractions showed the highest antioxidant activities *in vitro*. In subsequent experiments, the plasma oxygen radical absorbance capacity (ORAC) values in rats supplemented with 5% non-extractable fraction were approximately 1.5 times higher than those in control rats after 1 week *in vivo*. Furthermore, using an *in vitro* model of the gastrointestinal tract, the ORAC values of the non-extractable fraction were significantly increased with colonic fermentation in the large bowel stage. These data indicate that non-extractable fractions may possess significant antioxidant potential *in vitro* and *in vivo*.

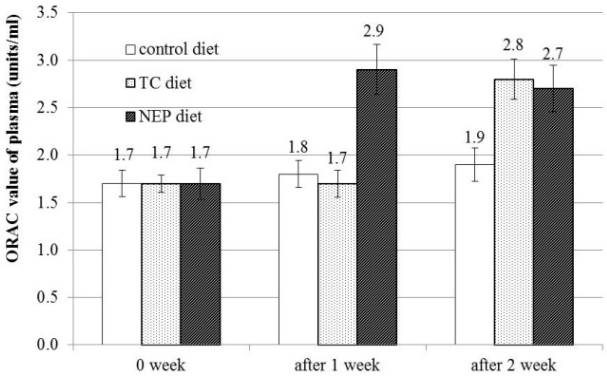

Figure1: Plasma ORAC values of animal study

Biography

Shin-ichi Kayano graduated from the Department of Food Science and Nutrition, Faculty of Human Life Science, Osaka City University, Japan, in 1985. He worked as a Senior Researcher of research institute, Miki Corporation, Japan, from 1985 through 2004. His job in Miki Corporation was the development of new products of functional foods, and study on functional components in fruits and vegetables. He was awarded a PhD in Science in 2004, from Osaka City University, Japan, under the supervision of Professor Nobuji Nakatani. He joined the Kio University as a Professor in 2009. His current study is on the antioxidative, antimutagenic, and estrogenic ingredients in various fruits and vegetables, and the elucidation of chemical structures and action mechanism of these compounds.

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