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Ishii, Yuji
Faculty of Pharmaceutical Sciences, Kyushu Uniersity

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Memorial address for Dr. Hideyuki Yamada, distinguished professor

Yuji Ishii
Graduate School of Pharmaceutical Sciences, Kyushu University, Fukuoka, Japan

(Insert Fig. Image of Prof. Yamada)

Dr. Hideyuki Yamada, distinguished professor, former president of the Japanese Association of Forensic Toxicology, and vice dean of the Graduate School of Pharmaceutical Sciences at Kyushu University (Fukuoka, Japan), passed away from stomach cancer on Monday, February 22, 2016, in Fukuoka, Japan, which was his home town. He was 61 years old.

Dr. Yamada was one of the pioneers in the field of functional protein-protein interactions of drug metabolizing enzymes. He contributed to a number of valuable discoveries as a member of the toxicology research team at Kyushu University. In particular, he played a central role in the purification of cytochrome P450 (P450) catalyzing the deamination of amphetamine to phenylacetone (1). The reaction was originally known as a discovery of the microsomal drug-metabolizing system by Dr. Axelrod (2). He actually convinced researchers for the first time of the presence of a P450 enzyme which catalyzes this reaction. Furthermore, he was a member of a research group that identified, again for the first time, the presence of protein-protein interactions between P450 and uridine diphospho (UDP)-glucuronosyltransferase (UGT) in liver microsomes (3). This finding was very important and novel, because, until then, P450 and UGT had been thought to work separately. No one would have considered such a possibility because both enzymes do not come into contact with each other as far as their membrane topology is classically concerned. However, cumulative studies supported the view that the hypothesis was likely (4).

Dr. Yamada was a true academic but his research program was quite challenging. This may be seen from his research plan, which aimed to clarify

the mechanism of sexual immaturity caused by 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD). A series of his investigations, supported by Drs. Tomoki Takeda and Takumi Ishida (assistant profs.) and many students, resulted in the exciting discovery that maternal exposure to TCDD elicits the reduction of luteinizing hormone (LH) in the fetal pituitary at the critical period which causes the suppression of steroidogenesis in the testis. This imprints sexual immaturity at puberty but can be restored by supplementation of equine chorionic gonadotropin (eCG) at the fetal stage (5-7). Furthermore, supplementation of α-lipoic acid to the TCDD-treated mother is a candidate treatment to restore steroidogenesis at the fetal stage (8).

Although many more studies will be needed until we can reach a definitive conclusion, we can still feel his encouragement. Dr. Yamada will remain forever in the minds of all the people who knew him, together with the memories of his constant kindness, fairness and decency.

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Disclosure of interest

The author reports no conflicts of interest.