

50th Anniversary Symposium on Cytochrome P450
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In Memorium—Tsuneo Omura

(by F. Peter Guengerich, Bettie Sue S. Masters, Ken-Ichirou Morohashi, Masahiko Negishi, & Hiroshi Yamazaki)

The biochemical community, especially his colleagues in the field of cytochrome P450, lost one of its true pioneers with the death of Professor Tsuneo Omura on 29 January 2022. He discovered cytochrome P450 in his work with the late Prof. Ryo Sato at Osaka University, and a Clarivate search indicates that a *JBC* paper (*J. Biol. Chem.* 239, 2370-2378, 1964) describing the work has been cited at least 12,700 times. Tsuneo Omura was an Honorary Member of the ASBMB, a distinct honor.

Tsuneo Omura was born 29 July 1930 in Shizuoka Prefecture, Japan. He graduated from the University of Tokyo with a B.S. in Chemistry and then worked as an Instructor and Lecturer in Chemistry at Shizuoka University. The course of his doctoral work and advancement was rather unique compared to our current systems, but in 1960 he joined Prof. Ryo Sato's laboratory at the Osaka University Institute for Protein Research as an Associate Professor. In 1961 he was awarded a D. Sc. in Biochemistry from the University of Tokyo, based on the work he had performed at Shizuoka University. It was during the early 1960s in Osaka that Omura and Sato published three major papers about the discovery of P450 (including the very highly cited one in the *JBC*), plus seven others in related areas. From 1964 -1966, Omura was a visiting scientist at the Johnson Foundation of the University of Pennsylvania (with Ronald W. Estabrook) and then Rockefeller University (with Philip Siekevitz). He returned to the Osaka Institute for Protein Research and then moved in 1970 to the position of Professor of Biology and Molecular Biology at Kyushu

University, a position he held throughout his career until he assumed Emeritus status in 1994. From 1995-1997 he was a Visiting Professor of Biochemistry at Vanderbilt University (with Michael R. Waterman and others).

Prof. Omura made many contributions to the field of P450 research throughout his career. These include studies on the regulation of P450s and, in particular, trafficking of P450s in both the endoplasmic reticulum and mitochondria. His studies with mitochondrial P450s, specifically the cholesterol side chain cleavage enzyme, led to an enhanced understanding of the regulation of these P450s by proteins such as Ad4BP/SF-1, a steroidogenic transcription factor.

Not surprisingly, Prof. Omura was a leading figure in Biochemistry in Japan, and many of his students went on to very productive careers. Along with Honorary ASBMB Membership, Omura received the first R. T. Williams Award from the International Society for the Study of Xenobiotics in 2001, and he was also honored at the 1994 International Microsomes and Drug Oxidations (MDO) meeting. Omura continued to attend and actively participate in meetings many years after his retirement. He presented a plenary lecture at the 2018 MDO meeting in Kanazawa. Tributes were also made to him at a special 2012 meeting in Fukuoka, commemorating 50 years since his discovery of cytochrome P450.

Tsuneo Omura will be remembered as a humble and very thoughtful man. He was very friendly, communicative, and always very anxious to help young scientists and lend his advice. His laboratory was always open to visitors from abroad, and he was very happy to help people throughout the 91-plus years of his life. Many visitors recall his joy in driving his guests all around Kyushu with many stops at pottery-making artisans and notable sites, including the active volcano, Mt. Aso. Due to his warm personality and erudite knowledge, many students were attracted to him. During 24 years of his tenure in Kyushu University, 112 undergraduate students and 42 graduate students joined his laboratory, and 33 of them took Ph. D. degrees under his thoughtful and persistent guidance. All the students spent meaningful and valuable time in his laboratory, and he created an atmosphere of camaraderie and mutual respect. He was a true *sensei* in every sense of this Japanese title of honor.

Prof. Omura was preceded in death by his wife, Yone (9 December 2000), and is survived by their three children. Obviously, he was loved by many scientists in the field, and he will be missed.