Six O'clock in the Evening on October 9th 2002

News Arrived saying that Koichi Tanaka Researcher in Shimadzu had Won the Nobel Prize in Chemistry 2002

◆ Opening a New Door of Science ◆

On October 9th, the Royal Swedish Academy of Sciences announced their decision to award the Nobel Prize in Chemistry 2002 to three people for their development of methods for identification and structure analyses of biological macromolecules — Koichi Tanaka (at the time: Life Science Laboratory Assistant Manager of Shimadzu Corporation), Prof. John B. Fenn (Virginia Commonwealth University, USA) and Prof. Kurt Wuthrich (Swiss Federal Institute of Technology). Koichi Tanaka is the twelfth Japanese individual to receive the Nobel Prize and the first post-war-born Laureate. He was 43 years old when the award was announced, which makes him the second youngest after Prof. Hideki Yukawa, who was 42 when he was awarded the Nobel Prize in Physics in 1949. Moreover, Tanaka is the first person ever to win the Nobel Prize without a master's or doctor's degree, having become a researcher after graduating from university without entering a graduate school. The award caused a sensation in and outside of Japan since the Laureate himself and even his associates found it hard to believe that such an award would be bestowed.

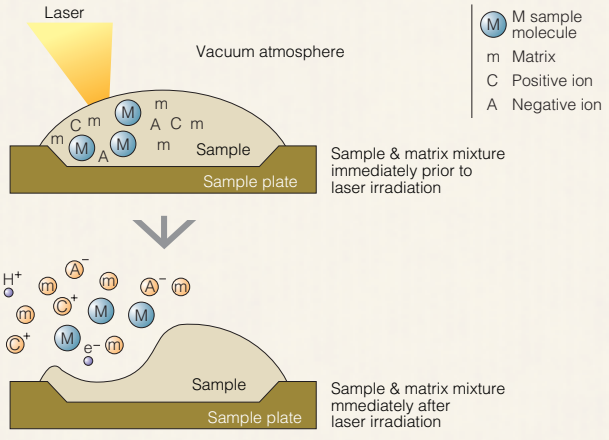
The work that merited Tanaka his award involved "the development of soft desorption ionization methods for mass spectrometric analyses of biological macromolecules". Through this work, Tanaka opened the way for the accurate but simple mass spectrometric analysis of macromolecules, such as proteins, which are extremely difficult to analyze by conventional methods because of their high molecular weights. In the world of life science, we are in a post-genome era where the focus of research has shifted to proteomics, to reveal the structures and functions of proteins. Tanaka's research has provided the opportunity for astounding developments in proteomics, which in turn have afforded significant progress in the development of new drugs, to the extent that the world can look forward to applications in the field of medical care such as early diagnosis of cancer.

The Prize Winning Technology

What is MALDI?

MALDI stands for Matrix Assisted Laser Desorption/Ionization. A MALDI sample is in a state where it is evenly mixed with a mass matrix. The matrix absorbs a nitrogen laser (ultraviolet light, wavelength = 337nm) and converts it into thermal energy. At the same time, a minute amount of the matrix (uppermost surface of the analyte in the diagram) rapidly heats (within several nanoseconds) and vaporizes with the sample.

The Nobel Prize was awarded for the achievement of enabling accurate analysis of large molecular weights, such as biological macromolecules, through the use of a mixture of glycerin and cobalt powder in a matrix. This method has revolutionized the development of new drugs.



Sharing the Joy of the Prize Award Ceremony with the Various People who Supported Him

**The 2002 Nobel Prize Award Ceremony was held in Stockholm, Sweden on December 10th, 2002.
Koichi Tanaka shared the deep delight of receiving the ultimate honor a scientist can receive with his family members, company representatives, and researchers who supported him.**

Tanaka answering questions from reporters at the press conference at 9:00pm, October 9th, 2002

With the other four research members after prize award ceremony

Koichi Tanaka on the stage with Nobel Diploma and Medal in hand

With Dr. Robert Cotter and Dr. Catherine Fenselau who supported Tanaka in disseminating his discovery to the world

The Nobel Lecture titled "The Origin of Macromolecule Ionization by Laser Irradiation" on Dec. 8th

Koichi Tanaka with the latest mass spectrometer Shimadzu-Kratos "AXIMA-QIT "

Message from the President

"Contributing to Society through Science and Technology"

I hope Shimadzu continues to have a high regard for this corporate philosophy.

I was in the USA when news first broke of the Nobel Prize award to Koichi Tanaka. The award concerns the work on matrix assisted laser desorption/ionization (MALDI), a technology for analyzing proteins, which is useful in early diagnosis and treatment of illnesses such as cancer and immunological disease as well as the development of new medicines. This is none other than the embodiment of Shimadzu's corporate philosophy: Contributing to Society through Science and Technology, a fact that swells my heart with profound joy. Koichi Tanaka made public the method and principle behind the MALDI technology in order that the world could share in its benefits. As a result, researchers around the world have been able to further exploit the developments in various ways, such as for the development of new medicines, to contribute to society through science. For this reason, naturally, I am immensely happy for Koichi Tanaka. But I am also overjoyed because this award is further proof of the vision handed down from our founder Genzo Shimadzu, who wished to see outstanding scientific technology spreading its way across the globe.

Hidetoshi Yajima
President and Chief Executive Officer of Shimadzu Corporation

http://www.shimadzu.com
http://www.nobel.se
http://www.kva.se
These sites provide information about Koichi Tanaka and Nobel Prize laureates in chemistry.

For more details of Mr. Tanaka`s research history and achievements, a leaflet titled " A noble soul" is available in Japanese, English, and Chinese upon request.