

Japan's Highest Invention Prize was Awarded to Aripiprazole Researchers



National Commendation for Invention Award Ceremony at Okura Hotel's Orchard Room

This innovative invention prize is the highest award in Japan which began nearly a century ago in 1919. The prize comes from the “Japanese Institute of Invention and Innovation” (JIII). The JIII has been under the patron of H.I.H. Prince Hitachi since 1968. The award is to recognize people, who have accomplished original inventions, and contributed to the promotion of technology and is extremely rare for a pharmaceutical company to be awarded such an honor.

This year, The Top Imperial Award: The Imperial Invention Prize was awarded to Otsuka Pharmaceutical's 3 researchers, Seiji Sato, Yasuo Oshiro and Nobuyuki Kurahashi for the invention of the compound aripiprazole. Sato, Oshiro and Kurahashi were part of a research team that synthesized a new medication for treating schizophrenia, the first antipsychotic drug developed in the world with a dopamine D2 receptor partial agonist action. The other prizes went to companies such as Sony Corporation, CANON INC. and Panasonic Corporation.

Yasuo Oshiro, Corporate Advisor, Intellectual Property Department, Otsuka Pharmaceutical Co., Ltd. said, “Receiving the Imperial Invention Prize is the highest honor. I never imagined being awarded this prize. As someone working in drug research and development, it is extremely gratifying to receive this award. I am fortunate to be surrounded by colleagues who have offered me their unwavering support and encouragement. None of what I have achieved would have been possible without the help of such exceptional coworkers in the fields of drug synthesis and pharmaceuticals.”



Award winning aripiprazole researchers at the National Commendation for Invention Award Ceremony:
Seiji Sato, Yasuo Oshiro, Nobuyuki Kurahashi

Schizophrenia is thought to be caused by an imbalance of chemicals — serotonin and dopamine — that are found in the brain. The condition is characterized by positive and negative symptoms. Positive symptoms include hallucinations, delusions, disorganized thinking, speaking, and behavior. Negative symptoms include lack of emotion, lack of energy, and lack of motivation.

Mr. Oshiro had put importance on 3 hypotheses during his research; first, the compound should selectively block dopamine receptors. Second, the amount of dopamine should be reduced. And third, side effects should be lessened. After all three conditions were satisfied over numerous synthesizing of compounds, the team discovered the candidate compound, aripiprazole. It was able to stabilize effect on the nervous system by suppressing dopamine activity when excessive and stimulating it when dopamine activity is low.

This led to a drug development which was eventually launched in the US in 2002 and became a blockbuster product after only three years on the market. It was also launched in Japan as a treatment for schizophrenia in 2006. An additional indication was approved in January 2012 for treatment of manic symptoms of bipolar disorder. Also noteworthy is that in November 2007, aripiprazole was the first antipsychotic drug in the world to obtain an indication for the adjunctive treatment of major depressive disorder in US.

Nobuyuki Kurahashi, Vice President, Global CNS Business, Otsuka America Pharmaceutical, Inc. explained, “Yasuo incorporated “safety” in the design from the very beginning. When aripiprazole was introduced, this approach earned him widespread praise from doctors, families, and patients, and its impact cannot be overstated. It was precisely because people trusted in its safety that aripiprazole came to be used by so many patients and in so many diseases. Ever since I joined the company, it has brought me great honor and happiness to be involved with this drug, from its initial development through to its market launch in the United States.”

Seiji Sato, Senior Researcher, First Institute of New Drug Discovery, Medicinal Chemistry Group, “Failure is common in our field, drug synthesis. The hard work is tackled first. You are constantly aware of the obstacles that you have not been able to overcome in the past, and that still remain, and resolve to overcome them, because beyond them lies success. Partial agonists are at first

glance a difficult concept to believe in. I think Yasuo's courage in taking that first step to tackle this concept, as well as the strength of his conviction, were the driving forces behind this achievement."



Dr. Taro Iwamoto, Otsuka Pharmaceutical President and Representative Director, was awarded
The Distinguishing Service Prize for Employment of Invention

All this would not be possible without the support and encouragement of a strong and farsighted leader. For the steadfast leadership, Otsuka Pharmaceutical President and Representative Director, Taro Iwamoto, Ph.D., was honored with The Distinguishing Service Prize for Employment of Invention.

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