

Press Release

RaQualia Pharma and Nagoya University's ITbM start new collaboration

Towards developing new drugs for controlling circadian rhythms

November 18, 2015

Nagoya, Japan – RaQualia Pharma Inc. and the Institute of Transformative Bio-Molecules (ITbM) of Nagoya University have announced a joint research agreement for the discovery of small molecules to control the circadian rhythms of mammals.

This research project will be conducted amongst Professors Yasuhiro Iwata and Mikio Morita of RaQualia, and Professors Kenichiro Itami (Director), Tsuyoshi Hirota and Steve Kay (Principal Investigator, ITbM; President, The Scripps Research Institute) of ITbM.

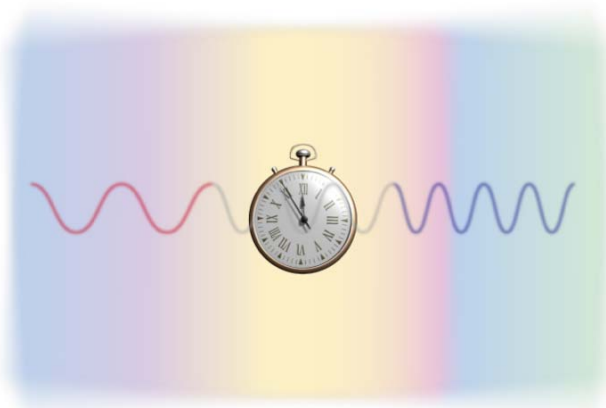


Image of the changing circadian rhythm

The discovery of small molecules to control the circadian clock of mammals is one of the main research focuses of ITbM. Using a chemical genetic approach, Professor Itami (synthetic chemistry), Associate Professor Hirota (chronobiology) and Professor Kay (chronobiology) are developing compounds that can shorten or lengthen the circadian rhythm. ITbM aims to discover “transformative bio-molecules” that will make pronounced advances in circadian clock research and improve the health of people. The circadian clock has a significant role in the sleep-wake rhythm along with daily control in the secretion of hormones and metabolic activity. As a consequence, disruption of the circadian rhythm is not only related with sleep disorders, obesity and other lifestyle diseases but may also induce mental disorders. Compounds that affect the circadian clock mechanism will be effective for controlling the function of the body clock and may potentially become pharmaceuticals to treat symptoms associated to the circadian clock disruption.

RaQualia Pharma is a research and development-based drug discovery company, which originates from Pfizer Inc.'s Research Laboratories in Japan. The company was founded in February 2008 and started its business in July 2008, by assuming a part of the former Research Laboratories' human resources, physical assets, and research and development portfolio. The aim of RaQualia is to create new pharmaceutical products focusing on medical fields where patients have the greatest need. RaQualia's primary emphasis is on discovery research and early clinical development of inflammatory and neuropathic pain and gastrointestinal diseases. RaQualia's unique business model of open collaboration with universities, public research institutions, pharmaceutical companies and venture businesses has driven the discovery and development of innovative new medicines.

In April 2015, RaQualia launched two laboratories as part of academic-industrial research collaborations with Nagoya University: the Laboratory of Pharmaceutical Sciences & Analytical

Chemistry (Designated Associate Professor Yasuhiro Iwata) in the Graduate School of Medicine, and the Laboratory of Medicinal Chemistry (Designated Associate Professor Mikio Morita and Designated Associate Professor Hirohide Noguchi) in the Graduate School of Pharmaceutical Sciences. Both laboratories are located in the National Innovation Complex (NIC) of Nagoya University, which is expected to serve as one of the research centers for RaQualia to maximize synergy effects with the university. This joint research is positioned as part of such efforts and will be conducted between ITbM and the academic-industrial collaboration laboratories owned by RaQualia.

The Institute of Transformative Bio-Molecules (ITbM) at Nagoya University is an international research center selected in October 2012 as a World Premier International Research Center Initiative (WPI). WPI is a research program supported by the Japanese government to establish international, multidisciplinary research centers with high research standards. Led by center director Kenichiro Itami, ITbM's mission is to develop "transformative bio-molecules", i.e. innovative functional molecules that will change the grounds of life science and technology. Research at ITbM is carried out by the interdisciplinary collaboration between synthetic chemists and animal/plant biologists.

"My first contact with ITbM was when I heard Professor Itami's lecture in 2013," speaks Mr. Masaki Sudo of RaQualia. "Since June 2015, we started to consider the possibility of a collaboration between RaQualia and ITbM, and discussed the main contents and roles of the joint research."

"From the perspective of a pharmaceutical scientist, what fascinated me the most was the speed and flexibility of ITbM's research. I saw ITbM developing molecules, those that are not usually recognized as seeds for drugs. Not only that, but they have also managed to determine its target protein all within less than one year, which is not the usual timescale that we see in pharmaceutical companies," continues Sudo. "Together, we hope to be able to share our experience and expertise to advance the research in developing molecules to control the circadian clock. We are extremely pleased to enter an academia-industrial partnership with ITbM and we look forward to contributing to this exciting project by applying our technological expertise as a bio venture."

"The collaboration with RaQualia is absolutely essential in order to create drugs from the molecules discovered at ITbM," speaks Kenichiro Itami, director of ITbM. "We hope to learn from RaQualia's extensive expertise in developing pharmaceuticals, and conduct open research by making good use of each other's competence."

"Mr. Sudo and I were actually classmates at university, and we were also in the same laboratory during graduate school, so I am extremely thrilled to have the opportunity to work together with him on this new project," continues Itami.

"The circadian clock is related to many symptoms, such as sleep disorders and metabolic diseases. Therefore, having a good understanding and control over the clock in our bodies is expected to lead to the development of various treatments for such symptoms," speaks Tsuyoshi Hirota of ITbM.

"Our next challenge is to generate practical applications from the unique seeds discovered at ITbM, by developing drug-like molecules," continues Hirota. "Being able to work with RaQualia is an excellent chance to move our research forward and we hope that this will ultimately lead to the development of pharmaceuticals to treat disorders related to the circadian clock."

ITbM and RaQualia envision that this academia-industrial collaboration between fundamental research and applied science will accelerate drug discovery research and lead to the development of innovative drugs that can control the circadian clock rhythm.

About WPI-ITbM (<http://www.itbm.nagoya-u.ac.jp/>)

The World Premier International Research Center Initiative (WPI) for the Institute of Transformative Bio-Molecules (ITbM) at Nagoya University in Japan is committed to advance the integration of synthetic chemistry, plant/animal biology and theoretical science, all of which are traditionally strong fields in the university. As part of the Japanese government's Ministry of Education, Culture, Sports, Science and Technology (MEXT) program, ITbM aims to develop transformative bio-molecules, innovative functional molecules capable of bringing about fundamental change to biological science and technology. Research at ITbM is carried out in a "Mix-Lab" style, where international young researchers from multidisciplinary fields work together side-by-side in the same lab. Through these endeavors, ITbM will create "transformative bio-molecules" that will dramatically change the way of research in chemistry, biology and other related fields to solve urgent problems, such as environmental issues, food production and medical technology that have a significant impact on the society.



From the left: Masaki Sudo (RaQualia), Masashi Ohmi (RaQualia), Mikio Morita (RaQualia), Kiyoshi Kawamura (RaQualia), Tsuyoshi Hirota (ITbM), Kenichiro Itami (ITbM)

Researcher Contact

Professor Kenichiro Itami

Institute of Transformative Bio-Molecules (WPI-ITbM), Nagoya University

Furo-Cho, Chikusa-ku, Nagoya 464-8601, Japan

TEL/FAX: +81-52-789-6098

E-mail: itami@chem.nagoya-u.ac.jp

Associate Professor Tsuyoshi Hirota

Institute of Transformative Bio-Molecules (WPI-ITbM), Nagoya University

Furo-Cho, Chikusa-ku, Nagoya 464-8601, Japan

TEL: +81-52-747-6356

E-mail: thirota@itbm.nagoya-u.ac.jp

Mr. Masaki Sudo

RaQualia Pharma Inc.

Furo-Cho, Chikusa-ku, Nagoya 464-8601, Japan

TEL: +81-52-747-6931 FAX: +81-52-747-6932

E-mail: masaki.sudo@raqualia.com



RaQualia
innovators for life



NAGOYA
UNIVERSITY



ITbM
Nagoya University



Media Contact

Dr. Ayako Miyazaki

Institute of Transformative Bio-Molecules (WPI-ITbM), Nagoya University

Furo-Cho, Chikusa-ku, Nagoya 464-8601, Japan

TEL: +81-52-789-4999 FAX: +81-52-789-3053

E-mail: press@itbm.nagoya-u.ac.jp

Nagoya University Public Relations Office

TEL: +81-52-789-2699 FAX: +81-52-788-6272

E-mail: kouho@adm.nagoya-u.ac.jp