OKAYAMA UNIVERSITY e-Bulletin

Vol.24, March 2019

岡山大学 OKAYAMA UNIVERSITY | SUSTAINABLE DEVELOPMENT GOALS

"Okayama University supports the Sustainable Development Goals"

1-1-1 Tsushima-naka, Kita-ku, Okayama 700-8530 Japan

Contents

■ Contribution

Insights into the UN SDGs for young university students

Mutsuyoshi Nishimura
Former ambassador to the OECD
Former ambassador to the UN Climate Change Negotiations

I would like to draw your attention to Goal 6 of the Sustainable Development Goals (SDGs): "Ensure access to water and sanitation for all". It is because most Japanese people remain unaware of what it is for. Most Japanese take water supply and clean sanitation for granted due partly because Japan is blessed with abundant water resources. Japanese penchant for cleanness has made the "wash-let" toilet a must in all households, and this in a matter of decades.

So we remain ignorant of why this historic UN document ranks the goal of water and sanitation quite high on the list. Just look at the dire reality:

- Three out of ten people lack access to safely managed drinking water services and 6 in 10 people lack access to safely managed sanitation facilities.
- At least 892 million people continue to practice open defecation.
- Women and girls are responsible for water collection in 80 per cent of households without access to water on premises.

Most Japanese people can never imagine how humiliating and shaming it is for a little girl to go hiding into the bushes when needed. We never think about her anxiety. It never occurs to us that this is an issue of human dignity. Yet, as the above facts tell us, almost 900 million people, young boys and girls in Africa and elsewhere don't have closed toilets in their schools. This is the sad reality for all those boys and girls, all enthused with learning in their schools to which they walk miles every day.

Then in Goal 4 the SDGs refers to "Quality Education". I am glad it also discusses gender equality and empowering women and girls in Goal 5.

I am glad because those coincide exactly with what enlightening voices I heard from an Indian advocate and visionary actions achieved by a professor in Bangladesh.

Several years ago, I had a chance to join a discussion in a group of experts and academics debating the possible global population explosion and resulting challenges for human welfare and earth sustainability. I was struck by the opinion of an Indian philanthropist. This elderly gentleman who devoted his whole professional life to public work related to poverty eradication and development was exposing his life-long conviction that educating young girls and women is the only solution to avert a global population crisis and a way forward to affordability.

Here is another great story that illustrates the value of education and gender related goals. I know a

Bangladeshi university professor called Muhammad Yunus who started “Grameen Bank” in 1976, a microfinance and community development bank.

His lending policy is unique and legendary. They make small loans to impoverished villagers without requiring collateral, something bankers would never normally do. His microloans were almost all given to poor women in villages to help them start tiny businesses. Just as an illustration, his microcredit would allow a woman to buy an old sawing machine and start a business of repairing closes of fellow villager; a seminal capitalistic step in the value-adding process started, and poverty started to be dealt with slowly but surely. The fact that 30 years later in 2006, Muhammad Yunus was awarded the Nobel Peace Prize speaks volumes.

I just spelled out only some examples that show how SDGs are on the ball. SDGs are an excellent compilation of challenges for all of us to rise up to. And human endeavor abounds on a global scale, albeit with no small number of failures. But this should not discourage nations, local communities, civil societies, academic communities, and above all young people from rising to the challenge.

Most particularly young university students are today obligated to prove to the world and most particularly poorer part of the world that education works. In particular, that education works to reduce poverty. It works to reduce man-made stress to transfer a pristine planet to the generations to come. The UN SDGs are not just an additional reader. They are beacons of light for you to act.

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■ Feature

ESD Teacher Education Projects for Achieving the Sustainable Development Goals: Okayama University Drives ESD in New Directions

Education for Sustainable Development (ESD), which UNESCO leads and coordinates globally since 2005, is currently promoted worldwide through the Global Action Programme (GAP) on ESD as well as through the Sustainable Development Goal 4 on education under Target 4.7. ESD is also a vital means of implementing the 2030 Agenda for Sustainable Development and a key enabler of all the Sustainable Development Goals.

Okayama University is the only university in Asia to hold the UNITWIN/UNESCO chair programme on ESD and is a key member of the Okayama Regional Centre of Expertise on ESD (RCE Okayama) established by the United Nations University. Okayama University has energetically promoted teacher education for ESD, and in November 2014 at the UNESCO World Conference on ESD, the university cooperated with the International Network of Teacher Education Institutions (INTEI) associated with the UNESCO Chair in Reorienting Education towards Sustainability at York University Canada to organize the Eighth International Conference of the network.

Building on these achievements, Okayama University launched the Japan Society for the Promotion of Science (JSPS) Core-to-Core Programme (2017-2019), "Formation of International Center of Excellence to Promote Teacher Education on ESD" with the aim for seven countries in Asia (China, Indonesia, Japan, Lao PDR, Mongolia, Myanmar, and Republic of Korea) to establish core institutions on teacher education for ESD, create academic networks for ESD, and foster future generations of ESD researchers.

In order to further promote international collaboration for advancing teacher education on ESD in Asia-Pacific region, Okayama University and UNESCO Bangkok jointly organized the "Asia-Pacific Regional Meeting of Teacher Education on ESD: Towards Achieving the Sustainable Development Goals through Education" in Okayama on 27-29 November 2018.

Okayama University President Hirofumi Makino explains the aims of the meeting.

The meeting brought together people from the education sector from 19 countries in the Asia-Pacific region who are involved in training of teachers and leaders in charge of implementing ESD. The participants worked on the development of "Development of Asia-Pacific Frameworks for Teacher Education Programme on ESD", which will provide goals for teacher education for ESD. The frameworks

as a new direction of ESD will be proposed at the coming "2019 Global Meeting of Teacher Education for ESD" in Okayama on 22-25 November 2019, which is a gateway to the GAP 2030 on ESD.

Participants at the meeting

Group photograph of the participants.

Further information

Asia-Pacific Regional Meeting of Teacher Education for ESD
http://www.okayama-u.ac.jp/eng/news/index_id8279.html

JSPS Core-to-Core Programme
http://ceteesd.ed.okayama-u.ac.jp/

■ News

Two Okayama University students attend One Young World (OYW) 2018 as Japanese representatives

Ms. Wakana Abe, a senior in the Faculty of Letters and Ms. Hiromi Ouchida, a senior in the Matching Program (MP) Course attended the One Young World (OYW) 2018, which was held in The Hague, the Netherlands from October 17 to 20, as Japanese delegation members. As an official OYW partner, Okayama University has sent its two student representatives and Vice President for Global Engagement Strategy, Mr. Atsufumi Yokoi as an observer for four consecutive years since the youth summit held in Bangkok, Thailand in 2015 (followed by OYW 2016 in Ottawa, Canada and OYW 2017 in Bogotá, Colombia, South America).

An opening ceremony was held at Peace Palace

Opening speech by Queen Maxima of The Netherlands

A scene of the venue

During the summit, Ms. Abe and Ms. Ouchida participated in various events, including plenary sessions, workshops and networking events, and discussed various topics within the framework of the UN Sustainable Development Goals, including climate change, war and peace, education, human rights, leadership and global business. At plenary sessions, they listened to speeches by Nobel Peace Prize laureate Dr. Muhammad Yunus, Unilever CEO Dr. Paul Polman, and world leaders and representatives from various countries. They also learned about the latest global industry-academia-government collaboration initiatives. For example, they learned about Lead 2030, a program designed to support activities and projects of young people helping to achieve SDGs with collaboration of the United Nations, the world youth summit One Young World and world-leading companies through a presentation by Ms. Jayathma Wickramanayake, the UN Secretary-General's Envoy on Youth, who leads the Young Leaders Initiative, an effort to achieve SDGs.

Further information

Okayama University (Japanese page)
http://www.okayama-u.ac.jp/tp/news/news_id8068.html

Commemorative photo

岡山大学 OKAYAMA UNIVERSITY | SUSTAINABLE DEVELOPMENT GOALS

■ News

Okayama University announces its plan to offer the SiEED program designed to enhance students' abilities to identify unknown problems and create unknown solutions.

On December 6, Okayama University and Stripe International Inc. held a joint press conference in Tokyo to announce a plan to offer the SiEED program, which is designed to promote the creation of new businesses in Okayama by providing students with a new learning forum where they can be inspired to create a better future.

Director Nasu, President Makino, President Ishikawa, Mr. Hokamura and Mr. Yamashita (from left)

The speakers at the press conference were Okayama University's President Hirofumi Makino; Dr. Yasutomo Nasu, Director of the Office for Innovative Medicine at the Organization for Research Promotion & Collaboration, who heads the SiEED Program Working Group; Mr. Yasuharu Ishikawa, President, CEO and Representative Director of Stripe International Inc.; Mr. Hitoshi Hokamura, Partner at Scrum Ventures and former Chairman of Evernote Japan, who serves as an executive advisor for this program; and Mr. Tetsuya Yamashita, Liaison Officer for 500 Kobe Accelerator, who serves as the program director. They all vigorously expressed their thoughts and aspirations about the SiEED Program, an innovative education program that will begin to be offered in April 2019.

President Makino talks about the background and purpose of the program opening

Mr. Ishikawa said, "I've been conducting my business with the hope of spreading something good across society. Through the SiEED program, I'd like to help develop people." President Makino said, "I'd like our faculty and students to change their mindsets through this program. We will continue to develop students into globally competent individuals."


Director Nasu stating his feelings about the program

Okayama University will offer four liberal arts education courses under this program in the first and second semester of the academic year 2019.

A discussion by the speakers

Further information

Okayama University (English page)
http://www.okayama-u.ac.jp/eng/news/index_id8272.html

Okayama University (Japanese page)
http://www.okayama-u.ac.jp/tp/news/news_id8141.html

1-1-1 Tsushima-naka, Kita-ku, Okayama 700-8530 Japan

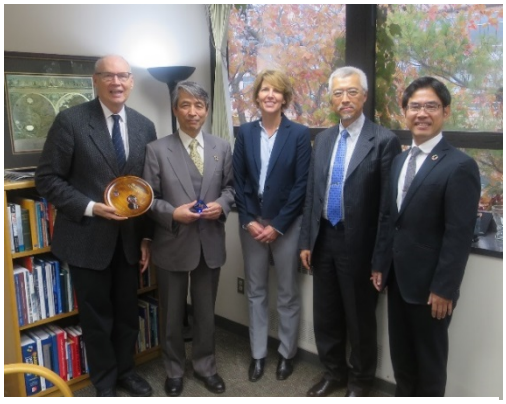
■ News

President Makino and two others visit the University of Michigan: Two universities agree to strengthen their mutual collaboration, with the 70th anniversary of opening of the University of Michigan's Okayama Field Station (2020) approaching.

On October 29, President Hirofumi Makino, Vice President for Global Engagement Strategy Atsufumi Yokoi, and Professor Masaharu Senoo, Dean of the Graduate School of Interdisciplinary Science and Engineering in Health Systems, visited the University of Michigan.

The year 2020 will mark the 70th anniversary of opening of the University of Michigan's Okayama Field Station, which was the only American center of Japanese studies established in Japan back then. Five months prior to this visit, on June 1, Dr. Kiyoteru Tsutsui, Director of the University of Michigan Center for Japanese Studies, and his companion visited Okayama University to discuss possible future interaction and collaboration between the two universities with President Makino and other university officials. The purpose of this visit in October was to discuss a variety of issues to further promote interaction and collaboration between the two universities.

President Makino and two others visited various institutions of the University of Michigan, including the University of Michigan Health System (UMHS), which has a partnership agreement with Okayama University's Medical School, the University of Michigan Medical Center and the University of Michigan Center for Japanese Studies, to discuss with officials at each institution how to promote interaction and collaboration for a better future for the two universities.



Commemorative photo with Senior Associate Dean Joseph C. Kolars and others.

At the Japan Center for Michigan University. Professor Senoo, Vice President Yokoi, Director Tsutsui and President Makino.(from left)

President Makino reading the note of McArthur's supreme commander hold by University of Michigan

Further information

Okayama University (English page)
http://www.okayama-u.ac.jp/eng/news/index_id8275.html

Okayama University (Japanese page)
http://www.okayama-u.ac.jp/tp/news/news_id8156.html

Presentation by President Makino at The President's Advisory Committee on Labor Standards and Human Rights

1-1-1 Tsushima-naka, Kita-ku, Okayama 700-8530 Japan

■ News

President Makino and Prof. Seno attend events to celebrate 150th anniversary of Wayne State University and agree to promote mutual cooperation between the two research universities

President Hirofumi Makino and Professor Masaharu Seno, Dean of the Graduate School of Interdisciplinary Science and Engineering in Health Systems were invited to attend the events to celebrate the 150th anniversary of Wayne State University(WSU) in Detroit, Michigan. Under a partnership agreement, Okayama University and WSU have collaborated in a variety of ways.

Celebrate the summit between the two university president (Associate Vice President Ezzeddine, President Makino, President Wilson and Professor Seno (from left))

The anniversary events were held for three days from October 24 to 26. On the first day, a welcome reception was hosted by Dr. Ahmad Ezzeddine, Associate Vice President for Educational Outreach and International Programs and Senior Associate to the President for Special Initiatives at WSU and Mrs. Ezzeddine. At the reception, participants including the president and vice president from Riga Technical University (Latvia), WSU's other partner institution, shared information about their education, research, and social contribution activities. This reception helped strengthen networks among partner institutions.

Celebrate the summit at medical school (President Makino, Director Matherly, Professor Seno, Professor Ratnam and Manager Assarian (from left))

On the final day, through the good offices of WSU's President Roy Masao Wilson, President Makino and Prof. Seno held a meeting with Dr. Ezzeddine in the morning. During the meeting, they discussed how to strengthen mutual relations to further develop the two universities and agreed to promote mutual cooperation in a wide variety of areas.

Celebrate the summit at IBio (Professor Seno, President Makino and Vice President Lanier (from left))

President Makino also had an opportunity to discuss things with President Wilson. The discussions with President Wilson and other responsible officials at WSU helped deepen the friendship between the two universities and identify the

current situation and future prospects of WSU. Okayama University will further enhance mutual relations with WSU and make its education, research, and social contribution activities more global.

A monument built inside the Wayne State University campus. 1868 of the founding year is engraved.

Further information

Okayama University (English page)
http://www.okayama-u.ac.jp/eng/news/index_id8178.html

Okayama University (Japanese page)
http://www.okayama-u.ac.jp/tp/news/news_id8076.html

■ Research Highlights

The importance of coral-algal symbiosis in terms of coral calcification

Reef building corals are well known for their vigorous calcification, which supports high biodiversity in coral reefs and is enabled by their symbiotic relationship with photosynthesizing zooxanthellae.

However, mechanisms confirming interaction between symbiont photosynthesis and coral calcification have not been fully elucidated.

Mayuri Inoue and colleagues at Okayama University, Universiti Brunei Darussalam, University of the Ryukyus, Geological Survey of Japan, The University of Tokyo, and Universität Münster measured chemical components and isotopic compositions in the skeletons of primary polyp of *Acropora digitifera* with and without zooxanthellae and found that only uranium-calcium ratio (U/Ca; used as a proxy for calcification fluid pH) was systematically different between symbiont and asymbiont primary polyps.

The researchers conducted three culture experiments using symbiont and asymbiont primary polyps for a period of 10 days in which temperature, salinity and, pCO_2 were controlled.. Then multiple geochemical tracers (U/Ca, Mg/Ca, Sr/Ca, $\delta^{18}O$, $\delta^{13}C$, and $\delta^{44}Ca$) in skeletons of cultured corals were analyzed.

As a result of analyzing multiple geochemical tracers, a clear and systematic decrease in skeletal U/Ca ratio, which is used as a proxy for calcification fluid pH, was observed, indicating a higher pH of the fluid in symbiotic compared to asymbiotic polyps.

This study clarified that the critical effect on coral calcification caused by symbiotic algae is the increase of pH of the calcifying fluid by photosynthesis. Therefore coral bleaching caused by environmental stresses, such as global warming, would lead to a reduction of coral calcification and hence growth of coral reefs.

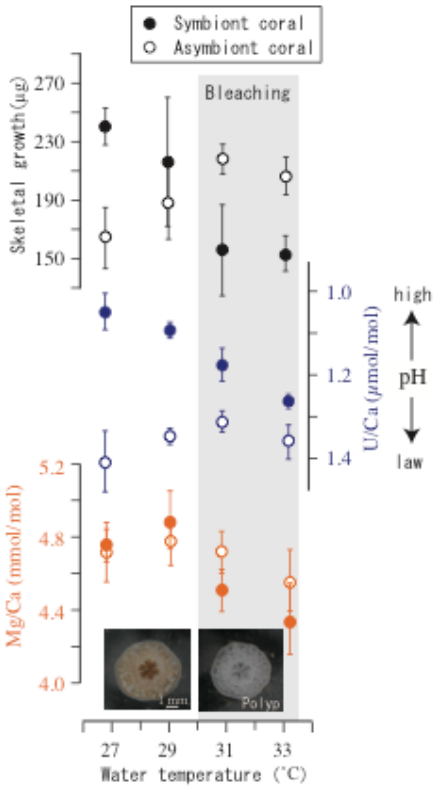


Figure caption: Growth, U/Ca and Mg/Ca ratios of symbiont and asymbiont primary polyps reared under the temperature controlled experiment.

Reference:

- Authors: Mayuri Inoue, Takashi Nakamura, Yasuaki Tanaka, Atsushi Suzuki, Yusuke Yokoyama, Hodaka Kawahata, Kazuhiko Sakai and Nikolaus Gussone.
- Title of original paper: A simple role of coral-algal symbiosis in coral calcification based on multiple geochemical tracers
- Journal, volume, pages and year: *Geochimica et Cosmochimica Acta* **235**, 76-88 (2018).
- Digital Object Identifier (DOI): 10.1016/j.gca.2018.05.016
- Journal website: https://doi.org/10.1016/j.gca.2018.05.016
- Affiliations: Division of Earth Science, Graduate School of Natural Science and Technology, Okayama University
- Department website: https://www.gnst.okayama-u.ac.jp/en/
- Okayama University Scientific Achievement Repository: http://ousar.lib.okayama-u.ac.jp/56411

■ Research Highlights

DNA as a 'reservoir' of phosphorus nutrient: Plants recycle DNA in chloroplasts as a source of phosphorus under starvation

It is well known that nitrogen, phosphorus, and potassium (NPK) are the three macro-nutrients necessary for plant growth, and are the main components of fertilizer. Among them, phosphorus has recently received global attention as it is derived from limited rock mining, and its overloading gives rise to water pollution. To resolve these problems, it is important for a deeper understanding of how crops (plants) efficiently use phosphorus. In cells phosphorus is incorporated as inorganic phosphate, and major phosphate-containing macromolecules include nucleic acids (DNA and RNA), phospholipids, and phosphoproteins.

In this study, Wataru Sakamoto and colleagues focused on DNAs kept in 'endosymbiotic organelles', namely, chloroplasts and mitochondria. These small organelles are considered to evolve from the endosymbiosis of ancestral bacteria, which happened in ca. 1.5 billion years ago. To support this evolution, it is known that remnant DNAs exist in these organelles. These organelle DNAs exist highly abundantly in chloroplasts, that accounts for more than 30% of total DNA in leaves. Sakamoto's group hypothesized that these extra DNAs in organelles could be degraded and recycled.

In this report they describe the enzyme called DPD1, that degrades organelle DNAs in a model plant, *Arabidopsis* and in poplar trees. DPD1 is well conserved among seed plants and degrades abundant chloroplast DNAs, when plants undergo 'senescence' or 'leaf fall', in which leaves degrade numerous macronutrients and recycle them in their upper tissues. Interestingly, *Arabidopsis* mutants lacking DPD1, when placed under phosphate-limited conditions, suffered from poor growth, produced less seeds, and disturbed less phosphorus relocation to upper tissues (Figure 1).

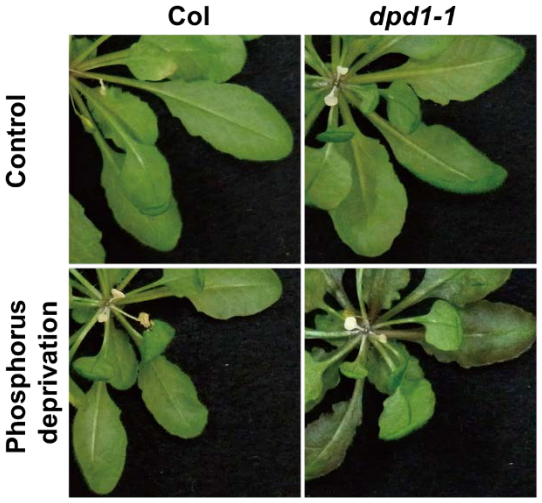


Figure 1. Purple leaf coloring observed as a typical symptom of phosphorus starvation. The Arabidopsis mutant lacking DPD1 nuclease (*dpd1-1*) displays purple leaves upon phosphorus starvation (right), where as the wild-type Arabidopsis plant (Col) does not. The results indicate that DPD1 acts in providing internal phosphorus, when plants are limited by external phosphorus.

The results obtained in this research revisit the old implication envisioned by Friedrich Miescher, a Swiss biochemist who first identified DNA biochemically in the late 19th century. He recognized DNA as a molecule enriched with phosphorus, unlike protein, and noted that DNA (he originally called it 'nuclein') might be a phosphor-storing molecule. Needless to say, DNA is well known to code genes, but his original thought on

DNA as a phosphor-storing molecule may thus be applicable to abundant organelle DNAs.

The findings uncover an elaborate way of adaptation to harsh environments in plants, which may lead to the improvement of crops connected to efficient phosphate use (Figure 2).

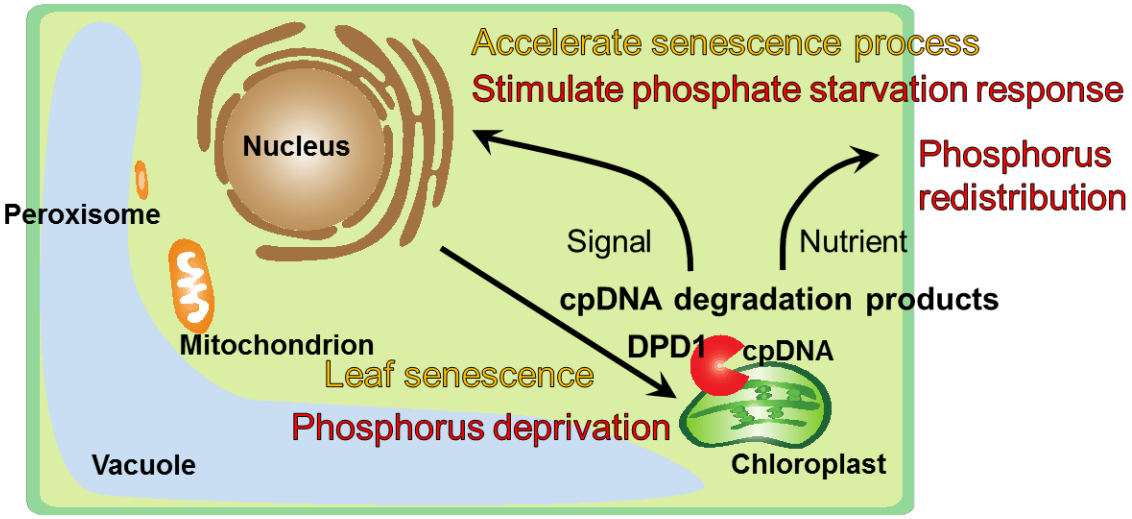


Figure 2. A proposed model of DPD1 exonuclease involved in leaf senescence and phosphorus deprivation. By degrading excessive chloroplast DNAs (cpDNAs), the degradation products may act in providing additional phospho-compounds to the upper tissues. The degradation products may also act in stimulating nuclear gene expression, that would lead to what is known as the response to phosphate starvation.

Reference:

- Authors: Tsuneaki Takami, Norikazu Ohnishi, Yuko Kurita, Shoko Iwamura, Miwa Ohnishi, Makoto Kusaba, Tetsuro Mimura, and Wataru Sakamoto
- Title of original paper: Organelle DNA degradation contributes to the efficient use of phosphate in seed plants
- Journal, volume, pages and year: *Nature Plants* **4**, 1044-1055 (2018).
- Digital Object Identifier (DOI): 10.1038/s41477-018-029
- Journal website: https://www.nature.com/articles/s41477-018-0291-x
- Affiliations: Institute of Plant Science and Resources, Okayama University
- Department website: http://www.rib.okayama-u.ac.jp/
- Okayama University Scientific Achievement Repository: http://ousar.lib.okayama-u.ac.jp/56412

■ Research Highlights

In-situ photo-irradiation solid-state NMR for detecting the functional changes of photoreceptor-protein structure

Microbial rhodopsin is an attractive target protein in biophysical chemistry in order to understand the relationships between structure, dynamics, and functions.

Although a microbial rhodopsin "phoborhodopsin" is a negative phototaxis receptor protein with a retinal chromophore whose function has been well studied by Yuki Sudo, the structure of the chromophore, especially in the short-lived photo-intermediates, are not understood (Fig. 1).

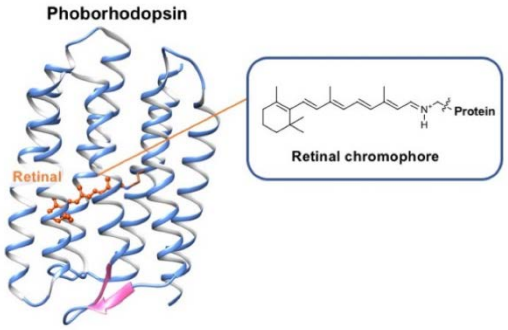


Fig. 1. Structure of photoborhodopsin with 7 transmembrane α-helices and its retinal chromophore.

Now, Akira Naito, Izuru Kawamura and colleagues at Yokohama National University, Kobe Pharmaceutical University, Hokkaido University, and Okayama University have shown that *in-situ* photo-irradiation solid-state NMR can detect several early photo-intermediates with structure of chromophore in phoborhodopsin.

Phoborhodopsin with ^{13}C stable isotope-labeled retinal was reconstituted into lipid bilayers. The sample was packed into an NMR tube, and the sample was photo-irradiated under the magic angle spinning condition, which is a high-resolution technique. The *in-situ* photo-irradiation solid-state NMR apparatus allows irradiation of the samples with extremely high efficiency and enables observation of short-lived photo-intermediates in the stationary trapped state (Fig. 2).

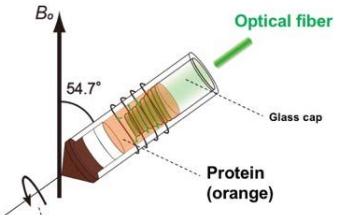


Fig.2. In situ photo-irradiation solid-state NMR apparatus with magic angle spinning arrangement.

The chemical shifts of the ^{13}C NMR signal of ^{13}C labeled retinals were carefully detected and analyzed under photo-irradiation. Consequently, short-lived M- and O-intermediates were detected with a newly detected N'-intermediate, which turned out to have been transformed from the M-intermediate (Fig. 3).

The structures of retinals for the short-lived M-, O- and N'-intermediates were revealed to be (13-cis, 15-syn), (13-trans, 15-syn) and (13-cis), respectively. This challenging photo-irradiation NMR spectroscopy

provides an opportunity to detect the dynamic conformational change of proteins enclosing retinals in relation with function. Eventually, it will lead to understanding the photoactivation mechanism at the molecular level.

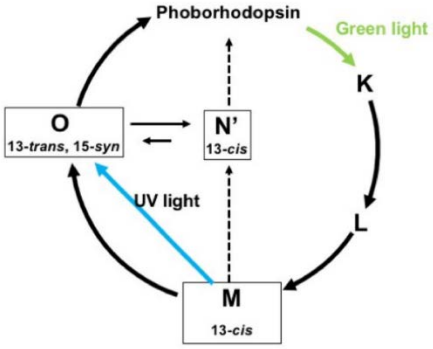


Fig. 3. Photoreaction cycle of retinal of phoborhosdopsin. NMR signals of short-lived M-, O- and N' intermediates were observed in the first time in this research highlight.

Highlighted paper

- Y. Makino, I. Kawamura, T. Okitsu, A. Wada, N. Kamo, Y. Sudo, K. Ueda, A. Naito. (2018) Retinal configuration of *p*pR intermediates revealed by photoirradiation solid-state NMR and DFT. ***Biophys. J.*** 115, 72-83.

Related publications

- Y. Sudo and J. L. Spudich (2006) Three strategically placed hydrogen-bonding residues convert a proton pump into a sensory receptor. ***Proc. Natl. Acad. Sci.,*** 103, 16129–16134.
- Y. Sudo, Y. Furutani, H. Kandori, and J.L. Spudich. (2006) Functional Importance of the Interhelical Hydrogen Bond between Thr204 and Tyr174 of Sensory Rhodopsin II and Its Alteration during the Signaling Process. ***J. Biol. Chem****. 281*, 34239-34245.
- H. Yomoda, Y. Makino, Y. Tomonaga, T. Hidaka, I. Kawamura, T. Okitsu, A. Wada, Y. Sudo, A. Naito. Color Discriminating Retinal Configurations of Sensory Rhodopsin I by Photo-Irradiation Solid State NMR Spectroscopy. (2014) ***Angew. Chem. Int. Ed****.* 53 (27) 6960-6964.
- Y. Tomonaga, T. Hidaka, I. Kawamura, T. Nishio, K. Osawa, T. Okitsu, A. Wada, Y. Sudo, N. Kamo, A. Ramamoorthy, A. Naito.
- An Active Photo-Receptor Intermediate Revealed by *in-situ* Photo-Irradiated Solid-State NMR Spectroscopy. (2011) ***Biophys. J.*** 101 (10) L50-52.
- Okayama University Scientific Achievement Repository: http://ousar.lib.okayama-u.ac.jp/56413

■ Topics

Radio Message from International Students (World Heartful Message)

Okayama University was broadcasted an internet radio program in which international students who have come to study at Okayama University from countries all over the world talked on topics such as their life as international students, what it is like to live in Okayama City, and their research themes. The broadcasts were produced in English or the native languages of the students.

Mr. Nguyen Dang Qui (right)

Mr. Nguyen Dang Qui of the Graduate School of Environmental and Life Sciences from Republic of Vietnam talked about his research and plans for the future.

Further information

https://www.youtube.com/watch?v=DjhwTtQ3TpM

Radio Message from International Students
https://www.youtube.com/playlist?list=PLJikPQTwoCj4ggrOUY2cs_AJZIeWdG4t8

1-1-1 Tsushima-naka, Kita-ku, Okayama 700-8530 Japan

◆Further information

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Public Relations and Information Strategy
E-mail: www-adm@adm.okayama-u.ac.jp
Website: http://www.okayama-u.ac.jp/index_e.html

Okayama University e-Bulletin
http://www.okayama-u.ac.jp/user/kouhou/ebulletin/

Okayama University Medical Research Updates (OU-MRU)
http://www.okayama-u.ac.jp/eng/research/ou-mru.html

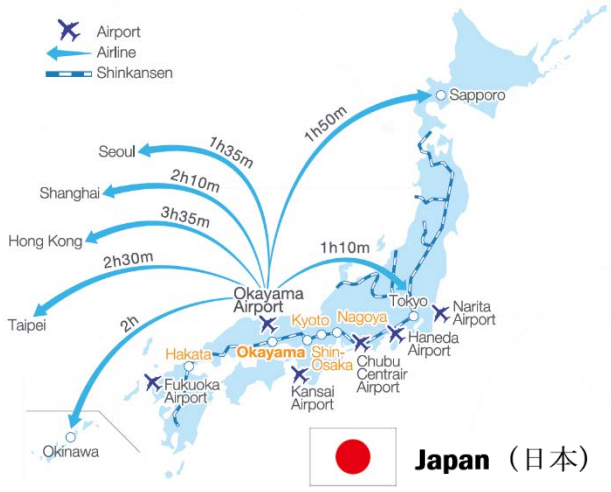
About Okayama University (YouTube 1)
https://www.youtube.com/watch?v=iDL1coqPRYI

Okayama University Image Movie (YouTube 2)
https://www.youtube.com/watch?v=KU3hOIXS5kk

◆About Okayama University

Okayama University is one of the largest comprehensive universities in Japan with roots going back to the Medical Training Place sponsored by the Lord of Okayama and established in 1870. Now with 1,300 faculty and 13,000 students, the University offers courses in specialties ranging from medicine and pharmacy to humanities and physical sciences.
Okayama University is located in the heart of Japan approximately 3 hours west of Tokyo by Shinkansen.

Hirofumi Makino, M.D., Ph.D.
President, Okayama University



SUSTAINABLE DEVELOPMENT GOALS

"Okayama University supports the Sustainable Development Goals"

