

34th Annual Meeting of the Society for Actinomycetes Japan

September 23 (Mon)

8:30– Registration

9:00– Opening Remarks

9:05– Oral Presentations

O-1 Proposal for the automatic discrimination system for actinomycete colonies using artificial intelligence

○Keita Nakashima¹, Hidetoshi Ando¹, Hideki Yamamura², Masayuki Hayakawa²
(¹Fac. Engineer., Univ. Yamanashi, ²Fac. Life Environ., Univ. Yamanashi)

O-2 Analysis of mechanisms for the diversification of single colony morphology of actinomycete strains on agar plate

○Ryo Morimoto¹, Takumi Kobayashi², Tomoko Maruyama¹, Ryoko Hamazu³, Shinya Kodani⁴, Takeshi Hosaka^{1,2,3}
(¹Grad. Sch. of Sci. and Technol., Shinshu Univ., ²Fac. of Agric. Shinshu Univ., ³IBS-ICCER, Shinshu Univ., ⁴Grad. Sch. of Agric. Shizuoka Univ.)

O-3 Protein binding with granaticin

○Tatsuya Nishiyama, Narumi Enomoto, Reina Nagayasu, Kenji Ueda
(Life Science Research Center, College of Bioresource Sciences, Nihon University)

O-4 The ATPase subunit (ClpX) of Clp protease is required for sporangium formation and dehiscence in the rare actinomycete *Actinoplanes missouriensis*

○Ryota Suzuki¹, Takeaki Tezuka^{1,2}, Yasuo Ohnishi^{1,2}
(¹Grad. Sch. of Agric. and Life Sci., Univ. of Tokyo, ²CRIIM, Univ. of Tokyo)

O-5 Isolation and structure determination of a new lasso peptide specialicin based on genome mining

○Issara Kawewan¹, Hikaru Hemmi², Hisayuki Komaki³, Shigeyoshi Harada⁴, Shinya Kodani¹
(¹Grad. Sch. Sci. Tech., Shizuoka Univ., ²NARO, ³NBRC, ⁴NIID)

O-6 Biosynthesis of the nucleoside antibiotic angustmycins: Identification and characterization of the biosynthetic gene cluster revealed unprecedented dehydratase

○Taro Shiraishi¹, Tomohisa Kuzuyama^{1,2}
(¹Grad. Sch. Agri. Life Sci., UTokyo, ²CRIIM, UTokyo)

O-7 Enzymatic studies on the two consecutive hydroxylations involved in actinorhodin biosynthesis (5th report)

○Makoto Hashimoto¹, Takaaki Taguchi², Kazuki Ishikawa¹, Takuya Kumamoto³, Susumu Okamoto⁴, Koji Ichinose¹
(¹Faculty of Pharmacy, Musashino University, ²National Institute of Health Sciences, ³Graduate School of Pharmaceutical Sciences, Hiroshima University, ⁴National Agriculture and Food Research Organization)

10:50– Break

11:00– Invited Lecture

Biosynthetic studies on bioactive secondary metabolites from *Streptomyces*

Ikuro Abe (Graduate School of Pharmaceutical Sciences, The University of Tokyo)

12:00– **Lunch**

13:00– **The SAJ Plenary Meeting**

13:35– **Award Ceremony**

14:00– **Award Lecture (Ōmura Award)**

Discovery, and development of new antibiotics against multidrug resistant bacteria derived from actinomycetes.

-Roles of microbial metabolites in the era of antimicrobial resistance-

Masayuki Igarashi (Institute of Microbial Chemistry (BIKAKEN))

14:40– **Award Lectures (Hamada Award)**

Discovery and engineering of biocatalysts in actinomycetial alkaloid biosynthesis

Takayoshi Awakawa (Graduate School of Pharmaceutical Sciences, The University of Tokyo)

Studies on morphological development in *Actinoplanes missouriensis*

Takeaki Tezuka (Graduate School of Agricultural and Life Sciences, The University of Tokyo)

15:20– **Break**

15:35– **Poster Short Presentations (odd number)**

16:30–17:45 **Poster Presentations (odd number)**

18:30–20:30 **Banquet**

September 24 (Tue)

8:30– Registration

9:00– Oral Presentations

O-8 Characteristic feature of ergosterol-modified-silica (ES silica) and search for new compounds from actinomycete metabolites

Shoko Izuta¹, ○Rei Miyano¹, Atsuko Matsumoto^{1,2}, Yōko Takahashi², Satoshi Ōmura², Takuji Nakashima^{1,2}

(¹Graduate School of Infection Control Sciences, Kitasato Univ., ²Kitasato Institute for Life Science, Kitasato Univ.)

O-9 *In situ* detection of avermectin in *S. avermitilis* by Raman Microspectroscopy and Multivariate Analysis

○Shumpei Horii^{1,2}, Takuji Nakashima^{3,4}, Akira Take⁵, Masahiro Ando^{4,6}, Akira Take³, Atsuko Matsumoto³, Yoko Takahashi³, Haruko Takeyama^{1,2,4,7}

(¹Grad. Sch. Adv. Sci. Eng., Waseda Univ., ²CBBD-OIL, AIST-Waseda Univ., ³Kitasato Ins. for Life Sci., Kitasato Univ., ⁴Res. Org. Nano Life Innov., Waseda Univ., ⁵Grad. Sch. Med., Kitasato Univ., ⁶PRESTO, JST., ⁷Inst. Adv. Res. Biosyst. Dynam., Waseda Res. Inst. Sci. Eng., Waseda Univ.)

O-10 Growths of *Rhodococcus* in organic solvents -utilizations of dissolved oxygen in alkane phases-

○Noriyuki Iwabuchi¹, Daiki Tabuchi¹, Hayato Takihara², Michio Sunairi¹

(¹Dept. Appl. Bio. Sci., Nihon Univ., ²Grad. Sch. Med. Den. Sci., Niigata Univ.)

O-11 *In vitro* analysis of the interaction between some flagellar proteins and FtgA that is essential for the cessation of zoospore motility in *Actinoplanes missouriensis*

○Yoshiko Yada¹, Tomohiro Kimura¹, Takeaki Tezuka^{1,2}, Yasuo Ohnishi^{1,2}

(¹Grad. Sch. of Agric. and Life Sci., Univ. of Tokyo, ²CRIIM, Univ. of Tokyo)

10:00– Break

10:10– Poster Short Presentations (even number)

11:00–12:15 Poster Presentations (even number)

12:15– Lunch

13:15– Invited Lecture

Biosynthetic studies of bioactive natural products based on reconstitution of biosynthetic machinery

Hideaki Oikawa (Department of Chemistry, Faculty of Science, Hokkaido University)

14:15– Break

14:30– Oral Presentations

O-12 Identification of a novel heptaprenyl reductase and search for a Z-type sesquiterpene cyclase from *Mycobacterium* spp.

○Toru Abe¹, Sadamu Ozaki¹, Yuri Yoshida², Ayana Miura², Masahiro Sagara², Daijiro Ueda^{1,2}, Kentaro Kaneko¹, Toshiaki Mitsui^{1,2}, Tsutomu Sato^{1,2}
(¹Grad. Sch. Sci. and Tec., Niigata Univ., ²Fac. Agr., Niigata Univ.)

O-13 Cell membrane permeability of the oligo(β -Lys) moiety in streptothricin

○Kohei Kaneda¹, Yamato Takeuchi¹, Yasuo Kato², Chitose Maruyama¹, Yoshimitsu Hamano¹
(¹Grad. Sch. Biosci. Biotech., Fukui Pref. Univ., ²Biotechnol. Res. Cent., Toyama Pref. Univ.)

O-14 Heterologous PKS gene expression in *Streptomyces*

○Satoshi Yuzawa¹, Tomohisa Kuzuyama^{1,2}
(¹Grad. Sch. Agri. and Life Sci., UTokyo, ²CRIIM, UTokyo)

O-15 Substrate promiscuity of GdvG, GNAT superfamily enzyme, leads for new lipopeptide synthesis

○Ryosuke Kozakai¹, Shumpei Asamizu^{1,2}, Hiroyasu Onaka^{1,2}
(¹Grad. Sch. Agri. Life. Sci., Univ. of Tokyo., ²CRIIM)

O-16 Analysis of protein expression by gene sequence modification in actinomycetes

○Naoyuki Tajima¹, Wataru Kitagawa², Yutaka Saito¹, Yoshiyuki Nishimiya², Koichi Tamano², Yoshiaki Yasutake², Tomohiro Tamura², Tomoshi Kameda¹
(¹AIST AIRC, ²AIST BRI)

O-17 Discovery and characterization of a new NRP cyclase family

○Masakazu Kobayashi, Ayae Sano, Matsuda Kenichi, Toshiyuki Wakimoto
(Grad. Pharm. Sci., Hokkaido Univ.)

16:00– Break

16:15– Poster Award Ceremony

16:30– SAJ35th Announcement

16:40– Closing Remarks

Poster Presentations

- P-1 Antimicrobial secondary metabolites produced by *Streptomyces palmae* CMU-AB204¹, a new species isolated from oil palm rhizosphere soil in Thailand**
○Knaporn Sujarit^{1,2}, Mihoko Mori¹, Kazuyuki Dobashi¹, Kazuro Shiomi¹, Saisamorn Lumyong²
(¹Kitasato Inst. Life Sci., Kitasato Univ., ²Center of Excellence in Microbial Diversity and Sustainable Utilization, Fac. Sci., Chiang Mai Univ., Thailand)
- P-2 A simplified approach to the selective isolation of motile actinomycetes from soil**
○Tomohiro Iwabuchi, Hideki Yamamura, Youji Nakagawa, Shin Kokubo, Masayuki Hayakawa
(Div. Appl. Biol. Sci., Univ. Yamanashi)
- P-3 Taxonomic study of a family *Micromonosporaceae* strain, OK19-0010 isolated by lysozyme-supplemented medium**
○Hiroki Kantō¹, Akira Také^{2,3}, Yuki Inahashi^{1,2}, Satoshi Ōmura², Atsuko Matsumoto^{1,2}
(¹Grad. Sch. Infect. Cont. Sci., Kitasato Univ., ²Kitasato Inst. Life Sci., Kitasato Univ., ³Kitasato Sch. Med., Kitasato Univ.)
- P-4 Taxonomic study of a family *Streptosporangium* strain, K14-0274 isolated from plant roots**
○Yuki Yamada¹, Yuki Inahashi^{1,2}, Akira Také^{2,3}, Shoichi Ikeda¹, Satoshi Ōmura², Atsuko Matsumoto^{1,2}
(¹Grad. Sch. Infect. Cont. Sci., Kitasato Univ., ²Kitasato Inst. Life Sci., Kitasato Univ., ³Kitasato Sch. Med., Kitasato Univ.)
- P-5 Isolation and structural analysis of unknown cell-wall amino acids in the family *Micromonosporaceae* strains**
○Akira Také^{1,2}, Yuki Inahashi^{1,3}, Yōko Takahashi¹, Satoshi Ōmura¹, Atsuko Matsumoto^{1,3}
(¹Kitasato Inst. Life Sci., Kitasato Univ., ²Sch. Med., ³Grad. Sch. Infection Control Sci., Kitasato Univ.)
- P-6 Investigation of interaction between filamentous actinomycetes and mycolic acid-containing bacteria from soil environment**
○Manami Kato¹, Shumpei Asamizu^{1,2}, Hiroyasu Onaka^{1,2}
(¹Grad. Sch. Agri. Life Sci., Univ. of Tokyo, ²CRIIM)
- P-7 Motile actinomycete succession during litter decomposition**
○Miho Ezura^{1,2}, Hideyuki Muramatsu¹, Masayuki Igarashi¹
(¹Institute of Microbial Chemistry (BIKAKEN), ²Grad. Sch. Bioresour. Sci., Nihon Univ.)
- P-8 Verification and characterization of antibacterial compound productivity by actinomycete strains isolated from subsurface soils**
○Teruya Kitagawa¹, Makiho Uchida², Ryoko Hamazu³, Takeshi Hosaka^{1,2,3}
(¹Grad. Sch. of Sci. and Technol., Shinshu Univ., ²Fac. of Agric., Shinshu Univ., ³IBS-ICCER, Shinshu Univ.)
- P-9 Analysis of the sporangium membrane components of the rare actinomycete *Actinoplanes missouriensis***
○Satoshi Maeda¹, Takeaki Tezuka^{1,2}, Aiko Hirata³, Yoshihiro Izumi⁴, Takeshi Bamba⁴, Yasuo Ohnishi^{1,2}
(¹Grad. Sch. of Agric. and Life Sci., Univ. of Tokyo, ²CRIIM, Univ. of Tokyo, ³Grad. Sch. of Front. Sci., Univ. of Tokyo, ⁴Med. Inst. of Bioregulation, Kyushu Univ.)
- P-10 Two novel species of the genus *Gordonia* isolated from sludge of a wastewater treatment plant**
○Tomohiko Tamura¹, Satomi Saito¹, Moriyuki Hamada¹, Yingqian Kang², Yasutaka Hoshino³, Thoru Gono⁴, Yuzuru Mikami⁴, Takashi Yaguchi⁴
(¹NBRC, ²Guiyang Med. Coll., China, ³NIID, ⁴MMRC, Chiba Univ.)

- P-11 Development of microbial inoculants for agriculture excellent in long-term stability**
 ○ Mai Kamiaraiso, Namida Han-yo, Susumu Kokubo, Youji Nakagawa, Hideki Yamamura, Masayuki Hayakawa
 (Div, Appl. Biol. Sci., Univ. Yamanashi)
- P-12 Diversity and antimicrobial activity of *Micromonospora* strains isolated from roots of Thai plants**
 ○ Nattakorn Kuncharoen¹, Takuji Kudo², Masahiro Yuki², Moriya Ohkuma², Kazuro Shiomi³, Mihoko Mori³, Atsuko Matsumoto³, Somboon Tanasupawat¹
 (¹Fac. Pharm. Sci., Chulalongkorn Univ., ²Microbe Div. JCM, RIKEN BRC, ³Kitasato Inst. Life Sci., Kitasato Univ.)
- P-13 Studies on the properties of lignolytic actinomycetes isolated from a unique woodchip compost**
 ○ Takuya Tsuzurahara¹, Kyouhei Murakosi¹, Hatsumi Takano-Shiratori¹, Masashi Ishii², Kenji Ueda¹, Hideaki Takano¹
 (¹College of Bioresource Sci., Nihon Univ., ²AGORA Landscape Architecture Co., Ltd.)
- P-14 Screening and characterization of red pigment-degrading microorganisms and enzymes**
 ○ Sanae Hori, Takuto Kumano, Yuzu Terashita, Yoshiteru Hashimoto, Michihiko Kobayashi
 (Grad. School of Life and Environm. Sci., Univ. of Tsukuba)
- P-15 Culture-dependent study on actinobacteria associated with stony corals in Kochi**
 ○ Dana Ulanova¹, Takuma Mezaki², Satoshi Kubota¹
 (¹Fac. Agr. Mar. Sci., Kochi Univ., ²Biol. Inst. Kuroshio)
- P-16 Secondary metabolites of ant-derived actinomycetes as a new resource of antibiotics**
 ○ Yasuhiro Takehana, Hideyuki Muramatsu, Ryuichi Sawa, Maya Umekita, Chigusa Hayashi, Yuko Shibuya, Masayuki Igarashi
 (BIKAKEN)
- P-17 A *Streptomyces* strain NBRC14001 produces polyene macrolide antibiotics**
 Kazune Nakamura¹, Shou Nishimura², Miyako Yamamoto¹, Teruo Kuroda¹, Daichi Morita¹, ○ Takanori Kumagai¹
 (¹Grad. Sch. Biomed. and Health Sci., Hiroshima Univ., ²Sch. Pharm. Sci., Hiroshima Univ.)
- P-18 Isenolides A, B, and C, new macrolides from a coral-derived actinomycetes**
 ○ Zhiwei Zhang, Tao Zhou, Enjuro Harunari, Naoya Oku, Yasuhiro Igarashi
 (Toyama Pref. Univ.)
- P-19 Study on a new hexacyclic xanthone from the mudflat-derived actinomycete**
 ○ Yuhei Koyanagi, Teppei Kawahara, Yuki Hitora, Sachiko Tsukamoto
 (Grad. Sch. Pharm. Sci., Kumamoto Univ.)
- P-20 Search for novel N-N bond-containing natural products biosynthesized via MetRS-like enzymes**
 ○ Satoko Akiyama, Kenichi Matsuda, Toshiyuki Wakimoto
 (Grad. Pharm. Sci., Hokkaido Univ.)
- P-21 The study of nanaomycin K with cytotoxicity against epithelial-mesenchymal transition (EMT) induced cells**
 ○ Hiroataka Matsuo^{1,2}, Jun Nakanishi³, Yoshihiko Noguchi^{1,2}, Toshiaki Sunazuka^{1,2}, Yōko Takahashi¹, Satoshi Ōmura¹, Takuji Nakashima^{1,2}
 (¹Kitasato Insti. Life Sci., Kitasato Univ., ²Grad. Sch. Inf. Cont. Sci., Kitasato Univ., ³NIMS)

- P-22 Anti-*Clavibacter michiganensis* activity among *Streptomyces* spp. isolated from freshwater filamentous algae**
 ○Chiharu Hasegawa¹, Takuma Hayashi¹, Susumu Kokubo¹, Youji Nakagawa¹, Enjuro Harunari², Yasuhiro Igarashi², Hideki Yamamura¹, Masayuki Hayakawa¹
 (¹Div, Appl. Biol. Sci., Univ. Yamanashi, ²Toyama Pref. Univ.)
- P-23 Sarpeptins A and B from *Streptomyces* sp. KO-7888 overexpressing a SARP family regulator**
 ○Yuki Inahashi¹, Wilaiwan Koomsiri², Kantinan Leetanasaksakul², Kazuro Shiomi¹, Yoko Takahashi¹, Satoshi Ōmura¹, Markiyan Samborsky³, Peter F. Leadlay³, Pakorn Wattana-Amorn², Arinthip Thamchaipenet², Takuji Nakashima¹
 (¹Kitasato Inst. Life Sci., Kitasato Univ., Japan, ²Fac. Sci., Kasetsart Univ., Thailand, ³Dep. Biochem., Cambridge Univ., UK)
- P-24 Quorum sensing inhibitor produced by *Streptomyces* sp. TOHO-I44 and TOHO-I53**
 ○Atsushi Fukumoto, Mieko Otsuka, Ryota Kajihara, Misaki Kikui, Yukako Kumakawa, Tomomi Fujimori, Nanae Yazawa, Yohei Iizaka, Yojiro Anzai
 (Faculty of Pharmaceutical Sci., Toho Univ)
- P-25 Separation of the plant growth promoting metabolites produced by streptomycetes**
 ○Akiya Yamashita¹, Mana Watanabe², Kana Miyano², Mamoru Oshiki³, Natsumi Saito²
 (¹Dept. of Adv. Eng. NITTC, ²Dept. of Creative Eng. NITTC, ³Dept. of Civil Eng. NITNC)
- P-26 Establishment of the new antibiotic screening method targeting signal recognition particle (SRP)**
 ○Emiko Nagai¹, Shumpei Asamizu^{1,2}, Hiroyasu Onaka^{1,2}
 (¹Grad. Sch. Agri. Life Sci., Univ. of Tokyo, ²CRIIM)
- P-27 Search for substances that inhibit morphological change of *Candida albicans***
 Tomoki Koyano¹, ○Takashi Kawasaki^{2,3}, Yoshio Yadani¹, Nobutaka Imamura¹
 (¹Col. Pharm. Sci, Ritsumeikan Univ., ²Research Institute for Sustainable Humanosphere, Kyoto Univ., ³Research Organization of Science and Technology, Ritsumeikan Univ.)
- P-28 Discovery of new secondary metabolites from a rare actinomycete *Pseudosporangium***
 ○Shun Saito¹, Kodai Atsumi¹, Keisuke Fukaya¹, Daisuke Urabe¹, Hisayuki Komaki², Yasuhiro Igarashi¹
 (¹Fac. Eng., Toyama Prefectural Univ., ²NITE·NBRC)
- P-29 Searching for specific inhibitors of novel peptidoglycan biosynthetic pathway**
 ○Yohei Shimizu¹, Yohei Sato¹, Yasushi Ogasawara², Tomoki Yoneda², Yasuhide Inokuma², Tohru Dairi²
 (¹Grad. Sch. Chem. Sci. Eng., Hokkaido Univ., ²Grad. Sch. Eng., Hokkaido Univ.)
- P-30 Exploring futasoline pathway specific inhibitor**
 ○Fuka Aoki¹, Yasushi Ogasawara², Atsuko Matsumoto³, Tohru Dairi²
 (¹Grad. Sch. Chem. Sci. Eng., Hokkaido Univ., ²Grad. Sch. Eng., Hokkaido Univ., ³Kitasato Inst. Life Sci., Kitasato Univ.)
- P-31 Investigation of MV formation mechanisms in mycolate-containing bacteria**
 ○Toshiki Nagakubo¹, Nobuhiko Nomura^{1,2}, Masanori Toyofuku^{1,2}
 (¹Faculty of Life and Environmental Sciences, University of Tsukuba, ²MiCS, University of Tsukuba)

- P-32 Analysis of light-induction mechanism through SigK-RskA regulatory system in *Streptomyces griseus***
○Chihiro Natsuka¹, Salvatore Cosentino², Mizue Anda², Satoru Sumi¹, Yasuhiro Gotoh³, Keiji Nakamura³, Tetsuya Hayashi³, Wataru Iwasaki², Kenji Ueda¹, Hideaki Takano¹
(¹College of Bioresource Sci., Nihon Univ., ²Dept. of Biol. Sci., Grad. Sch. of Sci., The Univ. of Tokyo, ³Dept. of Bacteriol., Fac. of Med. Sci., Kyushu Univ.)
- P-33 Effects of primary metabolism modification for secondary metabolite production in engineered *Streptomyces* host**
○Shiori Doi^{1,2}, Mamoru Komatsu², Haruo Ikeda²
(¹Keio Univ., ²Kitasato Institute for Life Sciences, Kitasato Univ.)
- P-34 Screening of novel organocatalysts produced by actinomycetes**
○Narumi Enomoto, Tatsuya Kanbayashi, Tatsuya Nishiyama, Kenji Ueda
(College of Bioresource Sci., Nihon Univ.)
- P-35 Screening of nucleosidase secreted by *Streptomyces***
○Rio Hoshino, Tatsuya Nishiyama, Kenji Ueda
(Life Science Research Center, College of Bioresource Sciences, Nihon University)
- P-36 Analysis of succinylation enzymes involved in reveromycin biosynthesis**
○Naoko Kito¹, Yumi Sato¹, Hideo Okumura², Takashi Kumasaka², Hiroyuki Osada³, Shunji Takahashi¹
(¹Nat. Prod. Biosynth., RIKEN CSRS, ²JASRI, ³Chem. Biol., RIKEN CSRS)
- P-37 Studies on control of the multistep oxidation reaction catalyzed by cytochrome P450 enzyme RosC**
○Yohei Iizaka, Misa Kurita, Momoho Sano, Arisa Watanabe, Atsushi Fukumoto, Yojiro Anzai
(Fac. Pharmaceutical Sci., Toho Univ.)
- P-38 Characterization of β -carboline biosynthetic enzymes from rare actinomycetes**
○Masahisa Yamada, Ryo Takahashi, Mayuko Hirota, Takuya Nihira, Shigeru Kitani
(ICBiotech., Osaka Univ.)
- P-39 Analysis of the effects of ofloxacin-resistant mutations on secondary metabolism in actinomycetes**
○Kanata Hoshino¹, Hotaka Yatsu², Takeshi Hosaka³
(¹Grad. Sch. of Med. Sci. and Tech., Shinshu Univ., ²Fac. Agric., Shinshu Univ., ³IBS-ICCER, Shinshu Univ.)
- P-40 Mechanism involved in induced biosynthesis of secondary metabolites by *Streptomyces* sp. HEK616 in combined-culture with *Tsukamurella pulmonis***
○Shumpei Asamizu^{1,2}, Taro Ozaki¹, Shinichi Nishimura³, Hideaki Kakeya³, Hiroyasu Onaka^{1,2}
(¹Grad. Sch. Agri. and Life Sci., Univ. of Tokyo, ²CRIIM, ³Grad. Sch. Pharm. Sci., Kyoto Univ.)
- P-41 Metabolic model reconstruction for bioproduction with streptomycetes**
○Yuki Kuriya¹, Akira Ohyama², Tomokazu Shirai³, Michihiro Araki^{1,4}
(¹Grad. Sch. Med., Kyoto Univ., ²in silico biology, inc., ³CSRS, RIKEN, ⁴Grad. Sch. Sci. Technol. Innov., Kobe Univ.)
- P-42 Development of GABA measurement kit using actinomycetes-derived GABA transaminase**
○Tatsuya Nishiyama^{1,2}, Woro Triarsi Sulistyanningdyah¹, Kenji Ueda², Hitoshi Kusakabe¹
(¹Enzyme Sensor Co. Ltd, ²Life Science Research Center, College of Bioresource Sciences, Nihon University)

- P-43 Activating properties and mechanisms for antibiotic induction of secondary metabolism in streptomycetes**
 ○ Momoko Kobayashi¹, Keiichiro Mukai¹, Daiki Hayashi², Misaki Ishizuka¹, Yu Imai³, Takeshi Hosaka^{1,2,4}
 (¹Grad. Sch. of Sci. and Technol., Shinshu Univ., ²Fac. Agric., Shinshu Univ., ³Northeastern Univ., ⁴IBS-ICCER, Shinshu Univ.)
- P-44 Metabolite analysis in the biosynthetic gene disruptants of the signal molecule SRB of *Streptomyces rochei***
 ○ Aiko Teshima¹, Rikito Nishiura¹, Kenji Arakawa^{1,2}
 (¹Dept. Mol. Biotechnol., Grad. Sch. AdSM, Hiroshima Univ., ²Unit Biotechnol., Grad. Sch. Integr. Sci. Life, Hiroshima Univ.)
- P-45 A practical genome mining using butenolide-type signaling molecules**
 ○ Yuto Eguchi¹, Miho Sumiyoshi², Aiko Teshima², Kenji Arakawa^{1,2}
 (¹Unit Biotechnol., Grad. Sch. Integr. Sci. Life, Hiroshima Univ., ²Dept. Mol. Biotechnol., Grad. Sch. AdSM, Hiroshima Univ.)
- P-46 Analysis of secondary metabolic profiles in plasmid-less mutants of *Streptomyces rochei***
 ○ Kota Fujita¹, Rikito Nishiura², Amirudin Akhmad Fauzi², Yosi Nindita², Kenji Arakawa^{1,2}
 (¹Unit Biotechnol., Grad. Sch. Integr. Sci. Life, Hiroshima Univ., ²Dept. Mol. Biotechnol., Grad. Sch. AdSM, Hiroshima Univ.)
- P-47 Intracellular delivery of macromolecules modified with ϵ -poly-L-lysine**
 ○ Yamato Takeuchi¹, Kazunori Ushimaru¹, Yasuo Kato², Chitose Maruyama¹, Yoshimitsu Hamano¹
 (¹Grad. Sch. Biosci. Biotec., Fukui Pref. Univ., ²Biotechnol. Res. Cent., Toyama Pref. Univ.)
- P-48 Endogenous nitric oxide regulates morphological differentiation via WhiB-like family proteins in *Streptomyces coelicolor* A3(2) M145**
 ○ Sota Honma, Shinsaku Ito, Shunsuke Yajima, Yasuyuki Sasaki
 (Tokyo Univ. Agric.)
- P-49 A sigma-anti-sigma factor system involved in sporangium dehiscence in *Actinoplanes missouriensis***
 ○ Kyota Mitsuyama¹, Takeaki Tezuka^{1,2}, Yasuo Ohnishi^{1,2}
 (¹Grad. Sch. of Agric. and Life Sci., Univ. of Tokyo, ²CRIIM Univ of Tokyo)
- P-50 Functional analysis of the resormycin biosynthetic gene cluster**
 ○ Yukiko Chinone¹, Kazuya Yamanaka², Masayuki Igarashi³, Yoshimitsu Hamano¹, Chitose Maruyama¹
 (¹Grad. Sch. Biosci. Biotec., Fukui Pref. Univ., ²Fac. Chem. Mater. Bioeng., Kansai Univ., ³Institute of Microbial Chemistry, BIKAKEN)
- P-51 Heterologous production of coryneazolicin in *Escherichia coli***
 ○ Shinya Kodani^{1,2}, Momoko Takuma¹, Mai Kuroha¹, Yuki Nagano¹, Issara Kaweevan², Hikaru Hemmi³, Takanori Oyoshi¹
 (¹Grad. Sch. Int. Sci. Tech., Shizuoka Univ., ²Grad. Sch. Sci. Tech., Shizuoka Univ., ³Food Research Institute, NARO)
- P-52 Analysis of a peptide ligase ortholog in *Streptomyces avellaneus***
 ○ Shun Narutomi¹, Yasushi Ogasawara², Tohru Dairi²
 (¹Grad. Sch. Chem. Sci. Eng., Hokkaido Univ., ²Grad. Sch. Eng., Hokkaido Univ.)

P-53 *In vitro* characterization of early steps in the biosynthesis of antitumor antibiotics mitomycins

○Yo Nakagawa¹, Yasushi Ogasawara², Chitose Maruyama³, Yoshimitsu Hamano³, Tohru Dairi²

(¹Grad. Sch. Chem. Sci. Eng., Hokkaido Univ., ²Grad. Sch. Eng., Hokkaido Univ. ³Grad. Sch. Biosci. Biotec., Fukui Pref. Univ.)

P-54 (O1)

P-55 (O2)

P-56 (O4)

P-57 (O5)

P-58 (O6)

P-59 (O8)

P-60 (O9)

P-61 (O11)

P-62 (O12)

P-63 (O13)

P-64 (O15)

P-65 (O16)

P-66 (O17)