

KSABC International Symposium 2023

June 18(Sun) - 20(Tue), 2023
ICC JEJU, Jeju, Korea



2023년도

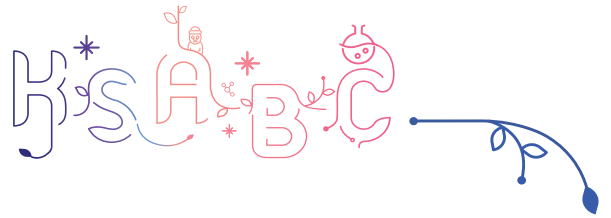
(사)한국응용생명화학회 국제학술대회

최종 안내서

발표논문일람



한국응용생명화학회
The Korean Society for Applied Biological Chemistry

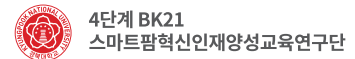
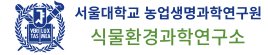
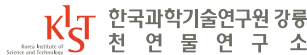
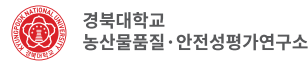


KSABC International Symposium 2023

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This work was supported by the Korean Federation of Science and Technology Societies(KOFST) grant funded by the Korean government.

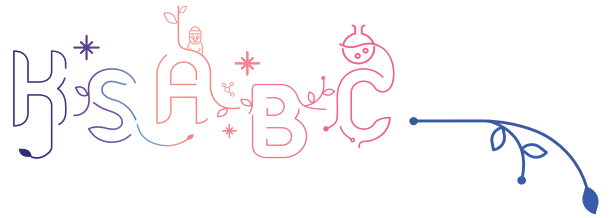
KSABC International Symposium 2023



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I. 2023 (사)한국응용생명화학회 국제학술대회 일정

행사 개요

행사명 KSABC International Symposium 2023
2023년도 (사)한국응용생명화학회 국제학술대회 및 제112차 정기총회

주제 Lab to Market: Applied Biological Chemistry Materials

일자 2023. 6. 18(일) - 20(화)

장소 제주국제컨벤션센터 (ICC JEJU)

주최  한국응용생명화학회
The Korean Society for Applied Biological Chemistry

초록접수 2023. 4. 1(토) - 5. 19(금)

등록 2023. 4. 1(토) - 5. 31(수)

프로그램	PL	Plenary Lecture
	AL	Special Lecture
	KL	Keynote Lectures
	SL	Award Lectures
	S	Symposia
	YS	Young Scientist Presentation
	GS	Graduate Student Presentation
	CS	Corporate Seminar
	P	Poster Session
	B	Bio-exhibition

Program at a Glance

June 18 sun.

Venue	Halla Hall	303	Lobby
13:00	Registration		Bio -exhibition
13:20 - 13:40	Opening & Award Ceremony	S13	
13:40 - 14:20	PL-1	아열대생물자원을 활용한 바이오헬스 /혁신신약 개발	
14:20 - 15:20	AL		
15:20 - 15:30	Break		
15:30 - 17:10	KL		
17:10 - 17:20	Break		
17:20 - 18:00	SL		
18:00 - 19:30	Poster Session & Standing Reception		

PL	Plenary Lecture
AL	Special Lecture
KL	Keynote Lectures
SL	Award Lectures
S	Symposia
YS	Young Scientist Presentation
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Program at a Glance

June 19 Mon.

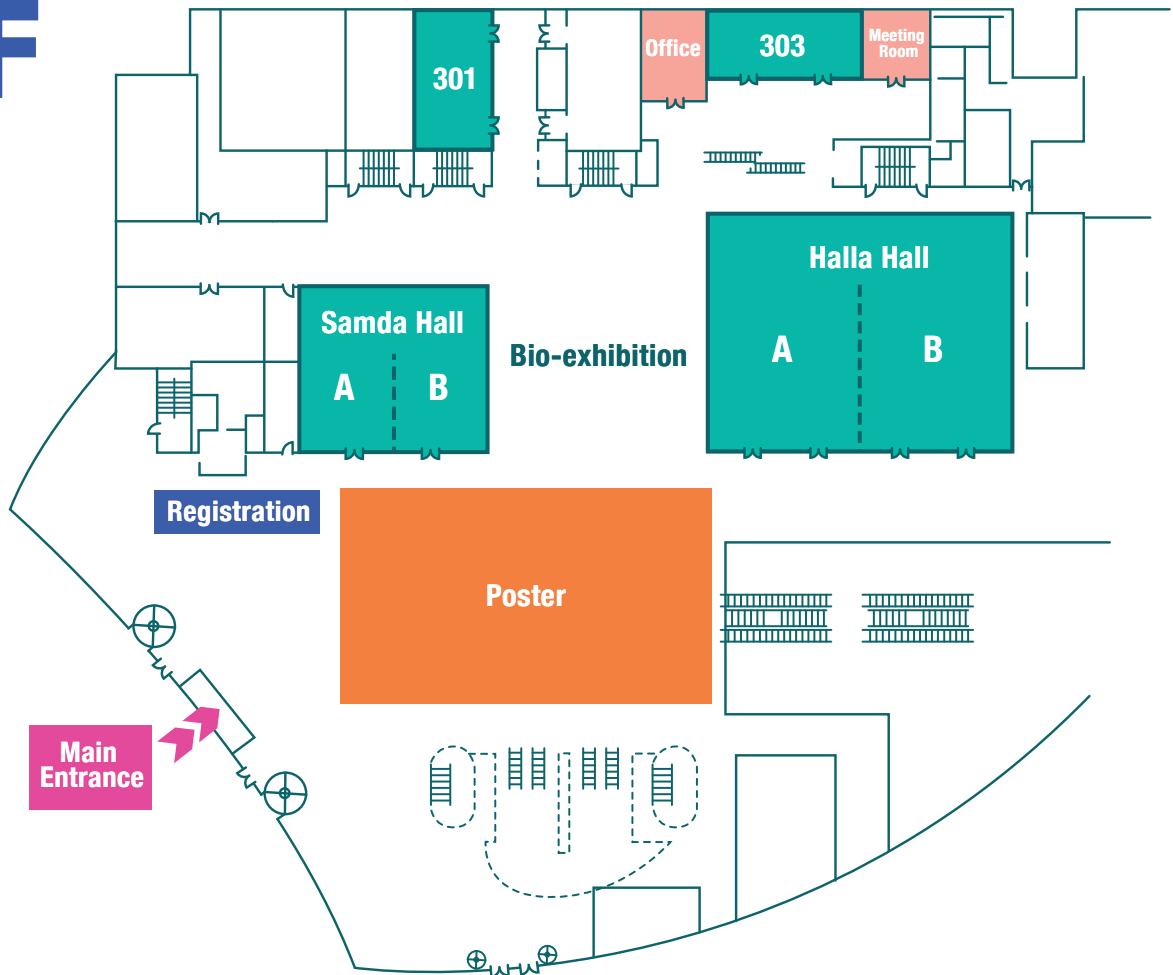
Venue Time	Halla Hall A	Halla Hall B	Samda Hall A	Samda Hall B	303	301	Lobby
09:30 - 10:30	YS1 Biochemistry · Molecular Biology	YS2 Natural Products · Bioactive Mate- rials · Biomedical Sciences	YS3 Environmental Sciences	YS4 Food Sciences	YS5 Applied Microbiology	S11 한국생명공학연구원 천연물 클러스터	Bio -exhibition
10:30 - 10:40	Break						
10:40 - 11:20	PL-2 (Halla Hall)						
11:20 - 13:20	Corporate Seminar & Poster Session (with Sandwich)						
	12:30 - 13:20 바이오니아	아미코젠(주)					
13:20 - 15:00	S1 CEO Forum	S2 Biochemistry · Molecular Biology	S3 Natural Products · Bioactive Mate- rials · Biomedical Sciences	S4 Environmental Sciences	S5 Food Sciences	S12 농축수산물의 잔류물질 안전관리	
15:10 - 16:50	S6 Applied Microbiology	S7 Agro-Bio Genome Editing	S8 KIST Session (Advancing Natural Product Science)	S9 Circadian clock and photoperiodic responses	S10 Korea-China co- operation project 3rd workshop		
16:50 - 17:00	Break						
17:00 - 17:20	General Assembly Meeting (Halla Hall A)						

June 20 Tue.

Venue Time	Halla Hall A	Halla Hall B	Lobby
09:30 - 09:40	AL	AL	Bio -exhibition
09:40 - 11:30	GS1	GS2	
11:30 - 12:00	Closing Ceremony (Halla Hall)		

Floor Plan

3F



Halla Hall	Opening & Award Ceremony PL, AL, KL, SL
Halla Hall A	AL, GS1, YS1, S1, S6, CS
Halla Hall B	AL, GS2, YS2, S2, S7, CS
Samda Hall A	YS3, S3, S8
Samda Hall B	YS4, S4, S9
303	YS5, S5, S10, S13
301	S11, S12
Lobby	Poster Session & Standing Reception Bio-exhibition

Plenary Lectures

June 18 (Sun), Halla Hall

Chair: Sun Chul Kang (Daegu University)



PL-1

13:40-14:20

Metabolite Farming and Xenohormesis: Application to Nutraceutical Substances

Ki Hun Park

Division of Applied Life Science (BK21 plus), IALS, Gyeongsang National University

The bottleneck of functional food industry is a lack of bioactive metabolite contents in target plants. Thus, the technologies for enhancement of bioactive metabolite contents are innovative challenge in plant science and functional food field. Plants constantly synthesize secondary metabolites to adapt to environmental condition, which might accelerate the production of specific metabolites in plants. Metabolite farming is defined as a special procedure to let accumulate bioactive ingredients in plants. Metabolite farming is based on biotic or abiotic stresses, which produce a lot of ROS that stimulate biosynthetic pathway to synthesize secondary metabolites resisting to ROS.

In this presentation, we would introduce very successful case studies for metabolite farming by using signal molecules such as salicylic acid and ethylene. The first thing is regarding phytoestrogen riched soybean leaves (PRSL), which were produced by ethylene and 1-aminocyclopropane-1-carboxylic acid (ACC). The level of changes in phytoestrogen were more than 50-fold in comparison with the control soybean leaves. This PRSL showed dramatic biological function to menopause problems, skin wrinkle, accumulation of fat, and Alzheimer's disease from animal experiments. The second thing is about coumestrol and daidzein enriched soybean roots by using salicylic acid. Total amounts of coumestrol and daidzein were 4.8 mg/g and 8.9 mg/g, which are the most highest contents so far from plant sources. We also observed the successful results from *Angelica acutiloba*. The bioactive coumarins including xanthotoxin were increased more than 10-fold by ethylene in the roots part.

Xenohormesis is a biological principle that bioactive metabolites from stressed plants can confer stress resistance and survival benefits to animals. The target metabolites derived from metabolite farming are equivalent to bioactive metabolites from stressed plants. Thus, the products from metabolite farming might be considered as the most promising candidates being able to expect xenohormesis effects. Nowadays, metabolite farming is in beginning stage, but it would be a strong tool to create new nutraceutical stuff.

Plenary Lectures

June 19 (Mon), Halla Hall

Chair: Hoon Kim (Sunchon Nat'l University)



PL-2 10:40-11:20

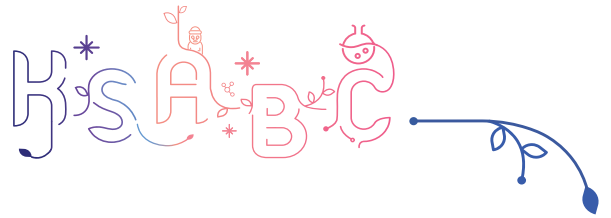
30th years history of Bioneer: DNA Synthesis, PCR, Sequencing, and siRNA

Han-Oh Park

BIONEER Corporation

In 1992, BIONEER was founded as the first company to commercialize DNA synthesis technology and thermostable DNA polymerases for PCR in Korea. Throughout its history, BIONEER succeeded in domestically producing DNA synthesis raw materials, and in 2001 BIONEER developed the world's first 384-parallel oligo synthesizer and built a global-scale oligo synthesis facility. With this achievement, BIONEER continued developing a human siRNA library, which led to expansion of the base in the biotechnology industry in Korea. Utilizing various modifications for oligonucleotides, BIONEER successfully achieved the domestic production of all the raw materials used for molecular diagnostics. Upon the launch of thermostable DNA polymerases for PCR developed by the Korean Research Institute of Bioscience and Biotechnology (KRIBB), BIONEER developed the thermal cycler for PCR, enabling the complete localization of PCR technology and its easy access as research source to universities and research institutes. In 2002, BIONEER developed both real-time PCR instruments and reagents in Asia first and built biological warfare detection system using them. In 1995, BIONEER invented a high-sensitivity silver staining kit and DNA sequencing kit and apparatus sequencing without the use of radioactive isotopes and further developed an automated sequencer using a single-fluorescent label in 2000. BIONEER also have developed automated nucleic acid extraction equipment and silica magnetic nanoparticles since 2001. BIONEER integrated its real-time PCR instrument and automatic extractor and created an original molecular diagnostic platform, which contributed to the molecular diagnostics industry and national pandemic combat. Utilizing the accumulated oligo synthesis techniques, BIONEER invented SAMiRNA™ which is a self-assembling micellar interfering RNA nanoparticle, and is developing new disease-modifying drug candidates that treat chronic and incurable diseases. With this new SAMiRNA™ technology, BIONEER developed CosmeRNA®, the world's first siRNA-based anti-hair loss functional cosmetic and achieved the notification from CPNP (Cosmetic Products Notification Portal), which open the new era of well-being products based on RNAi.

Keywords: DNA·RNA Oligo, PCR, MDx (Molecular Diagnostics), siRNA, SAMiRNA, CosmeRNA



II. 공지사항

1. 2023년도 학회상 수상자 명단

구분	수상자
제3회 공훈상	김수일 명예회원 (서울대학교 명예교수)
제41회 학술상	김동청 교수 (청운대학교)
제13회 기창(基倉)과학상	하선화 교수 (경희대학교)
제25회 젊은과학자상	이동하 교수 (남서울대학교)
제2회 HAN BIO Award	이대영 박사 (농촌진흥청)
제2회 Biodot Award	김한나 (충북대학교) 윤호영 (경상국립대학교)
제18회 JABC 우수논문상	판철호 박사, 차광현 박사 (KIST 강릉분원)
ABCH 우수편집위원장	김상민 박사 (KIST 강릉분원)
ABCH 최우수심사위원장	구연종 교수 (전남대학교)
JABC 우수심사위원장	김정윤 교수 (경상국립대학교)
제1회 NIST 미래인재 장학금	김상윤 (경희대학교) 이종성 (인천대학교) 장무연 (경상국립대학교) 양나인 (건국대학교)
구분	
감사패	2022년도 회장 강선철 교수 (대구대학교)
	2022년도 운영위원장 문준관 교수 (한경국립대학교)

2. 등록비 안내

Type	Member		Non-member	
	Regular	Students	General Participants	Students
Pre-Registration	200,000	130,000	260,000	160,000
On-site Registration	220,000	150,000	280,000	180,000

※ 등록자만 발표장에 입장하실 수 있습니다.

II. 공지사항

3. 현지 교통 및 숙소 안내

ICC JEJU

제주특별자치도 서귀포시 중문관광로 224(중문동)

* 행사장내 주차비 무료

교통정보 바로가기 →

숙소 및 여행정보
바로가기 →

4. 경품이벤트

KSABC International Symposium 2023

경품이벤트

응모방법

- 1 명찰 뒷면의 경품응모권에 표기된 전시부스 방문
- 2 방문 확인 도장 20개 모두 획득!
- 3 등록대에 비치된 응모함에 응모하면 끝~!

* 도장 획득수 미달 및 본인 정보 미표기시 당첨이 취소됩니다.

경품

경품 추첨은 6월 20일(화) 11:30, Closing Ceremony에서 진행됩니다.

아이폰 14 1명	아이패드 1명	소니 무선헤드셋 3명
마살 블루투스스피커 3명	신세계 상품권 (10만원) 5명	스타벅스 상품권 (5만원) 10명

*이시 이미지로 실제 상품과 차이가 있을 수 있습니다.

한국응용생명화학회
The Korean Society for Applied Biological Chemistry

Corporate Seminar

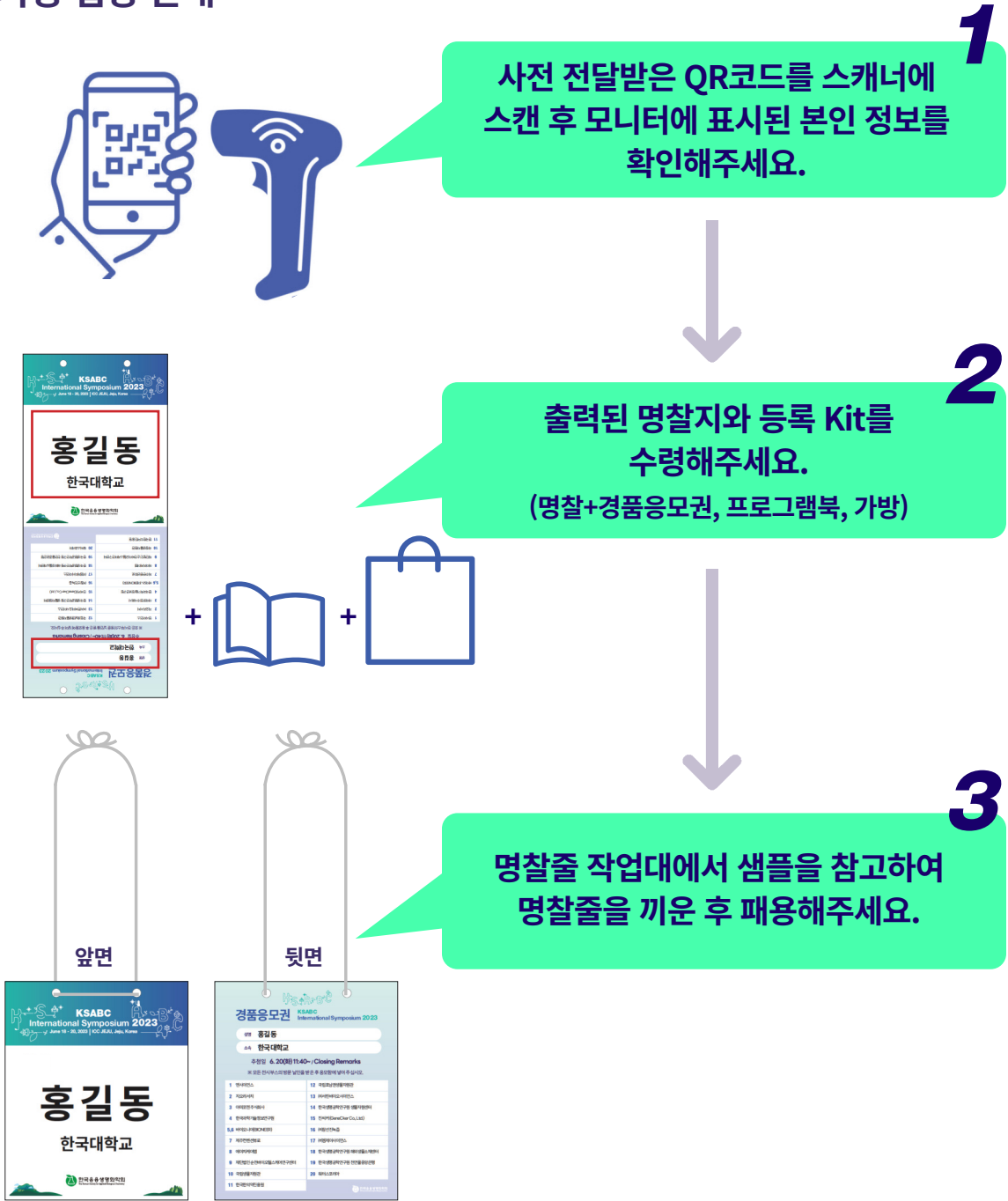
6월 19일(월) 12:30~13:20
Halla Hall A, Halla Hall B

참가자께서는 스타벅스 카드를 증명합니다
(각 강연장 100명 한정).



II. 공지사항

5. 행사장 입장 안내



!

(사)한국응용생명화학회는 제주특별자치도의 그린 MICE 캠페인에 동참하고자 환경 친화적인 행사 진행의 일환으로 비닐 명찰집을 사용하지 않습니다. 종이 명찰 착용 시 다소 불편하더라도 참가자 여러분의 협조를 부탁드립니다.

'The Korean Society for Applied Biological Chemistry (KSABC)' does not use vinyl nameplates as part of an environmentally friendly event to participate in Jeju Special Self-Governing Province's Green MICE campaign. Even if it is a bit inconvenient to wear a paper name tag, we ask for your cooperation.

III. 포스터 발표 안내

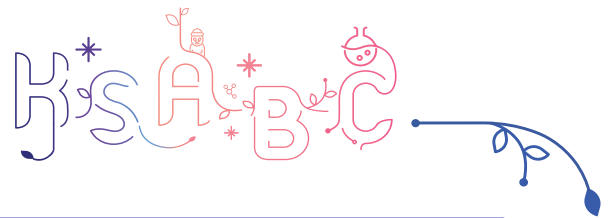
1. 학술대회 프로그램북의 부피 및 무게를 최소화하기 위해 초록은 인쇄하지 않습니다. 이에, 초록 내용은 행사기간 동안 학회 홈페이지에서 다운로드하시기 바랍니다.

Please download the abstract from the society website during the symposium period.

홈페이지
바로가기
→

2. 작성 언어 : 영어
3. 모든 Poster는 지정된 시간동안 지정된 Board에 부착합니다.
4. Poster board의 크기는 **90cm (가로) × 150cm (세로)**이므로, 포스터의 전체 넓이가 상기 면적을 초과하지 않도록 준비합니다.
5. Poster board의 맨 위쪽에 발표논문의 제목 (전치사, 관사, 접속사를 제외한 단어의 첫머리는 대문자로 표기), 발표자의 성명 및 소속을 작성하되 가로길이는 90cm를 넘지 않도록 합니다.
6. Poster의 내용은 Abstract, Objectives, Materials & Methods, Results (Figures 및 Tables), Conclusion, References (대표적인 것 5개 정도)의 순으로 구성합니다 (**영문 작성**).
7. 모든 Poster는 게시 시간 종료 후 발표자가 직접 철거합니다.
(게시 종료 후 철거되지 않은 포스터는 사무국에서 철거 및 폐기합니다.)

2. Poster must be written in English.
3. All posters will be posted on the board for a designated period of time. Also presenter should be by their poster board at a presentation time.
4. The size of the poster board is **90cm (width) × 150cm (height)**.
5. At the top of the poster board, write the title of the presentation (the first words of words except for prepositions, articles, and conjunctions are written in capital letters), the presenter's name and affiliation.
6. The contents of the poster will be organized in the order of Abstract, Objectives, Materials & Methods, Results (Figures and Tables), Conclusions, and References (about 5 representative ones).
7. All posters will be removed by the presenter after posting time ends. (Posters that have not been removed after posting will be removed and discarded by the Secretariat.)



III. 포스터 발표 안내

Poster Session

Poster Category

PBM	Biochemistry · Molecular Biology
PNB	Natural Products · Bioactive Materials · Biomedical Sciences
PES	Environmental Sciences
PFS	Food Sciences
PAM	Applied Microbiology
PBD	Bio-health/Drug development

Poster Session

Date	Category	PBM	PNB	PES	PFS	PAM	PBD
June 18 (Sun)	18:00-19:30						
		1-98	1-136	1-76	1-25	1-23	1-25
June 19 (Mon)	11:20-13:20						
Place		Lobby (3F)					

KSABC International Symposium 2023



IV. 발표논문일람

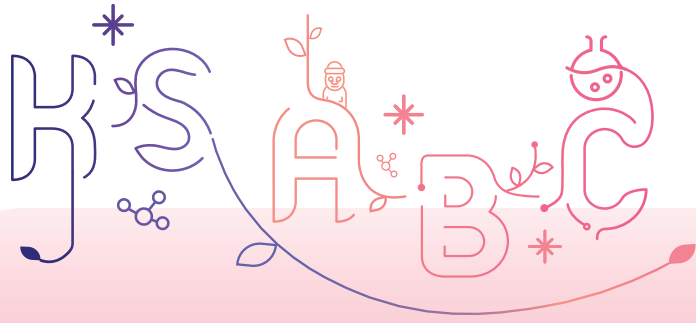




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2023

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061	Poster Session



KSABC
International Symposium **2023**

Plenary Lectures



Plenary Lectures

June 18 (Sun), Halla Hall

Chair: Sun Chul Kang (Daegu University)



PL-1

13:40-14:20

Metabolite Farming and Xenohormesis: Application to Nutraceutical Substances

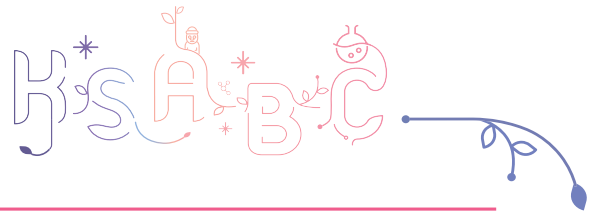
Ki Hun Park

Division of Applied Life Science (BK21 plus), IALS, Gyeongsang National University

The bottleneck of functional food industry is a lack of bioactive metabolite contents in target plants. Thus, the technologies for enhancement of bioactive metabolite contents are innovative challenge in plant science and functional food field. Plants constantly synthesize secondary metabolites to adapt to environmental condition, which might accelerate the production of specific metabolites in plants. Metabolite farming is defined as a special procedure to let accumulate bioactive ingredients in plants. Metabolite farming is based on biotic or abiotic stresses, which produce a lot of ROS that stimulate biosynthetic pathway to synthesize secondary metabolites resisting to ROS.

In this presentation, we would introduce very successful case studies for metabolite farming by using signal molecules such as salicylic acid and ethylene. The first thing is regarding phytoestrogen riched soybean leaves (PRSL), which were produced by ethylene and 1-aminocyclopropane-1-carboxylic acid (ACC). The level of changes in phytoestrogen were more than 50-fold in comparison with the control soybean leaves. This PRSL showed dramatic biological function to menopause problems, skin wrinkle, accumulation of fat, and Alzheimer's disease from animal experiments. The second thing is about coumestrol and daidzein enriched soybean roots by using salicylic acid. Total amounts of coumestrol and daidzein were 4.8 mg/g and 8.9 mg/g, which are the most highest contents so far from plant sources. We also observed the successful results from *Angelica acutiloba*. The bioactive coumarins including xanthotoxin were increased more than 10-fold by ethylene in the roots part.

Xenohormesis is a biological principle that bioactive metabolites from stressed plants can confer stress resistance and survival benefits to animals. The target metabolites derived from metabolite farming are equivalent to bioactive metabolites from stressed plants. Thus, the products from metabolite farming might be considered as the most promising candidates being able to expect xenohormesis effects. Nowadays, metabolite farming is in beginning stage, but it would be a strong tool to create new nutraceutical stuff.



June 19 (Mon), Halla Hall

Chair: Hoon Kim (Sunchon Nat'l University)



PL-2

10:40-11:20

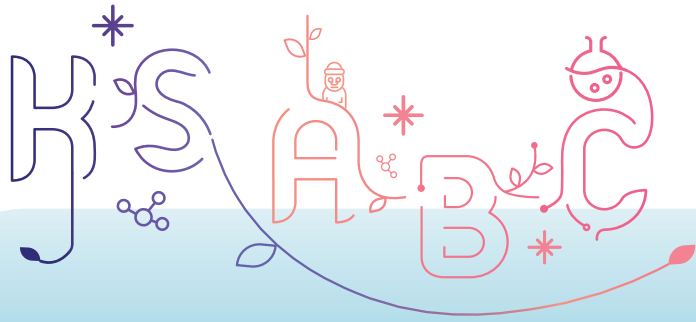
30th years history of Bioneer: DNA Synthesis, PCR, Sequencing, and siRNA

Han-Oh Park

BIONEER Corporation

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Keywords: DNA·RNA Oligo, PCR, MDx (Molecular Diagnostics), siRNA, SAMiRNA, CosmeRNA



KSABC
International Symposium 2023

Award Lectures



Award Lectures

June 18 (Sun), Halla Hall

Chair: Ji-Hoon Lee (Jeonbuk Nat'l University)



 **학술상** 1967년도 제정

AL-1 14:20-14:40

***In vitro* and *in vivo* anticancer activity of lipid-soluble extract from ginseng and ginseng marc**

Dong Chung Kim

Department of Chemical and Biological Engineering, Chungwoon University



 **기창(基倉)과학상** 기창(基倉) 한태룡 전임회장의 후원으로 2010년도 제정


AL-2 14:40-15:00

Biofortification of Rice Grains with Plastid-dependent Functional Metabolites: From Basics to Applications

Sun-Hwa Ha

Department of Genetics and Biotechnology, Kyung Hee University



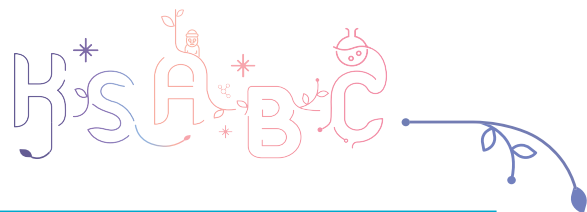
 **HAN BIO Award** 한바이오 그룹 후원으로 2022년도 제정

AL-3 15:00-15:20

Applications of Metabolomics within Natural Products Chemistry

Dae Young Lee


Department of Herbal Crop Research, National Institute of Horticultural and Herbal Science, RDA



June 20 (Tue), Halla Hall A

Chair: Youngmin Kang (Korea Institute of Oriental Medicine (KIOM))



 Biodot Award (주)바이오닷 후원으로 2022년도 제정

AL-4 09:30-09:40

Structures and applications of natural aromatic polymers

Ho Young Yoon

Division of Applied Life Science (BK21 Plus), Department of Agricultural Chemistry and Food Science & Technology & IALS, Gyeongsang National University

June 20 (Tue), Halla Hall B

Chair: Heung Joo Yuk (Korea Institute of Oriental Medicine (KIOM))



 Biodot Award

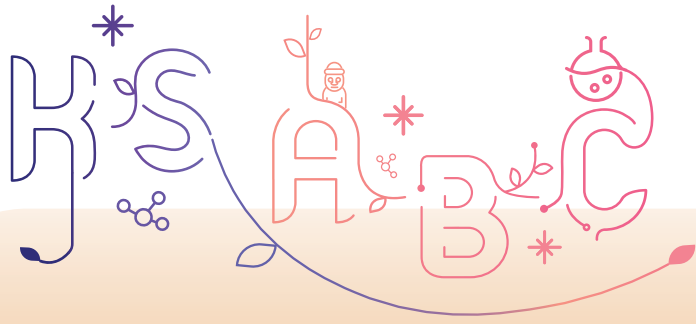
AL-5 09:30-09:40

Lettuce Growth in Metal(loid) Contaminated Soil Affected by Concomitant Immobilization of Oxyanions and Heavy Metals using Iron Phosphate-Coated Biochar

Han Na Kim^{1,2}

¹*Department of Agricultural Chemistry, Chungbuk National University,*

²*Mineral Resources Division, Korea Institute of Geoscience and Mineral Resources (KIGAM)*



KSABC
International Symposium 2023

Keynote Lectures



Keynote Lectures

June 18 (Sun), Halla Hall

Chair: Sei-Ryang Oh (Korea Research Institute of Bioscience and Biotechnology (KRIBB))



KL-1 15:30-16:00

Biotherapeutics from Nature: Discovery and Development of Novel Bioactive Proteins

Barry R. O'Keefe

*Director, Molecular Targets Program Center for Cancer Research
Chief, Natural Products Branch, Developmental Therapeutics Program
Division of Cancer Treatment and Diagnosis, National Cancer Institute, USA*



KL-2 16:00-16:30

Organic Matter Management in Rice Paddy: Grand Challenges and Gold Opportunities on Global Warming

Pil Joo Kim^{1,2}

*¹Division of Applied Life Science, Gyeongsang National University,
²Institute of Agriculture and Life Science, Gyeongsang National University*

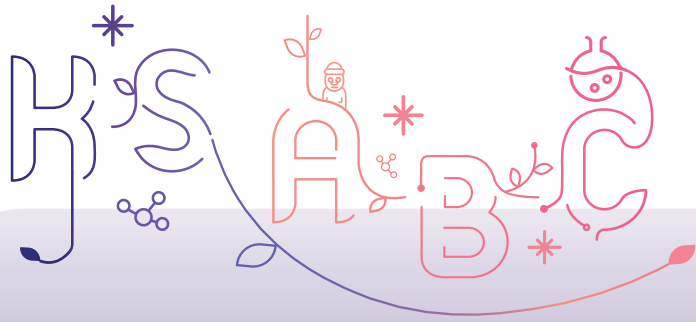


KL-3 16:30-17:00

Transcriptional regulation of salt tolerance in rice

Wenhua Zhang

College of Life Sciences, State Key Laboratory of Crop Genetics and Germplasm Enhancement, Nanjing Agricultural University, Nanjing 210095, China



KSABC
International Symposium **2023**

Special Lecture





Special Lecture

June 18 (Sun), Halla Hall

Chair: Yonghoon Kwon (Seoul Nat'l University)



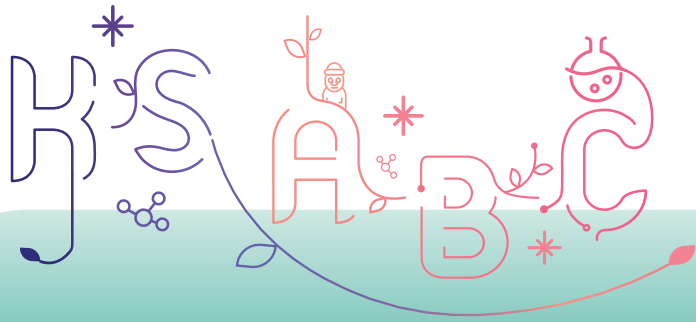
SL-1

17:20-18:00

좋은 선택을 위한 심리학적 방법

정정엽

정신의학신문 정신건강연구소 자문위원



Symposia



S1	CEO Forum	028
S2	Biochemistry · Molecular Biology	029
S3	Natural Products · Bioactive Materials · Biomedical Sciences	030
S4	Environmental Sciences	031
S5	Food Sciences	032
S6	Applied Microbiology	033
S7	Agro-Bio Genome Editing	034
S8	KIST Session <i>(Advancing Natural Product Science)</i>	035
S9	Circadian clock and photoperiodic responses	036
S10	Korea-China cooperation project 3rd workshop	037
S11	한국생명공학연구원 천연물 클러스터	040
S12	농축수산물의 잔류물질 안전관리	042
S13	아열대생물자원을 활용한 바이오헬스/혁신신약 개발	043



Symposia

S1 CEO Forum

June 19 (Mon), Halla Hall A

Chair: Hoon Kim (Suncheon Nat'l University)



S1-1 13:20-13:45

눈에 보이지 않는 역량이 경쟁력이 되는 시대

황을문

(주)서린바이오사이언스



S1-2 13:45-14:10

바이오 벤처기업 창업과 혁신을 통한 기업의 지속가능성장

Yong-Chul Shin

Amicogen, Inc.

June 19 (Mon), Halla Hall A

Chair: Sanghyun Lee (Chung-Ang University)



S1-3 14:10-14:35

CRISPincette, multiplexed highly-sensitive detection of low frequency cancer mutations in ctDNA using GeneCker-Cas9

Sunghyeok Ye

GeneCker

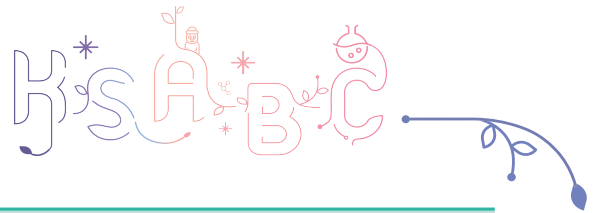


S1-4 14:35-15:00

Therapeutic efficacy of new botulinum toxin identified in CCUG 7968 strain

Chung sei Kim

Research & Development Center, INIBIO Co., Ltd.

**S2****Biochemistry · Molecular Biology****June 19 (Mon), Halla Hall B****Chair:** Yeon Jong Koo (Chonnam Nat'l University)**S2-1****13:20-13:45****Liver-originated small extracellular vesicles with TM4SF5 target brown adipose tissue for homeostatic glucose clearance**

Jung Weon Lee

Department of Pharmacy, Seoul National University**S2-2****13:45-14:10****Phosphorylation of an auxin signaling repressor is required for the suppression of root development under drought stress**

Woo Sik Chung

Division of Applied Life Science, Plant Molecular Biology and Biotechnology Research Center, Gyeongsang National University**S2-3****14:10-14:35****Nuclear phosphoinositide signaling controls the YAP/TAZ-TEAD pathway in breast cancer**Suyong Choi^{1,2}*¹Eppley Institute for Research in Cancer and Allied Diseases, University of Nebraska Medical Center, USA, ²Fred & Pamela Buffett Cancer Center, University of Nebraska Medical Center, USA***S2-4****14:35-15:00****Polycomb in a budding yeast underpins heterochromatin fidelity and genome stability**

Sujin Lee

Department of Biochemistry and Biophysics, University of California, San Francisco, CA, USA

S3

Natural Products · Bioactive Materials · Biomedical Sciences

June 19 (Mon), Samda Hall A

Chair: Jae-Kwang Kim (Incheon Nat'l University)



S3-1 13:20-13:45

Microphysiological Systems of Human Lymphatic Physiology and Disease

ESAK (ISAAC) LEE^{1,2}

¹Nancy and Peter Meinig Family Investigator in the Life Sciences, Cornell University, ²Assistant Professor, School of Biomedical Engineering, Cornell University, Ithaca, NY, USA



S3-2 13:45-14:10

Investigation of psycho-active diterpenoids biosynthetic pathway in *Salvia divinorum*

Moonhyuk Kwon^{1,2}

¹Division of Applied Life Science (BK21 Four), ABC-RLRC, PMBBRC, Gyeongsang National University, ²Department of Biological Sciences, University of Calgary, Calgary, T2N 1N4, Canada



S3-3 14:10-14:35

Discovery and Structure Analysis of Bioactive Components from Edible Insect Resources Using Spectroscopic Methods

Dongyup Hahn^{1,2}

¹School of Food Science and Biotechnology, Kyungpook National University, ²Department of Integrative Biotechnology, Kyungpook National University



S3-4 14:35-15:00

Phytochemical and Pharmacological Studies on Medicinal Plants of Kazakhstan

Janar Jenis^{1,2}

¹The Research Center for Medicinal plants, Al-Farabi Kazakh National University, 050040, Almaty, Kazakhstan, ²Research Institute for Natural Products & Technology, Almaty 050046, Kazakhstan

S4
Environmental Sciences
June 19 (Mon), Samda Hall B
Chair: Jin Hee Park (Chungbuk Nat'l University)

S4-1
13:20-13:50
Contaminant transport in vadose zone

 Jaeshik Chung^{1,2}
¹Water Cycle Research Center, Korea Institute of Science and Technology,

²Division of Energy & Environment Technology, KIST School, Korea University of Science and Technology

S4-2
13:50-14:20
Improving Yield and Quality of Crops Cultivated in Vertical Farms Using Light Quality Control

 Myung-Min Oh^{1,2}
¹Division of Animal, Horticultural and Food Sciences, Chungbuk National

 University, ²Brain Korea 21 Center for Bio-Health Industry, Chungbuk National University

S4-3
14:20-14:50
Arsenic Behavior and Methane Production in Natural Wetland Sediments under Anaerobic Conditions

Young-Soo Han

Department of Environmental and IT Engineering, Chungnam National University

S5

Food Sciences

June 19 (Mon), 303

Chair: Soon-Mi Shim (Sejong University)



S5-1 13:20-13:40

Is the saying 'A good medicine tastes bitter' still valid?

Han-Seok Seo

Department of Food Science, University of Arkansas, Fayetteville, AR, USA



S5-2 13:40-14:00

Research on Chemosensory Receptors

Min Jung Kim

Research Division of Food Functionality, Korea Food Research Institute



S5-3 14:00-14:20

Analysis of monosaccharides and oligosaccharides in fermented soybean products using mass spectrometric techniques

Hyeyoung Lee

Department of Applied Chemistry·Food Science and Technology, Dong-eui University



S5-4 14:20-14:40

Cholesterol lowering potential of *Lactiplantibacillus pentosus* from Perilla leaves

Bokyung Lee^{1,2,3}

¹*Department of Health Sciences, The Graduate School of Dong-A University,*
²*Center for Silver-targeted Biomaterials, Brain Busan 21 Plus Program, Dong-A University,*
³*Department of Food Science and Nutrition, Dong-A University*

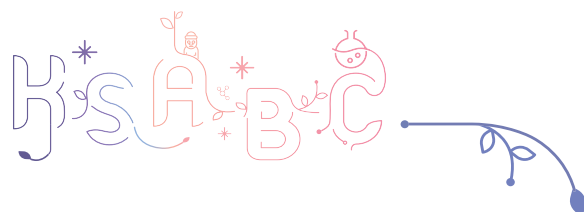


S5-5 14:40-15:00

R&D Strategy for Industrialization and Approval of Product-Specific Health Functional Foods

Suengmok Cho

Department of Food Science and Technology, Pukyong National University



S6

Applied Microbiology

June 19 (Mon), Halla Hall A

Chair: Tatsuya Unno (Chungbuk Nat'l University)



S6-1 15:10-15:35

Research for the realization of technology to extend healthy life span by utilizing information on gut microbiome

Satoshi Watanabe

Cykinso inc., Japan



S6-2 15:35-16:00

Predatory Bacteria: Alternatives and Complements to Antibacterials to Combat Multidrug Resistant Pathogens

Robert J. Mitchell

Applied and Environmental Microbiology Lab School of Life Sciences, Ulsan National Institute of Science and Technology



S6-3 16:00-16:25

Acremonamide, a Cyclic Pentadepsipeptide and Marinobazzanan, a New Bazzanane-type Sesquiterpenoid from a Marine-Derived Fungus of the Genus *Acremonium*, CNQ-049

Sang-Jip Nam

Department of Chemistry and Nanoscience, Ewha Womans University



S6-4 16:25-16:50

Sensitive and rapid detection of pathogens by the loop-mediated isothermal amplification (LAMP)

Ji-Young Ahn

School of Biological Sciences, Chungbuk National University

S7

Agro-Bio Genome Editing

June 19 (Mon), Halla Hall B

Chair: Byoung Il Je (Pusan Nat'l University)



S7-1 15:10-15:40

Role of cereal E-class genes in regulating environmental adaptation and grain yield

Dabing Zhang^{1,2}

¹Chair Professor, School of Life Sciences and Biotechnology, Shanghai Jiao Tong University (SJTU), China, ²University of Adelaide (UA) - SJTU Joint Laboratory on Plant Science and Breeding, School of Agriculture, Food and Wine, UA



S7-2 15:40-16:10

Enhancement of root traits for the sustainable rice production

Ki-Hong Jung

Graduate School of Green-Bio Science & Crop Biotech Institute, Kyung Hee University

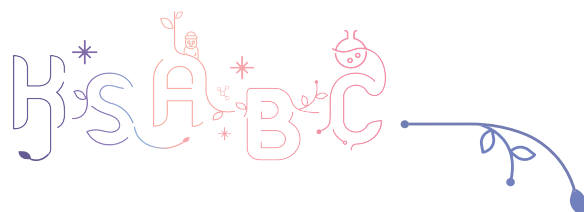


S7-3 16:10-16:40

Precision genome engineering using CRISPR-mediated base and prime editors

Yongsu Kim^{1,2}

¹Department of Cell and Genetic Engineering, AMIST, University of Ulsan College of Medicine, ASAN Medical Center, ²Stem Cell Immunomodulation Research Center, University of Ulsan College of Medicine



S8

KIST Session (Advancing Natural Product Science)

June 19 (Mon), Samda Hall A

Chair: Kyungsu Kang (Korea Institute of Science and Technology (KIST))



S8-1 15:10-15:35

Domain-based engineering of a glutamine-binding protein

Moon-Hyeong Seo

Natural Product Research Center, Korea Institute of Science and Technology (KIST)



S8-2 15:35-16:00

TRPM7 as a potential therapeutic target for triple-negative breast cancer

Chiman Song

Chemical & Biological integrative Research Center, Korea Institute of Science and Technology



S8-3 16:00-16:25

Nanoencapsulation and Bioavailability Enhancement Study of Microalga *Phaeodactylum tricornutum* Extract Containing Fucoxanthin

Song Yi Koo

Natural Product Informatics Center, KIST Gangneung Institute of Natural Products



S8-4 16:25-16:50

Structural basis for CEP192-mediated regulation of centrosomal AURKA

In-Gyun Lee^{1,2}

¹*Biomedical Research Division, Korea Institute of Science and Technology,*

²*Department of Biological Chemistry, University of Science and Technology*

S9

Circadian clock and photoperiodic responses

Co-organized by



식물생체리듬연구센터
Plant Biological Rhythm Research Center



서울대학교 기초연구실
광신호진달 연구를 통한 인성의 움직임성
및 진세노사이드 생합성 기작 규명

June 19 (Mon), Samda Hall B

Chair: Young Hun Song (Seoul Nat'l University)



S9-1 15:10-15:35

Sodium transporter SOS1 regulates circadian clock via stabilization of GI in Arabidopsis

Joon-Yung Cha

Division of Applied Life Science (BK21 four), Plant Biological Rhythm Research Center, Gyeongsang National University



S9-2 15:35-16:00

ASYMMETRIC LEAVES 1 promotes shade avoidance responses

Young Hun Song^{1,2,3}

¹*Research Institute of Agriculture and Life Sciences, Seoul National University,*

²*Plant Genomics and Breeding Institute, Seoul National University,*

³*Department of Agricultural Biotechnology, Seoul National University*



S9-3 16:00-16:25

Integrating light and temperature information by biomolecular condensates in plants

Jae-Hoon Jung

Department of Biological Sciences, Sungkyunkwan University



S9-4 16:25-16:50

Photo-responsive Genes obtained from Functional Characterization of Bathochromic Phytochrome A

Jeong-II Kim^{1,2}

¹*Kumho Life Science Laboratory, Chonnam National University,* ²*Department of Molecular Biotechnology, Chonnam National University*

S10

Korea-China cooperation project 3rd workshop

Co-organized by 4단계 BK21 스마트팜혁신인재양성교육연구단,
한국연구재단 한중산학연대형공동과제, 부산대학교 기초연구실

June 19 (Mon), 303

Chair: Joong Hyoun Chin (Sejong University)



S10-1 15:10-15:20

The *Magnaporthe oryzae* snodprot1 homolog (MSP1) directly interacts with a putative LRR receptor (MBR, MSP1 binding receptor) to induce PAMP-triggered immunity in rice

Sun Tae Kim

Department of Plant Bioscience, Pusan National University



S10-2 15:20-15:30

***Bacillus cereus* NJ01 induces plant resistance against bacterial pathogen through EDS1-WRKY18 module**

Yiming Wang

Department of Plant Pathology, Key Laboratory of Integrated Management of Crop Diseases and Pests, Ministry of Education, Nanjing Agricultural University, Nanjing 210095, China



S10-3 15:30-15:40

Delineating the molecular mechanism of *Magnaporthe oryzae* secreted protein MSP1-induced signaling in rice

Ravi Gupta

College of General Education, Kookmin University



S10-4 15:40-15:50

Genome-Wide Association Study and Haplotype Analysis of Alkaline Tolerance at Seedling Stage in Rice (*Oryza Sativa* L.)

Soon-Wook Kwon

Department of Plant Bioscience, College of Natural Resources and Life Science, Pusan National University



S10-5 15:50-16:00

Profiling of antimicrobial metabolites synthesized by the endophytic and genetically amenable biocontrol strain, *Bacillus velezensis* DMW1

Huijun Wu

Department of Plant Pathology, College of Plant Protection, Nanjing Agricultural University, Key Laboratory of Integrated Management of Crop Diseases and Pests, Ministry of Education, Nanjing, China



S10-6 16:00-16:10

Multi-Omics approaches for developing temperate rice varieties with multiple stress tolerance

Joong Hyoun Chin

Department of Integrative Biological Sciences and Industry, Sejong University



S10-7 16:10-16:20

Exploring the molecular mechanism of PIBP1-mediated broad-spectrum field resistance to fungal pathogen in rice

Yiwen Deng

National Key Laboratory of Plant Molecular Genetics, CAS Center for Excellence in Molecular Plant Science/Institute of Plant Physiology and Ecology, Chinese Academy of Sciences, Shanghai, China



S10-8 16:20-16:30

Temporally-coordinated bivalent histone modifications of *BCG1* enable fungal invasion and immune evasion

Qin Gu

Department of Plant Pathology, College of Plant Protection, Nanjing Agricultural University, Key Laboratory of Monitoring and Management of Crop Diseases and Pest Insects, Ministry of Education, Nanjing 210095, China

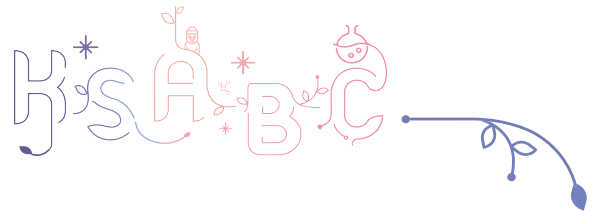


S10-9 16:30-16:40

Investigation of the Ehd1-independent flowering pathway in rice

Lae-Hyeon Cho

Department of Plant Bioscience, Pusan National University



S10-10 16:40-16:50

Construction of Rice Disease Biocontrol Strain Resource Bank and Development and Application of Biocontrol Products

Hongli Ling

QINGDAO VLAND BIOTECH CO., LTD, China



S10-11 16:50-17:00

Integrating omics analysis reveals the function of a S-like RNase gene for enhancing crop yield and phosphate use efficiency in rice

Ki-Hong Jung

Graduate School of Biotechnology & Crop Biotech Institute, Kyung Hee University

S11

한국생명공학연구원 천연물 클러스터

June 19 (Mon), 301

Chair: 최상호 (한국생명공학연구원)



S11-1

09:30-10:10

The role of Natural Product Cluster in Korea

Sei-Ryang Oh

Natural Product Central Bank, Korea Research Institute of Bioscience and Biotechnology

June 19 (Mon), 301

Chair: Sei-Ryang Oh (Korea Research Institute of Bioscience and Biotechnology)



S11-2

10:10-10:30

A Base Bank for Korean Native Plants

Jaeyoung Kwon

KIST Gangneung Institute of Natural Products, Korea Institute of Science and Technology



S11-3

10:30-10:50

천연물클러스터 식물유래 천연물자원 거점은행

이준

한약자원연구센터, 한국한의학연구원



S11-4

10:50-11:10

Establishment of Food Material Base Bank for Natural Products Cluster

Sang Yoon Choi

Korea Food Research Institute



S11-5

11:10-11:20

The Cooperation Center for Securing Natural Materials from Plants

Ho-Young Choi

Department of Herbology, College of Korean Medicine, Kyung Hee University



S11-6

11:20-11:30

Introduction and Preparation of Cooperative-Center of Natural Product Central Bank for Biological Evaluation

Ki Sung Kang

Department of Preventive Medicine, Gachon University



S11-7

11:30-11:40

Role of Taxonomists in securing Functional Food Resources from Plants

Hyosig Won

Department of Biological Science, Daegu University



S11-8

11:40-11:50

Plant-derived functional food resource efficacy evaluation cooperation center: efficacy evaluation for activation of immune response, improving intestinal health, and improving cognitive ability

Gil-Saeng Jeong

College of Pharmacy, Chungnam National University



S12

농축수산물의 잔류물질 안전관리

June 19 (Mon), 301

Chair: 문귀임 (식품의약품안전처)



S12-1 13:30-14:10

식품의약품안전처 2023년 소면적 재배 농산물의 농약 잔류허용기준 설정 연구

김장억

경북대학교 농업생명과학대학 응용생명과학부 환경생명화학전공



S12-2 14:10-14:50

국내 유통 동물성 식품 중 농약 성분 실태조사

임무혁

대구대학교 식품공학과



S12-3 14:50-15:30

스마트팜과 플랫폼

황규승

(주)경농 미래전략본부



S12-4 15:40-16:20

동물용의약품 잔류허용기준 설정을 위한 잔류시험 연구

정상희

호서대학교 임상병리학과, 안전성평가연구소



S12-5 16:20-17:00

블루푸드와 스마트양식

박정환

국립부경대학교 수산생명과학부 양식응용생명과학전공

S13

아열대생물자원을 활용한 바이오헬스/혁신신약 개발

June 18 (Sun), 303

Chair: Young-Ok Son & Ji-Yeong Bae (Jeju Nat'l University)



S13-1

13:20-13:35

Hepatoprotective Effects of Melosira Ethanol Extract on Ethanol-Induced Liver Injury via Modulation of Lipid Metabolism and Oxidative Stress

Dae kyeong Kim

Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University



S13-2

13:35-13:50

***Peyssonnelia caulifera* Okamura extract inhibits intestinal inflammation and barrier disruption in obese mice**

Fang Feng

Department of Food Science and Nutrition, Jeju National University



S13-3

13:50-14:05

A high-sucrose diet enhances high-fat diet-induced osteoarthritis pathogenesis

Yunhui Min

Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University



S13-4

14:05-14:20

Potential Anti-Diabetic Effects of *Ziziphus jujuba*-Derived Polysaccharides in Skeletal Muscle Cell

Ka Yeon Ko

Department of Food Science and Nutrition, Korea-China Joint R&D Center on Plant-Derived Functional Polysaccharide, Jeju National University



S13-5 14:20-14:35

Antioxidant activities from the cultural extracts of probiotics using *Camellia japonica*

Seok-Hwi Jin

Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University



S13-6 14:35-14:50

Inhibitory Effects of *Ganoderma lucidum* Spore Oil on Rheumatoid Arthritis in a Collagen-Induced Arthritis Mouse Model

Yunji Heo

Department of Animal Biotechnology, Faculty of Biotechnology, College of Applied Life Sciences, Jeju National University



S13-7 14:50-15:05

Anti-obesity effect of *Latilactobacillus curvatus* Vita14 isolated from Kimchi; on high-fat diet-induced obesity

Ayub Hina

Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University



S13-8 15:05-15:20

***p*-coumaric acid enriched peanut sprouts suppress liver inflammation and fibrosis in high fat/high sucrose diet fed aging mice**

Thi My Tien Truong^{1,2}

¹Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, ²Department of Food Science and Nutrition, Jeju National University



S13-9 15:20-15:35

Variations on coumarin contents and biological activities of *Daphne jejuensis* in plant parts

Ji-yeon Lee

Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University



S13-10 15:35-15:50

Arsenic triggers osteoarthritis pathogenesis via reactive oxygen species-dependent activation of the NF- κ B-Hif-2 α /Zip8 signaling pathway

Dinesh Suminda Godagama Gamaarachchige

Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University



S13-11 15:50-16:05

Screening of phytochemical extracts for their inhibitory activity on pathogenic Th17

Eun-Jung Kim

Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University



S13-12 16:05-16:20

Lipid metabolites alter the homeostasis of CD4⁺ T cells upon excessive dietary fat

Umar Manzoor

Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University



S13-13 16:20-16:35

Comparative study on native *Taraxacum* species and *Hypochaeris radicata* for the authentication

So-Hee Jang

Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University



S13-14 16:35-16:50

Environment adaptation strategy of soil ammonia-oxidizing archaea

Saem Han

Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University



S13-15 16:50-17:05

Aristolochic Acid-Induced Nephrotoxicity Is More Susceptible in Male Mice

Wei-Long Li

Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University

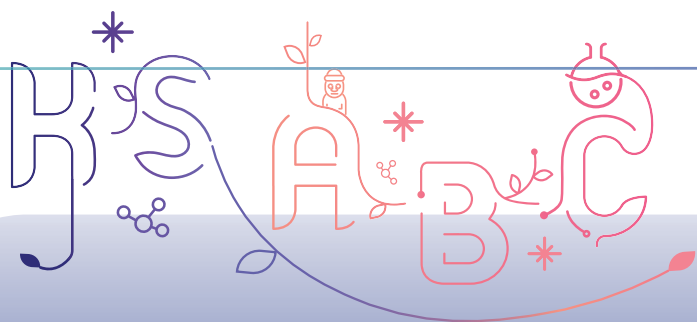


S13-16 17:05-17:20

YAP Inactivation Promotes Cisplatin-Induced Myofibroblast Transformation in Kidney Fibroblasts

Jia-Bin Yu

Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University



Young Scientist Presentation



YS1

Biochemistry · Molecular Biology

048

YS2

Natural Products · Bioactive Materials ·
Biomedical Sciences

049

YS3

Environmental Sciences

050

YS4

Food Sciences

051

YS5

Applied Microbiology

052



Young Scientist Presentation

YS1

Biochemistry · Molecular Biology

June 19 (Mon), Halla Hall A

Chair: Ki-Hong Jung (Kyung Hee University)



YS1-1 09:30-09:50

R2R3-MYB transcription factor OsAIM1 controls photoperiodic flowering by regulating *Ehd1* expression in rice

Hyeryung Yoon

Department of Agriculture, Forestry and Bioresources, Plant Genomics and Breeding Institute, Research Institute of Agriculture and Life Sciences, Seoul National University



YS1-2 09:50-10:10

Analysis of Target Enzyme Inhibitory Activities Related to Neurological Disorder for Isolated Compounds from *Canavalia lineata* and Evaluation of Therapeutic Efficacy

Jong Min Oh

Department of Pharmacy, and Research Institute of Life Pharmaceutical Sciences, Sunchon National University



YS1-3 10:10-10:30

Investigation on Arabidopsis WRKY transcription factors and two bacterial effectors reveals the molecular basis of specific interference with Arabidopsis WRKY54-induced immune response

Ha-Seong Kim

Plant Immunity Research Center, Seoul National University

YS2

Natural Products · Bioactive Materials · Biomedical Sciences

June 19 (Mon), Halla Hall B

Chair: Jong Suk Lee (Gyeonggido Business & Science Accelerator (GBSA))



YS2-1 09:30-09:50

Various approaches to understand the therapeutic effect of herbal medicine on pulmonary disease

Yun-Soo Seo^{1,2}

¹Herbal Medicine Resources Research Center, Korea Institute of Oriental Medicine, ²Center for Companion Animal New Drug Development, Jeonbuk Branch, Korea Institute of Toxicology (KIT)



YS2-2 09:50-10:10

Discovery of novel pan-peroxisome proliferator-activated receptor modulators from an endolichenic fungus, *Daldinia childiae*

Hyejin Ko^{1,2}

¹Natural Products Research Institute, College of Pharmacy, Seoul National University, ²Natural Products Research Center, Korea Institute of Science and Technology (KIST)



YS2-3 10:10-10:30

New Technologies in Botanical Authenticity Analysis

Seon Beom Kim^{1,2}

¹Department of Food Science and Technology, Pusan National University, ²Center for Natural Product Technologies (CENAPT), Pharmacognosy Institute, and Department of Pharmaceutical Sciences, College of Pharmacy, University of Illinois at Chicago, Illinois 60612, United States

YS3

Environmental Sciences

June 19 (Mon), Samda Hall A

Chair: Sang Yoon Kim (Suncheon Nat'l University)



YS3-1 09:30-09:50

Temperature sensitivity of microbial exo-enzyme activities and CO₂ efflux is resistant to change across short- and long-term timescales

Kyungjin Min^{1,2}

¹Department of Agricultural Biotechnology, Seoul National University,

²Department of Ecology and Evolutionary Biology, The University of Kansas, Lawrence 66045, USA



YS3-2 09:50-10:10

Metagenomic analysis of indigenous microorganisms in landfill buried 30 years ago

So-Jeong Kim

Mineral Resources Division, Korea Institute of Geoscience and Mineral Resources



YS3-3 10:10-10:30

Biotransformation and differential particle and ion clearance kinetics of silver nanoparticles in the lung

Soyeon Jeon

Lab of Toxicology, Department of Health Sciences, The Graduate School of Dong-A University

YS4

Food Sciences

June 19 (Mon), Samda Hall B

Chair: Dae Young Lee (National Institute of Horticultural and Herbal Science)



YS4-1 09:30-09:50

Skin Health Efficacy of Mountain-cultivated Ginseng Enhancing Active Ingredient Based on the Bioprocess

Hee Yul Lee

Department of GreenBio Science and Agri-Food Bio Convergence Institute, Gyeongsang National University



YS4-2 09:50-10:10

A high-throughput platform for interpretation of metabolite profile data from plants using a PathVisio

Tae Jin Kim

Bio-resource Industrialization Center, Nakdonggang National Institute of Biological Resources



YS4-3 10:10-10:30

The evaluation of the availability of medicinal crops for the development of health functional food ingredients

Kwan-Woo Kim

Department of Herbal Crop Research, National Institute of Horticultural and Herbal Science, Rural Development Administration

YS5

Applied Microbiology

June 19 (Mon), 303

Chair: Ji-Hoon Lee (Jeonbuk Nat'l University)



YS5-1 09:30-09:50

Diverse microbiome approaches to unravel different biological questions

Jiyeon Si^{1,2,3}

¹Natural Product Informatics Research Center, KIST Gangneung Institute of Natural Products, ²Department of Microbiology and Immunology, Rega Institute for Medical Research, Leuven, Belgium, ³VIB-KU Leuven Center for Microbiology, Leuven, Belgium

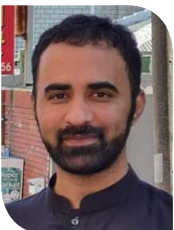


YS5-2 09:50-10:10

Identification of xantholysins isolated from *Pseudomonas* sp. DJ15 and their use as a pest control agent

Da Jung Lim

Department of Research and Development, Center for Industrialization of Agricultural and Livestock Microorganisms

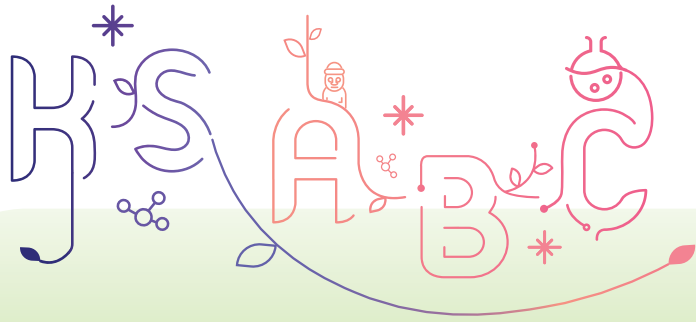


YS5-3 10:10-10:30

Metagenomic exploration of the gut microbiome in dyslipidemia patients and its association with antibiotic resistance and metabolic pathways

Shahbaz Raza

Department of Clinical Research Design and Evaluation, Samsung Advanced Institute for Health Sciences & Technology, Sungkyunkwan University



KSABC
International Symposium 2023

Graduate Student Presentation



Graduate Student Presentation

June 20 (Tue), Halla Hall A

Chair: Youngmin Kang (Korea Institute of Oriental Medicine (KIOM))

GS1-1 09:40-09:50

Exploring the Inhibitory Potential of a Fruit Compound against SARS-CoV-2 Main Protease: A Promising Strategy for COVID-19 Treatment

Mukim Md Sofequl Islam^{1,2}, Jin-Soo Park¹, Hee Ju Lee¹, Jaeyoung Kwon^{1,2}, Cheol-Ho Pan^{1,2}, Dae-Geun Song^{1,2*}

¹Natural Product Informatics Research Center, Division of Biomedical Science & Technology, Korea Institute of Science & Technology (KIST), Gangneung 2545, Republic of Korea, ²KIST School, University of Science and Technology (UST), Daejeon 34113, Republic of Korea

GS1-2 09:50-10:00

Schisandrin C ameliorates indomethacin-induced cell death and intestinal permeability dysfunction in Caco-2 cells

Son Hung Tran^{1,2}, Mi Ri Kim¹, Hee Ju Lee¹, Uyen Tran Tu Nguyen^{1,2}, Kyungsu Kang^{1,2*}

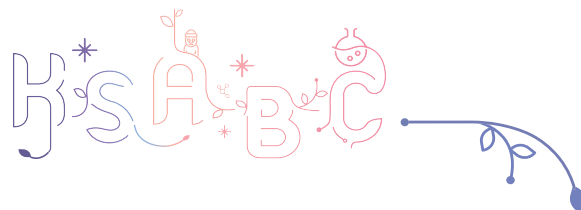
¹Natural Product Informatics Research Center, Korea Institute of Science and Technology, Gangneung, Gangwon-do 25451, Republic of Korea, ²Division of Bio-Medical Science & Technology, KIST School, University of Science and Technology (UST), Gangneung, Gangwon-do 25451, Republic of Korea

GS1-3 10:00-10:10

Centorea cyanus water extract prevents dexamethasone-induced muscle atrophy by modulating protein synthesis homeostasis, mitochondrial biogenesis, and gut microbiota

Ngoc Bao Nguyen^{1,2}, Tam Thi Le¹, Sang Hoon Jung^{1,3*}, Myungsuk Kim^{1,3,4*}

¹Natural Product Research Center, Korea Institute of Science and Technology (KIST), Gangneung, Gangwon-do 25451, Korea, ²College of dentistry, Department of Biochemistry and Molecular Biology, Gangneung Wonju National University, Gangneung, Gangwon-do 25451, Korea, ³Division of Bio-Medical Science and Technology, KIST School, University of Science and Technology (UST), Seoul, Republic of Korea, ⁴Department of Convergence Medicine, Wonju College of Medicine, Yonsei University, Wonju, Gangwon-do, Republic of Korea



GS1-4 10:10-10:20

Elicitor-mediated biosynthesis of rosmarinic acid in callus suspension cultures of *Lavandula angustifolia*

Bo Ryeong Kim^{1,2}, Yu Jeong Jeong¹, Soyoung Kim^{1,2}, Hyeon Ji Yeo¹,
Jae Cheol Jeong¹, Ok Ran Lee², Cha Young Kim^{1*}

¹Biological Resource Center, Korea Research Institute of Bioscience Biotechnology (KRIBB), Jeongeup 56212, Korea, ²Department of Plant Biotechnology, College of Agriculture & Life Sciences, Chonnam National University, Gwangju 61186, Korea

GS1-5 10:20-10:30

A systemic metabolic profiling of *Glycine soja* with enhanced Molecular Networking analysis (MolNetEnhancer) by integrating computational annotation tools

Haeun Kwon¹, So Hee Kim¹, Jun-Gu Kim², BangYeon Hwang², Dongho Lee^{1*}

¹Department of Plant Biotechnology, College of Life Sciences and Biotechnology, Korea University, Seoul 02841, Republic of Korea, ²College of Pharmacy, Chungbuk National University, Cheongju 28160, Republic of Korea

June 20 (Tue), Halla Hall A

Chair: Jongmin Ahn (Korea Research Institute of Bioscience and Biotechnology (KRIBB))

GS1-6 10:30-10:40

Subcritical Water Extract of *Gracilaria chorda* Ameliorates Lipid Accumulation and Improves Glucose Homeostasis in Zebrafish Larvae and 3T3-L1 Adipocytes

Laxmi Sen Thakuri^{1,2}, Narayan Sah Sonar^{1,2}, Ye Jin Jang^{1,2}, Jeon Jin Park¹,
Hye Bin Park¹, Hyung Jung Kim³, Jin Woo Park^{1,3}, Dong Young Rhyu^{1,2*}

¹Department of Nutraceutical Resources, Mokpo National University, Jeonnam 58554, Republic of Korea, ²Department of Biomedicine, Health & Life Convergence Sciences, BK21 FOUR, Mokpo National University, Jeonnam 58554, Republic of Korea, ³Department of Pharmacy, Mokpo National University, Jeonnam 58554, Republic of Korea

GS1-7

10:40-10:50

Conversion of non-glycoside isoflavones and antioxidant activity from isoflavone-enriched soy leaves by mycelium of *Tricholoma matsutake*

Du Yong Cho¹, Hee Yul Lee¹, Jae Gack Jeong¹, Ae ryeon Lee¹, Jong Bin Jeong¹, Ji Ho Lee¹, Ga Young Lee¹, Mu Yeun Jang¹, Mi Ru Kang¹, Ki Hun Park², Jin Hwan Lee³, Kye Man Cho^{1*}

¹Department of GreenBio Science and Agri-Food Bio Convergence Institute, Gyeongsang National University, Jinju 52725, Republic of Korea, ²Division of Applied Life Science (BK21 plus), Gyeongsang National University, Jinju 52828, Republic of Korea, ³Department of Life Resources Industry, Dong-A University, Busan 49315, Republic of Korea

GS1-8

10:50-11:00

Influence of Processing on Cyanogenic Glycoside Content of Stone Fruit Syrup

Hyunjun Lee¹, Kwang-Won Lee², Hyun-Seok Kim³, Jihyun Lee^{1*}

¹Department of Food Science and Technology, Chung-Ang University, Anseong 17546, Korea, ²Department of Biotechnology, Korea University, Seoul 02841, Korea, ³Department of Food Science and Biotechnology, Kyonggi University, Suwon 16227, Korea

GS1-9

11:00-11:10

Antifungal activities of massoia essential oil and C-10 massoia lactone against *Aspergillus flavus*

Yubin Lee, Sung-Eun Lee^{*}

Department of Integrative Biology, Kyungpook National University, Daegu 41566, Republic of Korea

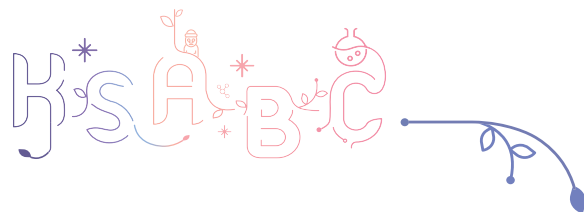
GS1-10

11:10-11:20

Comparing the metabolites profiles of mouse plasma under different dietary conditions

So Hwi Yang¹, Ye Jin Kim¹, Eun-Young Kwon², Woo Duck Seo³, Jae Kwang Kim^{1*}

¹Division of Life Sciences, College of Life Sciences and Bioengineering, Incheon National University, Incheon 22012, Republic of Korea, ²Department of Food Science and Nutrition, Kyungpook National University, 1370 San-Kyuk Dong, Puk-Ku, Daegu 702-701, Republic of Korea, ³Division of Crop Foundation, National Institute of Crop Science, Rural Development Administration, Wanju, Jeonbuk 55365, Republic of Korea



GS1-11

11:20-11:30

Improving Lettuce Quality and Disease Resistance: The Impact of Mechanical Stimulation in Hydroponic Systems

Yeon Kyeong Lee¹, Jae Ho Shin^{1,2,3*}

¹Department of Integrative Biology, Kyungpook National University, Daegu 41566, Republic of Korea, ²Department of Applied Biosciences, Kyungpook National University, Daegu 41566, Republic of Korea, ³NGS Core Facility, Kyungpook National University, Daegu 41566, Republic of Korea

June 20 (Tue), Halla Hall B

Chair: Heung Joo Yuk (Korea Institute of Oriental Medicine (KIOM))

GS2-1

09:40-09:50

Feasibility of Shifting Transplanting Dates on Mitigating Net Global Warming Potential and Maintaining Rice Productivity in a Paddy Field during Cultivation

Yeomyeong Lee¹, Juhee Lee¹, Sohee Yoon¹, Hyerin An¹, Sang Yoon Kim^{1,2*}

¹Department of Agricultural Chemistry & Interdisciplinary Program in IT-Bio Convergence System, Suncheon National University, Suncheon 57922 Republic of Korea, ²Department of Agricultural Life Sciences, Suncheon National University, Suncheon 57922, Republic of Korea

GS2-2

09:50-10:00

Persistent organic pollutants released from adipose tissue change mitochondrial enzyme function in the brain and eyes rather than the liver

Dongshin Yang¹, Sooim Shin^{1,2*}

¹Interdisciplinary Program of Bioenergy and Biomaterials Graduate School, College of Engineering, Chonnam National University, Gwangju 61186, Republic of Korea, ²Department of Biotechnology and Bioengineering, College of Engineering, Chonnam National University, Gwangju 61186, Republic of Korea

GS2-3

10:00-10:10

Biodegradation of Low-density Polyethylene Microplastic Particles by Indigenous Fungi Isolated from Soil

Kehinde Caleb Omidoyin¹, Eun Hea Jho^{2*}

¹Department of Agricultural Chemistry, Chonnam National University, 77 Yongbong-ro, Buk-gu, Gwangju 61186, Republic of Korea, ²Department of Agricultural and Biological Chemistry, Chonnam National University, 77 Yongbong-ro, Buk-gu, Gwangju 61186, Republic of Korea

GS2-4

10:10-10:20

Bioplastic (poly-3-hydroxybutyrate)-producing *Massilia endophytica* sp. nov., isolated from *Cannabis sativa* L. 'Cheungsam'

Doeun Jeon, Jiyoung Lee*

Korean Collection for Type Cultures (KCTC), Biological Resource Center, Korea Research Institute of Bioscience and Biotechnology, Jeongseup 56212, Republic of Korea

GS2-5

10:20-10:30

Molecular study of *Metschnikowia persimmonesis*, a potent biocontrol agent of agricultural application

Endang Rahmat^{1,2}, Youngmin Kang^{1,2*}

¹Herbal Medicine Resources Research Center, Korea Institute of Oriental Medicine (KIOM), 111 Geonjae-ro, Naju-si, Jeollanam-do 58245, Republic of Korea, ²Korean Convergence Medicine Major, University of Science and Technology (UST), Republic of Korea

June 20 (Tue), Halla Hall B

Chair: Hae Won Jang (Sungshin Women's University)

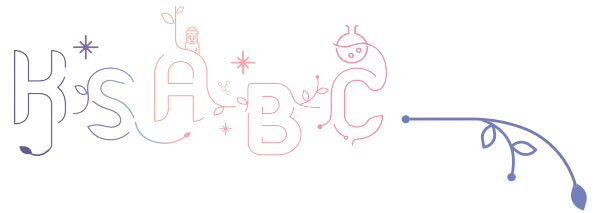
GS2-6

10:30-10:40

Plastoglobule Targeting Mechanism of Rice Phytoene Synthase 2 Facilitated by Three Transmembrane Domains

Ji Su Yu, Min Kyoung You, Yeo Jin Lee, Sun-Hwa Ha*

Department of Genetics and Biotechnology, Graduate School of Green-Bio Science, College of Life Sciences, Kyung Hee University, Yongin 17104, Republic of Korea



GS2-7

10:40-10:50

ZEITLUPE controls the shape of *FLOWERING LOCUS T* expression in natural environments

Hayeon Kim¹, Hye Won Kang¹, Dae Yeon Hwang², Takato Imaizumi³,
Young Hun Song^{1,4,5*}

¹Department of Agricultural Biotechnology, Seoul National University, Seoul, Korea,

²Department of Biology, Ajou University, Suwon, Korea, ³Department of Biology,

University of Washington, Seattle, WA, USA, ⁴Institute of Agricultural Life Sciences,

Seoul National University, Seoul, Korea, ⁵Plant Genomics and Breeding Institute, Seoul National University, Seoul, Korea

GS2-8

10:50-11:00

Protein and Post-Translational Modification Identification using LC-MS/MS

Jessica Winarto^{1,2}, You Bin Won¹, Yong Kee Kim³, Su-Nam Kim^{2,4},
Cheol-Ho Pan^{1,2}, Kwang Hyun Cha^{1,2}, Young-Tae Park⁴, Choong-Gu Lee^{1,2},
Dae-Geun Song^{1,2*}

¹Natural Product Informatics Research Center, Natural Products Research Institute, Korea Institute of Science & Technology (KIST), Gangneung 25451, Republic of Korea,

²Division of Biomedical Science & Technology, KIST School, University of Science and Technology (UST), Daejeon 34113, Republic of Korea, ³Muscle Physiome Research

Center and Drug Information Research Institute, College of Pharmacy, Sookmyung Women's University, Seoul 04310, Korea, ⁴Natural Product Research Center, Natural

Products Research Institute, Korea Institute of Science & Technology (KIST), Gangneung 25451, Republic of Korea

GS2-9

11:00-11:10

Uncovering the Role of MoXYL1 in Rice Blast Disease Resistance: A Label-Free Quantitative Proteomic Analysis Reveals Novel Effectors and Defense-Related Proteins

Gi Hyun Lee¹, Cheol Woo Min¹, Jeong Woo Jang¹, Jinmi Yoon²,
Lae-Hyeon Cho¹, Yiming Wang³, Ravi Gupta⁴, Sun Tae Kim^{1*}

¹Department of Plant Bioscience, Pusan National University, Miryang 50463, Republic of Korea, ²Department of Biological Sciences, Inha University, Incheon, Republic of

Korea, ³Key Laboratory of Integrated Management of Crop Disease and Pests, Ministry of Education, Department of Plant Pathology, Nanjing Agricultural University, 210095,

Nanjing, China, ⁴College of General Education, Kookmin University, Seoul 02707, Republic of Korea

GS2-10

11:10-11:20

Study on the Binding of Human Serum Albumin with Polystyrene Microplastics using Isothermal Titration Calorimetry

Jihye Ahn¹, Moonsung Choi^{1,2*}

¹Department of Optometry, College of Energy and Biotechnology, Seoul National University of Science and Technology, Seoul 01811, Republic of Korea, ²Convergence Institute of Biomedical Engineering and Biomaterials, Seoul National University of Science and Technology, Seoul 01811, Republic of Korea

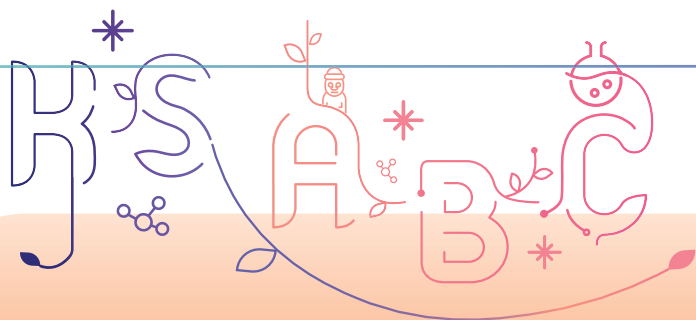
GS2-11

11:20-11:30

Development of a Novel Mixed Livestock Litter for Effective Moisture Control and Odor Reduction in Livestock Barns

Jae-Hoon Lee, Dong-Cheol Seo^{*}

Division of Applied Life Science(BK21 Four) & Institute of Agriculture and Life Science, Gyeongsang National University, Jinju, 52828, Republic of Korea



Poster Session



PBM	Biochemistry · Molecular Biology	063
PNB	Natural Products · Bioactive Materials · Biomedical Sciences	080
PES	Environmental Sciences	103
PFS	Food Sciences	116
PAM	Applied Microbiology	121
PBD	Bio-health/Drug development	125





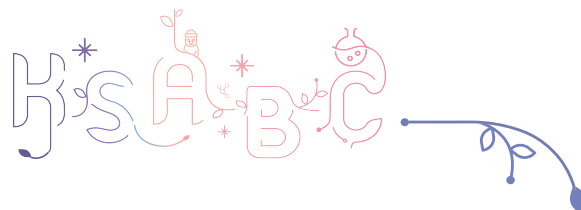
Poster Session

Poster Category

PBM	Biochemistry · Molecular Biology
PNB	Natural Products · Bioactive Materials · Biomedical Sciences
PES	Environmental Sciences
PFS	Food Sciences
PAM	Applied Microbiology
PBD	Bio-health/Drug development

Poster Session

		Category	PBM	PNB	PES	PFS	PAM	PBD
<i>Date</i>								
June 18 (Sun)	18:00-19:30		1-98	1-136	1-76	1-25	1-23	1-25
June 19 (Mon)	11:20-13:20							
Place		Lobby (3F)						

**PBM****Biochemistry · Molecular Biology****PBM-1****Screening for overexpressed CD55 receptor using GENT database in colorectal cancer for development of targeted radionuclide therapy**Jae Cheong Lim*Radioisotope Research Division, Korea Atomic Energy Research Institute***PBM-2****Cell-Free Biotransformation of Flavonoid C-Glycosides by *Dorea* sp. MRG-IFC3**Huynh Thi Ngoc Mi, Heji Kim, Jaehong Han**Metalloenzyme Research Group and Department of Plant Science and Technology, Chung-Ang University, 4726 Seodong-daero, Anseong 17546, Republic of Korea***PBM-3****Purification of O-Demethylase from Human Gut Bacterium *Blautia* sp. MRG-PMF1**Santipap Chaiyasarn, Jaehong Han**Metalloenzyme Research Group and Department of Plant Science and Technology, Chung-Ang University, 4726 Seodong-daero, Anseong 17546, Republic of Korea***PBM-4****Characterization of DgpA Cloned from Human Gut Bacterium *Dorea* sp. MRG-IFC3**Heji Kim¹, Huynh Thi Ngoc Mi¹, Joong-Hoon Ahn², Jong Suk Lee³, Jaehong Han^{1*}*¹Metalloenzyme Research Group and Department of Plant Science and Technology, Chung-Ang University, 4726 Seodong-daero, Anseong 17546, Republic of Korea,**²Department of Integrative Bioscience and Biotechnology, Bio/Molecular Informatics Center, Konkuk University, Seoul 05029, Republic of Korea, ³Biocenter, Gyeonggido Business & Science Accelerator (GBSA), Suwon, Gyeonggi-do 16229, Republic of Korea***PBM-5****Characterization of Putative O-Demethylase from Human Gut Bacterium *Blautia* sp. MRG-PMF1**Pronnapha Ratanasriha¹, Heji Kim¹, Huynh Thi Ngoc Mi¹, Joong-Hoon Ahn², Bekir Engin Eser³, Jaehong Han^{1*}*¹Metalloenzyme Research Group and Department of Plant Science and Technology, Chung-Ang University, 4726 Seodong-daero, Anseong 17546, Republic of Korea,**²Department of Integrative Bioscience and Biotechnology, Bio/Molecular Informatics Center, Konkuk University, Seoul 05029, Republic of Korea, ³Department of Biological and Chemical Engineering, Aarhus University, Aarhus, Denmark*

PBM-6

Epigenetic Regulatory RNAome Analyses Reveal the Association Between Seed Dormancy and Maturation in Rice (*Oryza sativa* L.)

Minsu Park^{1,2}, Sang-Yoon Shin^{1,3}, Hongman Moon¹, Yunkoo Ko^{1,3}, Giil Jang^{1,3}, Jongwon Hong^{1,3}, Chanseok Shin^{1,2,3,4*}

¹Department of Agricultural Biotechnology, Seoul National University, ²Research Institute of Agriculture and Life Sciences, Seoul National University, ³Research Center for Plant Plasticity, Seoul National University, ⁴Plant Genomics and Breeding Institute, Seoul National University

PBM-7

Improving phosphorus use efficiency in rice: from vegetative to ripening stage

Phyu Phyu Maung, Ian Paul Navea, Priskila Tolangi, Na-Hyun Shin, Joong Hyoun Chin*

Department of Integrative Biological Sciences and Industry, Sejong University

PBM-8

Production of phenazine derivatives in *Escherichia coli*

Yeo Jin Park, Joong Hoon Ahn*

Department of Integrative Bioscience and Biotechnology, Bio/Molecular Informatics Center, Konkuk University, Seoul 05029, Republic of Korea

PBM-9

Microbial Synthesis of *p*-Coumaroyl Phenyllactic Acid and *p*-Coumaroyl 4-Hydroxyphenyllactic Acid

Seung Hoon An, Hyeon A Kim, Joong Hoon Ahn*

Department of Integrative Bioscience and Biotechnology, Bio/Molecular Informatics Center, Konkuk University, Seoul 05029, Republic of Korea

PBM-10

Functional Roles of Blue-light Inhibitors of Cryptochromes (BICs) in Plant Thermomorphogenesis

Yun-Jeong Han^{1*}, Seong-Hyeon Kim², Jeong-Il Kim^{1,2*}

¹Kumho Life Science Laboratory, Chonnam National University, Gwangju 61186, Republic of Korea, ²Department of Integrative Food, Bioscience and Biotechnology, Chonnam National University, Gwangju 61186, Republic of Korea

PBM-11

FITNESS, a CCT-domain Containing Protein, Regulates Flowering in Arabidopsis

Da-Min Choi¹, Yun-Jeong Han^{2*}, Jeong-Il Kim^{1,2*}

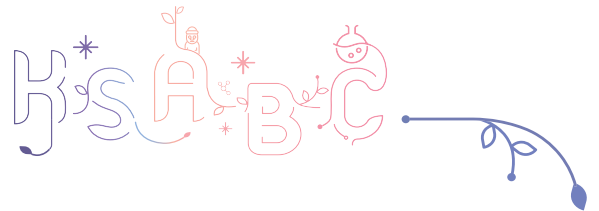
¹Department of Integrative Food, Bioscience and Biotechnology, Chonnam National University, ²Kumho Life Science Laboratory, Chonnam National University

PBM-12

Phytochromes A of *Brachypodium distachyon* Functions under both Far-red and Red Light in Arabidopsis

Seong-Hyeon Kim, Jae-Yong Cho, Jeong-Il Kim*

Department of Integrative Food, Bioscience and Biotechnology, Chonnam National University, Gwangju 61186, Republic of Korea



PBM-13

Regulation of phosphoinositide-3-kinase-interacting protein 1 in ET1-induced Cardiac Hypertrophy

Kyoung Jin Nho^{1*}, Ji Young Lee², Do Han Kim²

¹Institute of Occupation and Environment, COMWEL, ²Laboratory of system biology, School of Life Sciences Gwangju Institute of Science and Technology

PBM-14

Korea Bio Data Station(K-BDS) Hardware System Support Program

Jung Woo Park, Junehawk Lee*, Yong Ho Lee, Jimin Kim

Biomedical Information Team, Korea Institute of Science and Technology Information

PBM-15

DUF3511 is related to the ABA hormone and affects the growth of root hair in rice

Chan-Mi Yun¹, Woo-Jong Hong², Ji-Hyun Kim¹, Ki-Hong Jung³, Yu-Jin Kim¹

¹Department of Life Science and Environmental Biochemistry, and Life and Industry Convergence Research Institute, Pusan National University, Miryang 50463, Republic of Korea, ²Department of Smart Farm Science, Kyung Hee University, Yongin 17104, Republic of Korea, ³Graduate School of Green Bio Science & Crop Biotech Institute, Kyung Hee University, Yongin 17104, Republic of Korea

PBM-16

Meta QTL analysis highlights genomic hotspots associated with phosphorus use efficiency and its potential to breeding for low-input rice

Ian Paul Navea, Phyu Phyu Maung, Priskila Tolangi, Na-Hyun Shin, Joong Hyoun Chin*

Department of Integrative Biological Sciences and Industry, Sejong University, Seoul 05006, Republic of Korea, Food Crops Molecular Breeding Laboratory

PBM-17

Analysis of MSP1-induced Post-Translational Modification Dynamics Unveiled Novel Insights into Rice-*Magnaporthe oryzae* Interaction

Gi Hyun Lee¹, Cheol Woo Min¹, Jeong Woo Jang¹, Yiming Wang², Jong-Seong Jeon³, Ravi Gupta⁴, Sun Tae Kim^{1*}

¹Department of Plant Bioscience, Pusan National University, ²Department of Plant Pathology, Nanjing Agricultural University, ³Graduate School of Biotechnology and Crop Biotech Institute, Kyung Hee University, ⁴College of General Education, Kookmin University

PBM-18

Both tissue and stress specific R2R3-MYB transcription factors are expressed for anthocyanin synthesis in Arabidopsis and tomato

Subin Mun, Yaerim Lee, Jihyeon Baek, Yeonjong Koo*

Department of Agricultural Chemistry, Chonnam National University

PBM-19

Structural and Functional impact of Serine Substitution in the Cu-binding Loop of Amicyanin

Eunjeong Kim¹, Sooim Shin^{1,2*}

¹*Interdisciplinary Program of Bioenergy and Biomaterials Graduate School, College of Engineering, Chonnam National University, Gwangju 61186, Republic of Korea,*

²*Department of Biotechnology and Bioengineering, College of Engineering, Chonnam National University, Gwangju 61186, Republic of Korea*

PBM-20

Toxicity of Parabens in Human Dermal Papilla Cell

Yeong Min Kim, Jea Sic Jeong, Hyeon-Gu Kang, Da Som Kim, So Young Kim, Ha Ye Ahn, Beum

Department of Biomaterials Science (BK21 program), Life and Industry Convergence Institute, Pusan National University, Miryang 50463, Republic of Korea

PBM-21

Gelatin-Based Injectable Depot for Visceral Fat Reduction in High Fat Induced Obese Rats

So Young Kim, Jea Sic Jeong, Da Som Kim, Hyeon-Gu Kang, Yeong Min Kim, Ha Ye Ahn, Beum-Soo An*

Department of Biomaterials Science (BK21 program), Life and Industry Convergence Institute, Pusan National University

PBM-22

Rice pollen-specific OsRALF17 and OsRALF19 are essential for pollen tube growth

Eui-Jung Kim¹, Ji-Hyun Kim², Woo-Jong Hong³, Eun Young Kim⁴, Myung-Hee Kim⁴, Su Kyoung Lee¹, Cheol Woo Min⁵, Sun Tae Kim⁵, Soon Ki Park⁴, Ki-Hong Jung^{6*}, Yu-Jin Kim^{2*}

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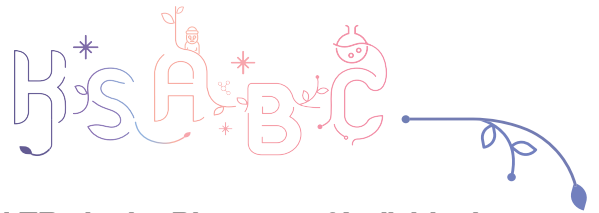
⁴*School of Applied Biosciences, Kyungpook National University, Daegu 41566, Republic of Korea,* ⁵*Department of Plant Bioscience, Pusan National University, Miryang 50463, Republic of Korea,* ⁶*Graduate School of Green Bio-Science & Crop Biotech Institute, Kyung Hee University, Yongin 17104, Republic of Korea*

PBM-23

The relevance of testosterone and pathogenesis of Pre-Eclampsia

Hyeon-Gu Kang, Da Som Kim, Jea Sic Jeong, So Young Kim, Yeong Min Kim, Ha Ye Ahn, Beum-Soo An*

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PBM-24

The Role and Correlation of SRCs and ERs in the Placenta of Individuals with Preeclampsia

Jea Sic Jeong, Da Som Kim, So Young Kim, Hyeon-Gu Kang, Yeong Min Kim, Ha Ye Ahn, Beum-Soo An*

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PBM-25

Comparison of antioxidant effects of nine plant essential oils on skin fibroblasts

Da Som Kim, Jea Sic Jeong, So Young Kim, Hyeon-Gu Kang, Yeong Min Kim, Ha Ye Ahn, Beum-Soo An*

Department of Biomaterials Science (BK 21 program), College of Natural Resources & Life Science/Life and Industry Convergence Research Institute, Pusan National University

PBM-26

The effect of microneedle on skin elasticity

Ha Ye Ahn, Da Som Kim, Jea Sic Jeong, So Young Kim, Hyeon-Gu Kang, Yeong Min Kim, Beum-Soo An*

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PBM-27

Uncovering the Role of MoXYL1 in Rice Blast Disease Resistance: A Label-Free Quantitative Proteomic Analysis Reveals Novel Effectors and Defense-Related Proteins

Gi Hyun Lee¹, Cheol Woo Min¹, Jeong Woo Jang¹, Jinmi Yoon², Lae-Hyeon Cho¹, Yiming Wang³, Ravi Gupta⁴, Sun Tae Kim^{1*}

¹Department of Plant Bioscience, Pusan National University, ²Department of Biological Sciences, Inha University, ³Department of Plant Pathology, Nanjing Agricultural University, ⁴College of General Education, Kookmin University

PBM-28

Transcriptome Profiling Uncovers the Involvement of CmXyn1, a Glycosyl Hydrolase 11, in *Cochliobolus miyabeanus* Pathogenicity

Gi Hyun Lee¹, Ju Soon Yoo¹, Ha-Ram Oh¹, Cheol Woo Min¹, Jeong Woo Jang¹, Soumya Mukherjee², Ki-Hong Jung³, Yu-Jin Kim⁴, Yiming Wang⁵, Ravi Gupta⁶, Sun Tae Kim^{1*}

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PBM-29

HDAC inhibitor and proteasome inhibitor induce cleavage and exosome-mediated secretion of HSP90 in mouse pluripotent stem cells

Jun-Kyu Choi¹, Sangkyu Park², Jeong-A Park², Ha-Eun Shin¹, Yeram Choi¹, Younghee Lee^{1,2*}

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PBM-30

Cremastranone-derived Homoisoflavanes Suppress the Growth of Breast Cancer Cells via Cell Cycle Arrest and Caspase-independent Cell Death

Yeram Choi¹, Sangkyu Park², Seul Lee³, Ha-Eun Shin¹, Sangil Kwon³, Jun-Kyu Choi², Myeong-Heon Lee¹, Seung-yong Seo^{3*}, Younghee Lee^{1,2*}

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PBM-31

Synthetic Homoisoflavane Derivatives of Cremastranone Suppress Growth of Colorectal Cancer Cells through Cell Cycle Arrest and Induction of Apoptosis

Ha-Eun Shin¹, Seul Lee², Yeram Choi¹, Sangkyu Park³, Sangil Kwon², Jun-Kyu Choi³, Seung-Yong Seo^{2*}, Younghee Lee^{1,3*}

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PBM-32

PEP-associated protein 4 Is Essential for Chloroplast Development in Rice

Deok Hyun Seo, Geupil Jang*

School of Biological Sciences and Technology, Chonnam National University

PBM-33

Assessing the Effects of Accumulated Cd(II) on Seed Germination and Root Development of *Arabidopsis thaliana*

Jinwoo Jang, Geupil Jang*

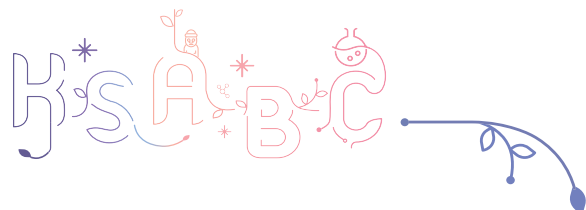
School of Biological Sciences and Technology, Chonnam National University

PBM-34

Division of Cortical Cells is Regulated by Auxin in Arabidopsis Roots

Jinwoo Jang, Geupil Jang*

School of Biological Sciences and Technology, Chonnam National University



PBM-35

Characterization and Genomic Insights of Potential Rhizospheric Plant Growth Promoting Bacterium Isolated from Soybean

Amani Sliti¹, Yeong-Jun Park², Gyu-Dae Lee¹, Jae-Ho Shin^{1,2,3*}

¹Department of Applied Biosciences, Kyungpook National University, Daegu 41566, Republic of Korea, ²NGS Core Facility, Kyungpook National University, Daegu 41566, Republic of Korea, ³Department of Integrative Biology, Kyungpook National University, Daegu 41566, Republic of Korea

PBM-36

Transcriptomic Biomarker for Rapid Determination of Phosphine Resistance in *Tribolium castaneum* at Different Life Cycle Stages

Donghyeon Kim¹, Kyeongnam Kim², Yurim Kim³, Jieun Lee¹, Kwang-Soo Jung³, Sung-Eun Lee^{1,2,3*}

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PBM-37

Transcriptome analysis to identify the interactions of *Pup1* with *Sub1* using newly constructed pseudomolecule

Na-Hyun Shin¹, Phyu Phyu Maung², Ian Paul Navea², Priskila Tolangi², Joong Hyoun Chin^{2*}

¹Department of Integrative Bio-industrial Engineering, Sejong University, ²Department of Integrative Biological Sciences and Industry, Sejong University

PBM-38

A perilla O-methyltransferase catalyzes the 7-O-methylation of flavonoids

Hye Lin Park, Man-Ho Cho*

Department of Genetic Engineering, Kyung Hee University, Yongin 17104, Korea

PBM-39

Oleifolioside A induces autophagy and apoptosis in HCT-116 human colorectal cancer cells

So Young An, Kyoung Sook Kim, Seok Ho Kim*, Young Choon Lee

Medical Bioscience, Dong-A university

PBM-40

Regulation of metabolic pathways for galactose and glucose consumptions in *Escherichia coli*

Yu-Sin Jang*, Hyeon Jeong Seong, Ji Eun Woo, Syafira Rizqi Eskasalam, Soon Hwa

Division of Applied Life Science (BK21 Four), Department of Applied Life Chemistry, Institute of Agriculture and Life Science (IALS), Gyeongsang National University (GNU)

PBM-41

Uncovering the Role of ATPase in *Clostridium acetobutylicum* through the Analysis of *atpG* Gene Knockdown Mutants

Hyeon Jeong Seong, Seong Woo Kwon, Yong-Suk Lee, Haeng Lim Lee, Ye Rin Yoon, Sampathkumar Palaniswamy, Yu-Sin Jang*

Division of Applied Life Science (BK21 Four), Department of Applied Life Chemistry, Institute of Agriculture & Life Science (IALS), Gyeongsang National University (GNU), Jinju, Republic of Korea

PBM-42

Development of an RP-HPLC-DAD method for the simultaneous quantification of 16 phenolic compounds and their antioxidant capacities from edible aerial parts of *Glehnia littoralis*

Yun Ji Park¹, Sang-Bin Oh¹, Yeong Bin Choi¹, Sang Min Kim^{1,2*}

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PBM-43

Trichostatin A promotes *de novo* shoot regeneration from *Arabidopsis* root explants via a cytokinin-related pathway

Su Hyun Park, Cha Young Kim*, Jae Cheol Jeong*

Biological Resource Center, Korea Research Institute of Bioscience and Biotechnology

PBM-44

A PHOTOSYSTEM 1 ASSEMBLY 2, a DnaJ E1 type chaperone, is negatively regulated by PSEUDO-ETIOLATION IN LIGHT family in rice

Taegyul Yi, Heebak Choi, Sang Yun Kim, Sun-Hwa Ha*

School of Green-Bio Science, College of Life Sciences, Kyung Hee University, Yongin 17104, South Korea

PBM-45

Optimization of Loop-Mediated Isothermal Amplification Assay for the Detection of *Meloidogyne hapla* in Soil Samples

Eung Je Lee^{1*}, Gna Ahn^{1,2}, Joo Han Lee¹, Yang-Hoon Kim¹, Ji-Young Ahn¹

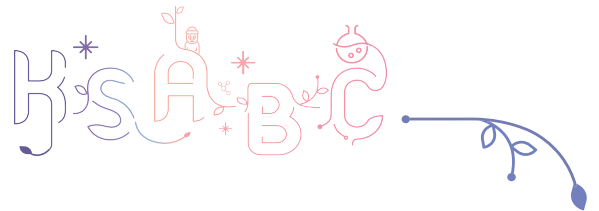
¹*Microbiology, Chungbuk National University,* ²*Center for Ecology and Environmental Toxicology, Chungbuk National University*

PBM-46

OsHSP70 acts as a suppressor of MSP1-induced cell death

Jeong Woo Jang¹, Gi Hyun Lee¹, Cheol Woo Min¹, Ju Soon Yoo¹, Ravi Gupta², Sun Tae Kim^{1*}

¹*Department of Plant Bioscience, Pusan National University,* ²*College of General Education, Kookmin University*



PBM-47

Soluble Expression of Recombinant Dengue Viral Non-structural protein 1

Hyojin Jeong¹, Eunjeong Kim^{1*}, Sooim Shin^{1,2*}

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PBM-48

Identification of genetic loci with divergent effects between Crohn's disease and ulcerative colitis

Yongjae Kim¹, Seulgi Jung¹, Dohoon Park¹, Yoonho Lee¹, Sojung Park¹, Jiwon Baek¹, Sung Wook Hwang², Sang Hyoung Park², Suk-Kyun Yang², Byong Duk Ye², Kyuyoung Song¹, Ho-Su Lee^{1*}

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PBM-49

Crohn's disease uninflamed small bowel transcriptomes reveal alterations in immune response and metabolic pathway

Yoon Ho Lee¹, Jiwon Baek¹, Yongjae Kim¹, Sojung Park¹, Seulgi Jung¹, Dohoon Park¹, Hwan Park¹, Sung Wook Hwang², Jong Lyul Lee³, Sang Hyoung Park², Suk-Kyun Yang², Kyuyoung Song¹, Yong Sik Yoon³, Byong Duk Ye², Ho-Su Lee^{1*}

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PBM-50

Optimized Loop-Mediated Isothermal Amplification (LAMP)-based Assay for the Detection of Mayaro Virus (MAYV)

Christine Ardelles Marquez¹, Gna Ahn^{1,2}, Eun Seo Lee¹, Yang-Hoon Kim^{1,2*}, Ji-Young Ahn^{1,2*}

¹Department of Microbiology, Chungbuk National University, Cheongju 28644, Republic of Korea, ²Center for Ecology and Environmental Toxicology, Chungbuk National University, Cheongju 28644, Republic of Korea

PBM-51

ZEITLUPE Represses *FLOWERING LOCUS T* Expression in the Morning through the Complex Formation with TARGET OF EATs under Natural Long Days

Hye won Kang¹, Hayeon Kim¹, Dae Yeon Hwang², Nayoung Lee³, Takato Imaizumi⁴, Young Hun Song^{1,3,5*}

¹Department of Agricultural Biotechnology, Seoul National University, ²Department of Biology, Ajou University, ³Plant Genomics and Breeding Institute, Seoul National University, ⁴Department of Biology, University of Washington, ⁵Institute of Agricultural Life Sciences, Seoul National University

PBM-52

Reduced nitric oxide levels lead to improved growth performance of *abi5* plants under high salt and high nitrate condition

Quang Tri Le, Seonyoung Yang, Hojoung Lee*

Department of Plant Biotechnology, Korea University

PBM-53

New EMS-induced point mutation of *SOT4* confers salt tolerance in *Arabidopsis thaliana* plants

Thi To Trinh Nguyen, Quang Tri Le, Hojoung Lee*

Department of Plant Biotechnology, Korea University

PBM-54

Standardizing Mitochondrial Enzyme Kinetic Parameter in 3T3-L1 Adipocytes

Ji Sun Choi¹, Soo Im Shin^{1,2}

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PBM-55

The *Arabidopsis* nitrate transporter genes, *NRT1.1* and *NRT2.1* induced different nitrogen utilization under salinity

Seonyoung Yang, Hojoung Lee*

Department of Plant Biotechnology, Korea University

PBM-56

Mass-spectrometry based membrane proteome analysis to uncover salt stress mechanisms in rice roots (*Oryza sativa* subsp. *japonica* and *indica*)

Eojin Jang¹, Cheol Woo Min¹, Ravi Gupta², Joong Hyoun Chin³,
Ki-Hong Jeong⁴, Jun-Hyeon Cho⁵, Sun Tae Kim^{1*}

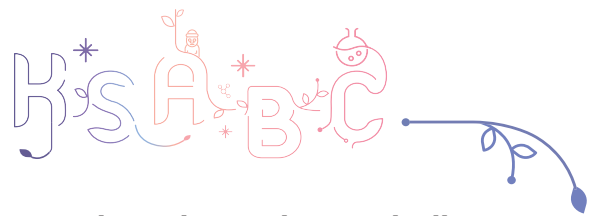
¹*Department of Plant Bioscience, Life and Industry Convergence Research Institute, Pusan National University, Miryang 50463, Republic of Korea,* ²*College of General Education, Kookmin University, Seoul 02707, Republic of Korea,* ³*Department of Integrative Biological Sciences and Industry, College of Life Sciences, Sejong University, Seoul 05006, Republic of Korea,* ⁴*Graduate School of Biotechnology & Crop Biotech Institute, Kyung Hee University, Yongin 17104, Republic of Korea,* ⁵*Department of Southern Area Crop Science, National Institute of Crop Science, Rural Development Administration (RDA), Miryang 50424, Republic of Korea*

PBM-57

***Atfcp1* Mutants Exhibit Fasciation and Continuous Bifurcation of SAM**

Daeun Kim, Yumi Kang, Jiwon Yu, Sujeong Lee, Daniel Isaacs Guzman,
Byoungil Je*

Department of Horticultural Bioscience, Pusan National University



PBM-58

Investigation of the powdery texture trait and starch metabolism associated mechanisms in *F2KP2* knockout rice using quantitative label-free proteomic analysis

Cheol Woo Min¹, Su-Hyeon Shim², Ravi Gupta³, Jong-Seong Jeon²,
Sun Tae Kim^{1*}

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PBM-59

Data-independent acquisition mass spectrometry (DIA-MS) analysis for identification of proteome alteration in rice basal node during salinity stress

Cheol Woo Min¹, Ravi Gupta², Ki-Hong Jeong³, Joong Hyoun Chin⁴,
Sun Tae Kim^{1*}

¹*Department of Plant Bioscience, Life and Industry Convergence Research Institute, Pusan National University, Miryang 50463, Republic of Korea,* ²*College of General Education, Kookmin University, Seoul 02707, Republic of Korea,* ³*Graduate School of Green-Bio Science and Crop Biotech Institute, Kyung Hee University, Yongin 17104, Republic of Korea,* ⁴*Department of Integrative Biological Sciences and Industry, College of Life Sciences, Sejong University, Seoul 05006, Republic of Korea*

PBM-60

The effect of *OsCTPS* on seed development in rice

Jiyoung Kim¹, Dohyeon Kim¹, Gibeom Beak¹, Jinmi Yoon^{2,3*}, Lae-Hyeon Cho^{1*}

¹*Department of Plant Bioscience, Pusan National University,* ²*Department of Biological Sciences, Inha University,* ³*Department of Biological Sciences and Bioengineering, Inha University/Industry-Academia Interactive R&E Center for Bioprocess Innovation, Inha University*

PBM-61

Generation of TPH1-GFP reporter enterochromaffin cell lines for screening postbiotics that regulates the peripheral serotonin biosynthesis

Jisun Lee, Heungsop Shin

Department of Chemical Engineering and Biotechnology, Tech University of Korea, Gyeonggi-do, Republic of Korea

PBM-62

Endogenous circadian reporters reveal functional differences of *PERIOD* paralogs

Heungsop Shin^{1*}, Jiyoung Park², Hyeongseok Kim¹, Choogon Lee^{2*}

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PBM-63

Selective reversible inhibition of human monoamine oxidase B by medicarpin and homopterocarpin isolated from *Canavalia lineata*

Jong Min Oh¹, Hyun-Jae Jang², Myung-Gyun Kang³, Seul-Ki Mun¹, Daeui Park³, Su-Jin Hong², Min Ha Kim⁴, Soo-Young Kim⁴, Sung-Tae Yee¹, Hoon Kim^{1*}

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PBM-64

Cognitive disorder improvement effect of medicarpin in scopolamine-induced mice

Jong Min Oh, Jong Eun Park, Sul-Ki Mun, Sun-Tae Yee, Hoon Kim^{*}

Department of Pharmacy, and Research Institute of Life Pharmaceutical Sciences, Sunchon National University

PBM-65

A quinazoline derivative isolated from a marine fungus *Acremonium* sp. CNQ-049 as a monoamine oxidase-B and butyrylcholinesterase inhibitor

Jong Min Oh¹, Prima F. Hillman², Sang-Jip Nam², Hoon Kim^{1*}

¹Department of Pharmacy, and Research Institute of Life Pharmaceutical Sciences, Sunchon National University, ²Department of Chemistry and Nanoscience, Ewha Womans University

PBM-66

Development of multi-target inhibitors using new *N*-methyl-piperazine chalcones for monoamine oxidase-B and acetylcholinesterase

Asharf K. El-damasy^{1,2}, Jong Eun Park³, Hyun Ji Kim¹, Jinhyuk Lee¹, Eun-Kyoung Bang¹, Jong Min Oh³, Hoon Kim^{3*}, Gyochang Keum^{1*}

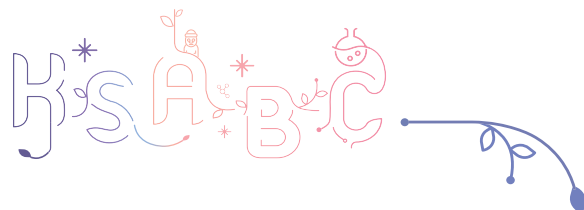
¹Center for Brain Technology, Brain Science Institute, Korea Institute of Science and Technology, ²Department of Medicinal Chemistry, Faculty of Pharmacy, Mansoura University, ³Department of Pharmacy, and Research Institute of Life Pharmaceutical Sciences, Sunchon National University

PBM-67

Gold nanoparticle-resveratrol complex enhances apoptosis targeting KRAS signaling pathway in a pancreatic cell line

Chae Eun Lee, Hyeri Lee, Dong Gun Lee, Seung Myun Hong, Deok Jae Lee, Yeong Eun Ha, Soo Bin Choi, Namhyun Chung^{*}

Department of Biotechnology, College of Life Sciences & Biotechnology, Korea University, Seoul, Korea 02841



PBM-68

In Silico Evaluation and Phylogenetic Analysis of Genus *Aloe* Based on Chloroplast DNA Barcodes

Alpana Joshi^{1,2}, Hyung-Geun Song¹, Seo-Yeon Yang¹, Ji-Hoon Lee^{1,3*}

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PBM-69

Multi-omics comparison between two ecotypes of *Arabidopsis thaliana* revealed contribution of RdDM pathway to ecotype-specific DNA methylation

Sang Yoon Shin^{1,2}, Jae Hoon Lee^{2,3}, Yun Koo Ko^{2,4}, Gi Il Jang^{2,4}, Jong Won Hong^{2,4}, Yeon Hee Choi^{2,3*}, Chan Seok Shin^{1,2,4,5,6*}

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PBM-70

Modulation of plant tolerance to drought stress by *Bacillus velezensis*

Dong Ryeol Park, Geupil Jang*

School of Biological Sciences and Technology, Chonnam National University

PBM-71

Modulation of Auxin signal transduction by Site-directed mutagenesis

Dong Ryeol Park, Geupil Jang*

School of Biological Sciences and Technology, Chonnam National University

PBM-72

Antifibrotic effects of 2-oxoglutarate derivatives in NOX/ROS-induced Hypoxia

Hiruni Indeevarie Abeyesiriwardhana¹, Moonjae Cho^{2,3*}

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PBM-73

Therapeutic effects of Guaiacol against IPF – in vitro and in vivo analysis

Jin-Hyuk Choi¹, Moonjae Cho^{1,2*}

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PBM-74

The *Magnaporthe oryzae* snodprot1 homolog (MSP1) directly interacts with a putative LRR receptor (MBR, MSP1 binding receptor) to induce PAMP-triggered immunity in rice

Jeong Woo Jang¹, Gi Hyun Lee¹, Cheol Woo Min¹, Ju Soon Yoo¹,
Lae-Hyeon Cho¹, Jinmi Yoon², Sun Tae Kim^{1*}

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PBM-75

Bacillus cereus NJ01 induces plant resistance against bacterial pathogen through EDS1-WRKY18 module

Dacheng Wang, Yiming Wang*

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PBM-76

Advanced tomato protoplast extraction for transient expression of CRISPR/Cas for genome editing

Sohee Yang, Hyosun Park, Yeonjong Koo*

Agricultural Chemistry, Chonnam National University

PBM-77

Delineating the molecular mechanism of *Magnaporthe oryzae* secreted protein MSP1-induced signaling in rice

Ravi Gupta¹, Cheol Woo Min¹, Sun Tae Kim^{2*}

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PBM-78

Genome-Wide Association Study and Haplotype Analysis of Alkaline Tolerance at Seedling Stage in Rice (*Oryza Sativa* L.)

Hongjia Zhang, Seong-Gyu Jang, Backki Kim, Ah-Rim Lee, So-Yeon Park, Da-Eun Im, Fang-Yuan Cao, Yuting Zeng, Lae-Hyeon Cho, Soon-Wook Kwon*

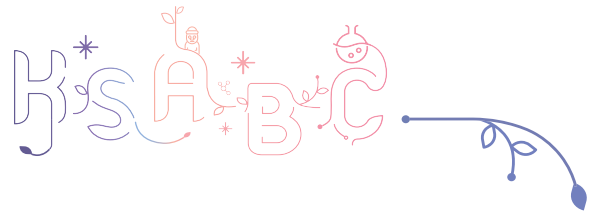
Department of Plant Bioscience, College of Natural Resources and Life Science, Miryang 50463, Pusan National University, Republic of Korea

PBM-79

Characterization of Snake Venom Complexes and Venomous Components in Three Korean Snake Species: Proteomic and Transcriptomic Analysis for Antidote Development

Hyosung Park, Sohee Yang, Yeonjong Koo*

Department of Agricultural Chemistry, Chonnam National University



PBM-80

Profiling of antimicrobial metabolites synthesized by the endophytic and genetically amenable biocontrol strain, *Bacillus velezensis* DMW1

Chenjie Yu¹, Han Chen¹, Linli Zhu¹, Yan Song¹, Qifan Jiang¹, Yaming Zhang¹, Qurban Ali¹, Qin Gu¹, Xuwen Gao¹, Rainer Borriss², Suomeng Dong¹, Huijun Wu^{1*}

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PBM-81

Multi-Omics approaches for developing temperate rice varieties with multiple stress tolerance

Joong Hyoun Chin^{*}, Ian Paul Navea, Na-Hyun Shin, Phyu Phyu Maung, Jinwoo Lee

Department of Integrative Biological Sciences and Industry, Sejong University, 209, Neungdong-ro, Gwangjin-gu, Seoul 05006, Korea

PBM-82

Exploring the molecular mechanism of PIBP1-mediated broad-spectrum field resistance to fungal pathogen in rice

Yiwen Deng^{*}, Zuhua He

National Key Laboratory of Plant Molecular Genetics, CAS Center for Excellence in Molecular Plant Science/Institute of Plant Physiology and Ecology, Chinese Academy of Sciences, Shanghai, China

PBM-83

Temporally-coordinated bivalent histone modifications of *BCG1* enable fungal invasion and immune evasion

Xiaozhen Zhao, Bingqin Yuan, Qin Gu^{*}

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PBM-84

Construction of Rice Disease Biocontrol Strain Resource Bank and Development and Application of Biocontrol Products

Hongli Ling, Weiwei Yuan, Bin Lyu, Yingjun Zhou, Li Liang^{*}

QINGDAO VLAND BIOTECH CO., LTD

PBM-85

Integrating omics analysis reveals the function of a S-like RNase gene for enhancing crop yield and phosphate use efficiency in rice

Yun-Shil Gho¹, Heebak Choi¹, Sunok Moon¹, Sung-Ryul Kim², Sun-Hwa Ha¹, Ki-Hong Jung^{1*}

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PBM-86

Investigation of the Ehd1-independent flowering pathway in rice

Gibeom Baek¹, Jinmi Yoon^{2,3}, Do Hyeon Kim¹, Gynheung An⁴, Lae-Hyeon Cho^{1*}

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PBM-87

The regular exercise alters mitochondrial function in the eye of mouse with aging

Seohyeon An¹, Jihye Ahn¹, Yerim Choi², Moonsung Choi^{1,2*},
Seung Kyum Kim^{2,3*}

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PBM-88

Effects of phytoene desaturase (PDS) gene silencing on steroid biosynthetic genes expression in spinach

Jiwon Kim¹, Chang Sook Kim^{1,2}, Jae-Hoon Kim^{1,2}, Kyung-Hwan Boo^{1,2*}

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PBM-89

Mutations in OsAID2 led to anther indehiscence due to abnormal cell wall development and filament elongation

Dohyeon Kim¹, Jiyoung Kim¹, Gibeom Beak¹, Soo Jeong Sim¹,
Lae-Hyeon Cho^{1*}, Jin Mi Yoon^{2*}

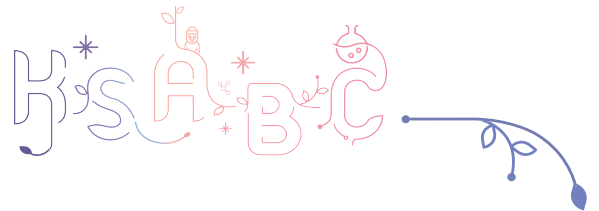
¹Department of Plant Bioscience, College of Natural Resources and Life Science, Pusan National University, ²Department of Biological Sciences and Bioengineering, Inha University/Industry-Academia Interactive R&E Center for Bioprocess Innovation, Inha University

PBM-90

One amino acid substitution can enhance the nitrate transceptor NRT1.1's nitrate sensing ability under low nitrate conditions in Arabidopsis

Seokjin Lee, Quang Tri Le, Seonyoung Yang, Hojoung Lee^{*}

Department of Plant Biotechnology, College of Life Sciences and Biotechnology, Korea University



PBM-91

Engineering polyploid genomes improve the precision of quantitative trait analysis in polyploids

Eun Song Lee¹, Jung Heo², Keunhwa Kim^{2*}, Soon Ju Park^{3*}

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PBM-92

Advanced assessment through intact glycopeptide analysis of Infliximab's biologics and biosimilar

Heeyoun Hwang^{1,2*}, Hyejin Kim¹, Yesul Park¹, Jin Young Kim^{1,2}

¹Research Center for Bioconvergence Analysis, Korea Basic Science Institute,

²Critical Diseases Diagnostics Convergence Research Center, Korea Research Institute of Bioscience and Biotechnology

PBM-93

Production of β -Sitosterol in Callus Culture induced from Genetically Modified *Arabidopsis thaliana*

Jiwon Jeon¹, Kihwan Kim², Byeonggyu Kim¹, Tae-An Kang², Jongbae Son³, Won-Chan Kim^{1,2,3*}

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PBM-94

Conversion of lignocellulosic biomass by CRISPR/Cas9-mediated genetic modification for efficient biofuel production

Haneol Jeong¹, Won-Chan Kim^{1,2,3*}, Soyera Lee², Junseop Shin³, Byeonggyu Kim², Kihwan Kim¹

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PBM-95

Construction of Rice Knock-Out Mutant Library for Terpenoid Metabolism Regulatory Genes by CRISPR-Based Genome Editing

Ji Su Yu¹, Byeong-Hoon Kim¹, Sang Yun Kim², Sun-Hwa Ha^{1*}

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²Department of Genetics and Biotechnology, College of Life Sciences, Kyung Hee University, Yongin 17104, Republic of Korea

PBM-96

***Slida1*^{CR} mutants show defective flower development in tomato**

Yu Mi Kang, Da Eun Kim, Byoung Il Je^{*}

Department of Horticultural Bioscience, College of Natural Resource and Life Science, Pusan National University, Miryang 50463, Korea

PBM-97

OsRLKs Triple Mutants Generated by Crispr/Cas9 Show Resistance to Rice Blast Disease

Da Eun Kim, Yu Mi Kang, Byoung Il Je*

Department of Horticultural Bioscience, College of Natural Resource and Life Science, Pusan National University, Miryang 50463, Korea

PBM-98

ZmFCP1 peptide is involved in maize leaf development

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PNB

Natural Products · Bioactive Materials · Biomedical Sciences

PNB-1

Multivariate Statistical Analysis of *Artemisia Argyi* H. Lév. et Vant. by Harvested Period and Quantitative Analysis of Isolated Secondary Metabolites Using UPLC-QTOF/MS

In Seon Kim^{1,2}, Seon Min Oh³, Doo-Young Kim³, Dae Young Lee⁴,
Ha Eun Song^{1,2}, Bang Yeon Hwang², Sei-Ryang Oh¹, Hyung Won Ryu^{1*}

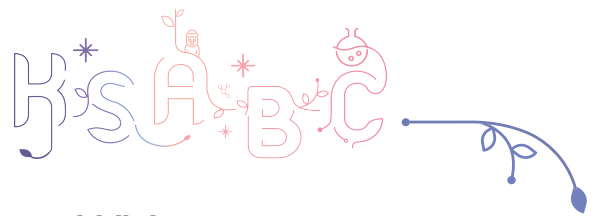
¹Natural Product Research Center and Natural Product Central Bank, KRIBB, 30-Yeongudanji-ro, Ochang-eup, Cheongwon-gu, Cheongju-si, Chungcheongbuk-do 28116, Korea, ²College of Pharmacy, Chungbuk National University, 194-21, Osongsaengmyeong 1-ro, Osong-eup, Heungdeok-gu, Cheongju-si, Chungcheongbuk-do 28160, Korea, ³Natural Product Research Center and Natural Product Central Bank, Korea Research Institute of Bioscience and Biotechnology(KRIBB), ⁴Department of Herbal Crop Research, National Institute of Horticultural and Herbal Science, RDA, Eumseong 27709, Korea

PNB-2

Gene Expression Analysis Gives the Insights for the Biosynthesis of Anthocyanins in Developing Black Rice Seeds

Choonseok Lee¹, Yang-Seok Lee², Ha-Cheol Hong³, Woo-Jong Hong⁴,
Hee-Jong Koh^{5*}, Ki-Hong Jung^{6*}

¹Department of Genetics and Biotechnology, and Crop Biotech Institute, Kyung Hee University, ²School of Life Sciences, University of Warwick, ³Crop Breeding Division, Institute of Crop Science, ⁴Department of Smart Farm Science, Kyung Hee University, ⁵Department of Agriculture, Forestry and Bioresources, Research Institute for Agriculture and Life Sciences, and Plant Genomics and Breeding Institute, Seoul National University, ⁶Graduate School of Green-Bio Science and Crop Biotech Institute, Kyung Hee University



PNB-3

Spectroscopic Characterization of Cannabidiol

Aida Bibi, Huynh Thi Ngoc Mi, Jaehong Han*

Metalloenzyme Research Group and Department of Plant Science and Technology, Chung-Ang University, 4726 Seodong-daero, Anseong 17546, Republic of Korea

PNB-4

A systemic metabolic profiling of Glycine sojawayh enhanced Molecular Networking analysis (MoINetEnhancer) by integrating computational annotation tools

Haeun Kwon¹, So Hee Kim¹, Jun-Gu Kim², Bangyeon Hwang², Dongho Lee^{1*}

¹Department of Plant Biotechnology, College of Life Sciences and Biotechnology, Korea University, ²College of Pharmacy, Chungbuk National University

PNB-5

SARS-CoV-2 replication can be inhibited by cell penetrating peptide targeting C-terminal domain of spike protein

Dongbum Kim¹, Jinsoo Kim¹, Seungchan An², Minyoung Kim³, Kyeongbin Baek³, Bo Min Kang³, Suyeon Kim³, In Guk Park³, Sangkyu Park⁴, Jun Gyo Suh⁵, Man-Seong Park⁶, Minsoo Noh², Younghee Lee⁴, Hyung-Joo Kwon^{3*}

¹Institute of Medical Science, Hallym University, ²College of Pharmacy, Seoul National University, ³Department of Microbiology, Hallym University, ⁴Department of Biochemistry, Chungbuk National University, ⁵Department of Medical Genetics, Hallym University, ⁶Department of Microbiology, Korea University

PNB-6

Effects of Mistletoe (*Viscum album* Linne var. *coloratum*) Extracts on Intestinal Epithelial Tight Junction Injury Caused by Interleukin-6 and Dextran Sodium Sulfate Induced Colitis

Kwang Il Park*, Ye Jin Yang, Min Jung Kim

Department of Veterinary Physiology, College of Veterinary Medicine of Gyeongsang National University

PNB-7

Development of intact protein mass spectrometry for characterization of therapeutic protein

Jinyoung Kim*

Biocenter, Gyeonggido Business & Science Accelerator (GBSA)

PNB-8

Simultaneous analysis of a Bioconverted *Eleuthrococcus senticosus* extract using HPLC-PDA and LC-ESI-MS

Bomi Kim, Jai-Hyun So*, Jong-Suk Jeong, Jeong-Hyeon Bae

Department of Industry Promotion, National Institute for Korean Medicine Development

PNB-9

Mass production strategy by plant tissue culturing and smart farm system for medicinal plant application

Yeongjun Ban¹, Roggers Gang^{1,2}, Endang Rahmat^{1,2}, Kenneth Happy^{1,2},
Youngmin Kang^{1,2*}

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PNB-10

Development of health functional food with improving sarcopenia from *Triticum aestivum* L. (wheat) seedlings extract in cellular and old mouse model

Woo Duck Seo^{1*}, Hangyeol Lee¹, Mi Ja Lee¹, Seung Yeob Song¹, Eun Ji Suh¹,
June Yeol Choi¹, Eun Young Kwon²

¹*Crop Foundation Research Division, National Institute of Crop Science, Rural Development Administration,* ²*Department of Food Science and Nutrition, Kyungpook National University, 80, Daehak-ro, Buk-Ku, Daegu 41566, Republic of Korea*

PNB-11

Evaluation of the Carotenoid Contents and Antioxidant Activities of Korean Sweet Corn Inbred Lines for Breeding of High-quality Sweet Corn

Dong Kyu Jeong, Won Min Jeong, Gyeong Hwan Lee, Dong Yeol Lee,
Sang Gon Kim^{*}

Anti-Aging Research Group, Gyeongnam Anti-Aging Research Institute, Sancheong 52215, Korea

PNB-12

Comparison of Phytosterol Content from Maize Kernel and Cob in Seventeen Maize Varieties

Won Min Jeong, Dong Kyu Jeong, Gyeong Hwan Lee, Dong Yeol Lee,
Sang Gon Kim^{*}

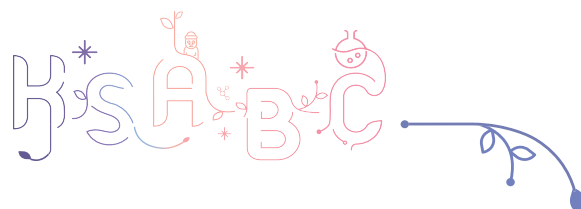
Anti-Aging Research Group, Gyeongnam Anti-Aging Research Institute, Sancheong 52215, Korea

PNB-13

Comparison of Isoflavone Content According to Harvesting Period in Seventeen Soybean Varieties

Gyeong Hwan Lee, Dong Kyu Jeong, Won Min Jeong, Dong Yeol Lee,
Sang Gon Kim^{*}

Anti-Aging Research Group, Gyeongnam Anti-Aging Research Institute, Sancheong 52215, Korea



PNB-14

Phytochemical and Antioxidant Properties of licorice (*Glycyrrhiza uralensis* Fisch.) extracts in seeds and sprouts

Yong-Sung Park¹, Sang-Mo Kang¹, Yeon-Ji Kim², In-Jung Lee^{3*}

¹*Institute of Agricultural Science and Technology, Kyungpook National University,*
²*Korea Institute of Oriental Medicine, Korean Medicine-Application Center,* ³*School of Applied Biosciences, Kyungpook National University*

PNB-15

The Oil Content and Fatty Acid Composition in Rapeseed Genetics Resources in Korea

Kwang Soo Kim^{1*}, Young Lok Cha¹, Ji Eun Lee², Da Hee An¹, Jae Hee Jung¹, Ji Bong Choi¹

¹*Bioenergy Crop Research Institute, National Institute of Crop Science,* ²*Planning & Coordination Division, National Institute of Crop Science*

PNB-16

Antimicrobial activity of Insect Extracts for Acne-related Microorganisms

Da Hyun Jang^{*}, Ji Hye Kim, Sung Mun Bae, Jin-Wook Yoon, Jong-Won Kim, Ji-Hye Park, Young Han Lee, Young-Gwang Kim

Edible Insect Research Institute, Gyeongsangnam-do Agricultural Research and Extension Services

PNB-17

Flavonoid profiling of freshwater biological resource and evaluation of their functional properties

Tae Jin Kim^{*}, Buyng-Su Hwang, Dae Won Jeong, Young Teak Oh

Bio-resource Industrialization Center, Nakdonggang National Institute of Biological Resources, Gyeongsangbuk-do 37242, Republic of Korea

PNB-18

Discovery of novel pan-peroxisome proliferator-activated receptor modulators from an endolichenic fungus, *Daldinia childiae*

Hyejin Ko^{1,2}, Jaekyeong Kim¹, Jae-Seoun Hur³, Seungchan An¹, Jin Woo Lee⁴, Stephen T. Deyrup⁵, Sang Hoon Jung², Sang Hee Shim¹, Minsoo Noh^{1*}

¹*Natural Products Research Institute, College of Pharmacy, Seoul National University, Seoul 08826, Republic of Korea,* ²*Natural Products Research Center, Korea Institute of Science and Technology (KIST), Gangneung 25451, Republic of Korea,* ³*Korean Lichen Research Institute, Suncheon National University, Suncheon 57922, Republic of Korea,* ⁴*College of Pharmacy, Duksung Women's University, Seoul 01347, Republic of Korea,* ⁵*Department of Chemistry and Biochemistry, Siena College, Londonville, NY 12211, USA*

PNB-19

Effect of Reducose® Enriched with 1-Deoxynojirimycin and L-leucine on Diabetes: Studies on Insulin Secretion in INS-1 cells and Reduction of Blood Glucose in Diabetic Rats

Dahae Lee¹, Seon Hwa Kim², Min Ji Han², Ki Sung Kang^{1*}

¹*Department of Preventive Medicine, Gachon University,* ²*Research Planning Team, Vixxol Corporation*

PNB-20

Discovery of fatty liver therapy candidates through natural product library screening in palmitate-induced fatty hepatocyte

Yeon Hee Hong¹, Min Ji Lee¹, Gun-Hwa Kim^{1,2,3*}

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PNB-21

Anti-obesity effects of immature *Citrus unshiu* fruit extract in 3T3-L1 cells, and identification of their bioactive compounds

Min Gun Kim¹, Sojin Kim¹, Kyung-Hwan Boo^{1,2}, Chang Sook Kim^{1,2*}

¹Faculty of Biotechnology, Jeju National University, ²Subtropical/tropical Organism Gene Bank, Jeju National University

PNB-22

Immunomodulating activity of red beetroot (*Beta vulgaris* L.) extracts in RAW 264.7 macrophages

Min Gun Kim¹, Jung Sun Kim², Kyung-Hwan Boo^{1,3}, Chang Sook Kim^{1,3*}

¹Faculty of Biotechnology, Jeju National University, ²Jeju Agricultural Research & Extension Services, Jeju Agricultural Research & Extension Services, ³Subtropical/Tropical Organism Gene Bank, Jeju National University

PNB-23

Analysis of protein characterization in functional cosmetics by Quadrupole Time-of-Flight (Q-TOF) mass spectrometer

Hyemin Lee^{*}

Infrastructure Support Team, Biocenter

PNB-24

Biomarkers for the quality control of Dangkwisoo-san

Ji Hwan Lee¹, Myong Jin Lee¹, Nguyen Khoi Song Tran¹, Young-Joo Kim², Ki Sung Kang^{1*}

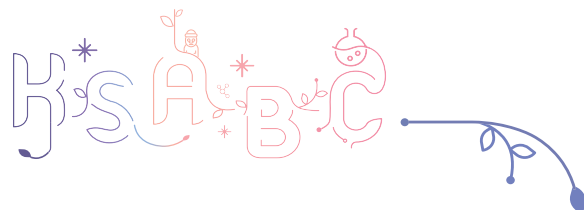
¹College of Korean Medicine, Gachon University, ²Natural Product Research Center, Korea Institute of Science and Technology

PNB-25

Tyrosinase inhibitory characteristics of Rotenoids from *Amorpha fruticosa* based on Enzyme and MD simulation

Si Won Moon, Ki Hun Park^{*}

Division of Applied Life Science (BK21 plus), IALS, Gyeongsang National University, Jinju 52828, Republic of Korea



PNB-26 H3N2 viral neuraminidase inhibition of chromenones from *Flemingia philippinensis*: Mechanism study with MD simulation

Yong Hyun Lee, Ki Hun Park*

Division of Applied Life Science (BK21 plus), IALS, Gyeongsang National University, Jinju 52828, Korea

PNB-27 Metabolite farming of soybean plant (*Glycine max. L*) to produce coumestrol and daidzein by using salicylic acid

Se Young Im, Jeong Ho Kim, Ki Hun Park*

Division of Applied Life Science (BK21 plus), IALS, Gyeongsang National University, Jinju 52828, Republic of Korea

PNB-28 An Investigation of Skin Permeability for Flavonoids from *Smilax china* Utilizing the Franz Diffusion Cell Assay

Sun-Beom Kwon, Ji-Hui Kim, Mi-Su Kim, Su-Hong Kim, Hyang-Yeol Lee*

Department of Biotechnology, Korea National University of Transportation

PNB-29 Antimicrobial effect of *Smilax china* extracts

Hyang-Yeol Lee*

Department of Biotechnology, Korea National University of Transportation

PNB-30 Comparative Investigation of APCI and ESI MS for Carotenoid Analysis

Keerthi Jayasundera, Moonhyuk Kwon*, Seon-Won Kim*

Division of Applied Life Science (BK21 Four), ABC-RLRC, PMBBRC, Gyeongsang National University

PNB-31 Metabolic Engineering of *Bacillus subtilis* for Carotenoid Production

Esha Rehman, Moonhyuk Kwon*, Seon-Won Kim

Division of Applied Life Science (BK21 Four), ABC-RLRC, PMBBRC, Gyeongsang National University

PNB-32 Antimicrobial activity of various essential oils against different bacterial strains

Kwang-Soo Jung, Sung-Eun Lee*

Department of Applied Biosciences, Kyungpook National University

PNB-33 Compound A, a neuroactive amino acid derivative isolated from *Codonopsis lanceolata*, ameliorated schizophrenia-like behaviors in MK-801-treated mice

Yedam Noh¹, Ho Jung Bae², So-Ri Son¹, Jong Hoon Ryu¹, Dae Sik Jang^{1*}

¹*Department of Biomedical and Pharmaceutical Sciences, Kyung Hee University,*

²*Agriculture and Life Science Research Institute, Kangwon National University*

PNB-34

Thermal transformation products of rotenone with potent anti-inflammatory agents

Gyeong Han Jeong^{1,2}, Hanui Lee^{1,2}, Hyoung Woo Bai^{2,3*}, Tae Hoon Kim^{4*}

¹Research division for Biotechnology, Advanced Radiation Technology Institute (ARTI), Korea Atomic Energy Research Institute (KAERI), ²Center for companion animal new drug development, Korea Institute of Toxicology (KIT), ³Research division for Biotechnology, Advanced Radiation Technology Institute (ARTI), Korea Atomic Energy Research Institute (KAERI), ⁴Department of Food Science and Biotechnology, Daegu University

PNB-35

Influence of different sulfur-containing fertilizers and their dosage-dependent effect on glucosinolate content in edible aerial parts of *Wasabia japonica*

Yun Ji Park¹, To Quyen Truong^{1,2}, Jinyoung Moon¹, Phuong Kim Huynh^{1,2}, Sang Min Kim^{1,2*}

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PNB-36

Daphnodorin C Isolated from *Daphne kiusiana* Miquel Attenuates Airway Inflammation in both In Vitro and In Vivo

Ji-Yoon Park^{1,2}, Hyung Won Ryu¹, Jae-Won Lee¹, Eun Sol Oh^{1,3}, Yu Na Song^{1,3}, Namho Kim^{1,2}, Hae-Young Kim¹, Su Hyeon Lee¹, Hyunju Ro³, Doo-Young Kim¹, Sooil Kim², Jung Hae Kim², Mun-Ock Kim¹, Sei-Ryang Oh^{1*}, Sung-Tae Hong^{2*}, Su Ui Lee^{1*}

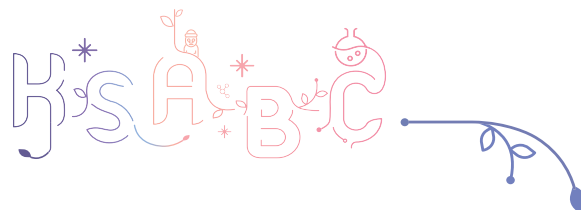
¹Natural Product Research Center, Korea Research Institute of Bioscience and Biotechnology, ²Department of Medical Science, College of Medicine, Chungnam National University, ³Department of Biological Sciences, College of Bioscience and Biotechnology, Chungnam National University

PNB-37

Citrus-derived coumarin compound prevents dexamethasone-induced muscle wasting by modulating cannabinoid receptors 1 and 2

Nain Yang^{1,2}, Hyejin Ko¹, Subeen Kim¹, Sowoon Choi¹, Sang Hoon Jung^{1,3*}, Myungsuk Kim^{1,3,4*}

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PNB-38

Verproside, the Most Active Ingredient in YPL-001, Decreases Inflammatory Response by Inhibiting PKC δ Activation in Human Lung Epithelial Cells

Eun Sol Oh^{1,2}, Mun-Ock Kim¹, Hyung Won Ryu¹, Jae-Won Lee¹, Yu Na Song^{1,2}, Ji-Yoon Park^{1,3}, Namho Kim^{1,3}, Hae-Young Kim¹, Su Hyeon Lee¹, Doo-Young Kim¹, Hyunju Ro², Sooil Kim³, Jung Hae Kim³, Jinhyuk Lee^{4,5}, Tae-Don Kim⁶, Sung-Tae Hong³, Sei-Ryang Oh^{1*}, Su Ui Lee^{1*}

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PNB-39

Development of Validation Method for Soybean (*Glycine max* L.) Leaves as Nutraceutical Stuff

Seung Hwan Lee, Jeong Ho Kim, Si Won Moon, Ki Hun Park*

Division of Applied Life Science(BK21 plus), IALS, Gyeongsang National University, Jinju 52828, Republic of Korea

PNB-40

Antimicrobial Activity of *Jatropha podagrica* Root Extract

Reawfang Sriyom, Onmanee Prajuabjinda, Sumalee Panthong, Arunporn Itharat*

Department of Applied Thai Traditional Medicine, Faculty of Medicine, Thammasat University

PNB-41

A study on skin anti-inflammatory and anti-aging activity of fig fruit extract

Hee Joon Kwon, Da Young Lee, Yeo Joo Han, Jeong Hyun Lee, Hyung Seo Hwang*

Department of Cosmetic Science, Semyung University

PNB-42

Anti-inflammatory effect of cyanin chloride in TNF- α /IL-17A/IFN- γ induced HaCaT cell

Min Ji Kim, Hui Su Chung, Hyung Seo Hwang*

Department of Cosmetic Science, Semyung University

PNB-43

Deoxypodophyllotoxin induced apoptosis in human non-small cell lung cancer cells with different EGFR mutation status

Shin-Hyung Park*, Jae-Hoon Jeong

Department of Pathology, College of Korean Medicine, Dong-eui University

PNB-44 **The ethanolic extract of LS roots suppressed adrenergic agonists-induced migration and invasion in Hep3B hepatocellular carcinoma cells**

Shin-Hyung Park*, Hyun-Ji Park

Department of Pathology, College of Korean Medicine, Dong-eui university

PNB-45 **The ethanolic extract of *Trichosanthes kirilowii* roots suppressed metastatic activity of EGFR TKI-resistant human lung cancer cells**

Shin-Hyung Park*, Hyun-Ji Park

Department of Pathology, College of Korean Medicine, Dong-eui university

PNB-46 **The root extract of BF attenuated norepinephrine-induced M2 macrophage polarization**

Shin-Hyung Park*, Jae-Hoon Jeong

Department of Pathology, College of Korean Medicine, Dong-eui university

PNB-47 **Anti-angiogenic potential of the ethanolic extract of *Peucedanum praeruptorum* Dunn roots**

Shin-Hyung Park*, Hyun-Ji Park

Department of Pathology, College of Korean Medicine, Dong-eui University

PNB-48 **Coffee roasting-induced formation of humic-like substances stimulating crops**

Ye Sol Lee, Jong-Rok Jeon*

Department of Agricultural Chemistry and Food Science & Technology, Gyeongsang National University

PNB-49 **Anti-inflammatory and Anti-nociceptive Activities of *Siraitia grosvenorii* Residual Extract in animal models**

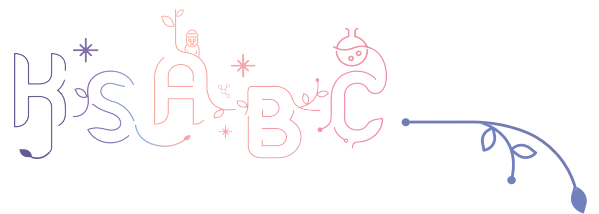
Yun Mi Lee, Dong-Seon Kim*

KM Convergence Research Division, Korea Institute of Oriental Medicine

PNB-50 **The effects of Moschus and its major compound l-muscone on traumatic brain injury mice model**

Youngmin Bu^{1*}, Jinhyun Bae¹, Seogyong Lee¹, Jae-Woo Park², Beom-Joon Lee², Seok-Jae Ko²

¹*Department of Herbal Pharmacology, College of Korean Medicine, Kyung Hee University, Seoul 02447, Korea, Kyung Hee University,* ²*Department of Internal Medicine, College of Korean Medicine, Kyung Hee University, Seoul 02447, Korea, Kyung Hee University*



PNB-51

A study on the development of test method for mycotoxin - Method validation and contamination level survey of Ochratoxin A in Herbal medicine

Yeongseon Lee^{1,2}, Seongmi Lee¹, Jae-Lim Kim¹, Jwahaeng Park¹, Jintae Hong², Jinhee Hwang^{1*}

¹Herbal Medicine Research Division, National Institute of Food and Drug Safety Evaluation, ²College of Pharmacy, Chungbuk National University

PNB-52

Determination of Bioactive Compounds and Antioxidant Activities from *Dioscorea bulbifera* Extract

Dong Yeol Lee^{*}, Won Min Jeong, Dong Kyu Jeong, Gyeong Hwan Lee
Anti-Aging Research Group, Gyeongnam Anti-Aging Research Institute

PNB-53

3-Hydroxytanshinone is a negative feedback regulator for hypoxia-mediated HIF-1 α by inhibition of glycolytic enolase molecule

Sik-Won Choi^{*}, Shin-Hye Kim, Hye-Lim Shin, Dongsoo Kim

Forest Biomaterials Research Center, National Institute of Forest Science (NIFoS)

PNB-54

Biphasic Activity of *Auricularia auricula-judae* Extract on Bone Homeostasis through Inhibition of Osteoclastogenesis and Modulation of Osteogenic Activity *In vitro*

Shin-Hye Kim, Hye-Lim Shin, Dongsoo Kim, Sik-Won Choi^{*}

Forest Biomaterials Research Center, National Institute of Forest Science (NIFoS)

PNB-55

Inhibition of osteoclast differentiation and promotion of osteogenic formation by *Wolfiporia extensa* mycelium

Hye-Lim Shin, Shin-Hye Kim, Dongsoo Kim, Sik-Won Choi^{*}

Forest Biomaterials Research Center, National Institute of Forest Science (NIFoS)

PNB-56

Biological effects of *Zanthoxylum piperitum* fruit extract on *Caenorhabditis Elegans*

Won Min Jeong, Dong Kyu Jeong, Gyeong Hwan Lee, Dong Yeol Lee^{*}

Anti-Aging Research Group, Gyeongnam Anti-Aging Research Institute

PNB-57

Enhanced Production of Geniposide by Elicitation in Callus Suspension Cultures of *Gardenia jasminoides*

Se Bin Kim^{1,2}, Yu Jeong Jeong¹, Bo Ryeong Kim¹, Jae Cheol Jeong¹, Jeong-Il Kim², Cha Young Kim^{1*}

¹Biological Resource Center, Korea Research Institute of Bioscience and Biotechnology (KRIBB), ²Department of Integrative Food, Bioscience and Biotechnology, College of Agriculture and Life Science, Chonnam National University

PNB-58

Bacterial Neuraminidase Inhibitory Characteristics of Dihydrobenzoxanthenes from *Artocarpus elasticus* based on Enzyme Kinetics and MD Simulation

Abdul Bari Shah, Aizhamal Baiseitova, Ki Hun Park*

Applied Life Science, Division of Applied Life Science (BK21 Four), IALS, Gyeongsang National University, Jinju, Korea

PNB-59

Elicitation for the production of cannabinoids in cell suspension culture of *Cannabis sativa*

Da-Gyeong Moon^{1,2}, Bo Ryeong Kim¹, Soyoung Kim¹, Yu Jeong Jeong¹, Da Som Lee¹, Seo Jun Lee³, Cha Young Kim¹, Jeong-Il Kim², Jae Cheol Jeong^{1*}

¹*Biological Resource Center, Korea Research Institute of Bioscience and Biotechnology (KRIBB)*, ²*Department of Integrative Food, Bioscience and Biotechnology, College of Agriculture and Life Science, Chonnam National University*, ³*Natural Product Materials Research Center, Korea Research Institute of Bioscience and Biotechnology (KRIBB)*

PNB-60

In Vivo Matrigel Plug Assay of Endocan-specific Aptamer for Angiogenesis

Ga-Young Park¹, Sung Min Kim¹, Sang-Hee Lee^{1*}, Ji-Young Ahn^{1,2*}

¹*R&D team, HPBio Corporation, Seoul, Republic of Korea*, ²*Department of Biological Sciences and Biotechnology, Chungbuk National University, Cheongju, Republic of Korea*

PNB-61

Inhibition of Cell Viability by Aptamer against Various Cell line

Min-Hwa Park¹, Ga-Young Park¹, Ji-Yang Ahn^{1,2*}, Sang-Hee Lee¹

¹*R&D team, HPBio Corporation, Seoul, Republic of Korea*, ²*Department of Biological Sciences and Biotechnology, Chungbuk National University, Cheongju, Republic of Korea*

PNB-62

Evaluation of Antiviral Activity and Inflammation Effects of RNA Drug Candidates for COVID-19

Hyun Kim¹, Ga Young Park¹, Ji Young Ahn^{1,2*}, Sang Hee Lee^{1*}

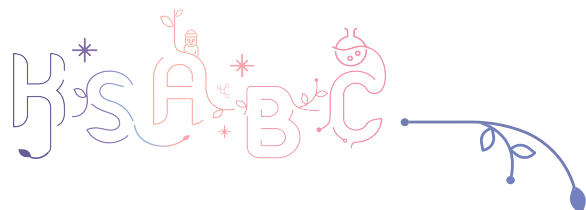
¹*R&D Team, HPBio Corporation, Seoul, Republic of Korea*, ²*Department of Biological Sciences and Biotechnology, Chungbuk National University, Cheongju, Republic of Korea*

PNB-63

In vivo Toxicity Evaluation of RNA Aptamer for Inhibition of Angiogenesis

Seong-Min Kim¹, Ga-Young Park¹, Ji-Young Ahn^{1,2*}, Sang-Hee Lee^{1*}

¹*R&D team, HPBio Corporation, Seoul, Republic of Korea*, ²*Department of Biological Sciences and Biotechnology, Chungbuk National University, Cheongju, Republic of Korea*



PNB-64

Effect of hydroxycinnamic acids on saponarin contents in barley sprouts

Sang Woo Kang, Jin Seong Kim, Sung Jun Seo, Kyeong Yeol Oh, Jin Hyo Kim*

Department of Agricultural Chemistry, Division of Applied Life Science, Institute of Agriculture and Life Science (IALS), Gyeongsang National University, Jinju 52828 Republic of Korea

PNB-65

Effect of plant growth regulation hormone on saponarin contents in barley sprouts

Sang Woo Kang, Jin Seong Kim, Sung Jun Seo, Kyeong Yeol Oh, Jin Hyo Kim*

Department of Agricultural Chemistry, Division of Applied Life Science, Institute of Agriculture and Life Science (IALS), Gyeongsang National University, Jinju 52828 Republic of Korea

PNB-66

Improvement of blood lipid metabolism and anti-obesity efficacy through the administration of mixed probiotics containing *Lactobacillus* species in mice fed a high-fat diet

Hyun Joo Lim, Young Geol Yoon*

Department of Biomedical Science, Jungwon University

PNB-67

Anti-cancer effect of insect extract and its hydrolysate

Jae Ho Yeom, Hyeri Lee, Dong Gun Lee, Seung Myun Hong, Tae Hyun Kim, Deok Jae Lee, Namhyun Chung*

Department of Biotechnology, College of Life Sciences & Biotechnology, Korea University, Seoul, Korea 02841

PNB-68

Comparative study on native *Taraxacum* species and *Hypochaeris radicata* for the authentication

So Hee Jang¹, Ji Yeong Bae^{2*}

¹Jeju National University Graduate School, Interdisciplinary Graduate Program in Advanced Convergence Technology & Science, ²Jeju National University, College of Pharmacy and Jeju Research Institute of Pharmaceutical Sciences

PNB-69

Development of a New Benzannulation Method and Its Application in the Synthesis of Nigerapyrone

Heeun Kim, Hyewon Jang, Jeongyeon Hwang, Yonghoon Kwon*

Department of Agricultural Biotechnology, Seoul National University

PNB-70

Antibiotics from the culture broth of *Dentipellis fragilis*

Dae-Won Ki*, Chae-Won Kim, Dae-Cheol Choi, Young-Hee Kim, Won-Gi Seo, Mungyeong Gwon, In-Kyoung Lee, Bong-Sik Yun

Division of Biotechnology, Jeonbuk National University



PNB-71

Chemical constituents of the culture broth of *Coniochaeta velutina*

Dae-Cheol Choi, Dae-Won Ki, Young-Hee Kim, Won-Gi Seo,
Mungyeong Gwon, Chae-Won Kim, In-Kyoung Lee, Bong-Sik Yun*

Division of Biotechnology, Jeonbuk National University

PNB-72

Biological properties of the mutant *Bacillus* sp. BSM-320

Dae-Cheol Choi, Dae-Won Ki, Young-Hee Kim, Won-Gi Seo,
Mungyeong Gwon, Chae-Won Kim, In-Kyoung Lee, Bong-Sik Yun*

Division of Biotechnology, Jeonbuk National University

PNB-73

Chemical constituents of the culture broth of marine-derived fungus *Albifimbria verrucaria* and their biological properties

Young-Hee Kim, Dae-Won Ki, Dae-Cheol Choi, Won-Gi Seo, Chae-Won Kim,
Mungyeong Gwon, In-Kyoung Lee, Bong-Sik Yun*

Division of Biotechnology, Jeonbuk National University

PNB-74

Chemical constituents of the culture broth of *Stereum subtomentosum*

Won-Gi Seo, Dae-Won Ki, Dae-Cheol Choi, Young-Hee Kim, Mungyeong
Gwon, In-Kyoung Lee, Bong-Sik Yun*

Division of Biotechnology, Jeonbuk National University

PNB-75

Styrylpyrones from the medicinal fungus *Phellinus Baumii* and their antiviral properties

Young-Hee Kim¹, Jae-Hyoung Song², Dae-Cheol Choi¹, Won-Gi Seo¹,
Dae-Won Ki¹, Chae-Won Kim¹, Mungyeong Gwon¹, Hyun-Jeong Ko²,
Bong-Sik Yun¹, In-Kyoung Lee^{1*}

¹*Division of Biotechnology, Jeonbuk National University*, ²*College of Pharmacy, Kangwon National University*

PNB-76

Isolation and identification of bioactive constituents of fermented *Coix Lacryma-jobi* bran

Chunwhan Choi*

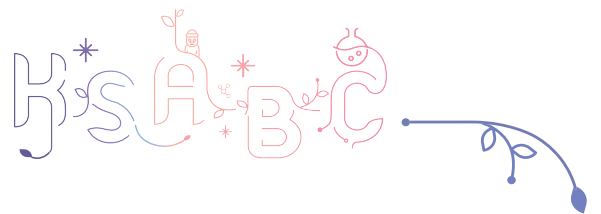
Biocenter, Gyeonggido Business and Science Accelerator

PNB-77

Effect of plant extracts on the proliferation of dermal papilla cells and expression of hair growth-related proteins

Yong Kweon Cho*, Sunjin Oh

Biohealth Science, Changwon National University



PNB-78

Comprehensive Comparison of Antioxidant Activities and Metabolite Profiles on Mountain-Cultivated Ginseng Sprout According to Cultivation Regions

Ji Ho Lee¹, Hee Yul Lee¹, Du Yong Cho¹, Ae Ryeon Lee¹, Jae Gack Jeong¹, Jong Bin Jeong¹, Ga Young Lee¹, Mu Yeun Jang¹, Jin Hwan Lee², Kye Man Cho^{1*}

¹Department of GreenBio Science and Agri-Food Bio Convergence Institute, Gyeongsang National University, Jinju 52725, Republic of Korea, ²Department of Life Resources Industry, Dong-A University, Busan 49315, Republic of Korea

PNB-79

Comprehensive Comparison of Antioxidant Activities and Metabolite Profiles on Mountain-Cultivated Ginseng Sprout According to Harvest Periods

Mu Yeun Jang¹, Hee Yul Lee¹, Du Yong Cho¹, Ae Ryeon Lee¹, Jae Gack Jeong¹, Jong Bin Jeong¹, Ji Ho Lee¹, Ga Young Lee¹, Jin Hwan Lee², Kye Man Cho^{1*}

¹Department of GreenBio Science and Agri-Food Bio Convergence Institute, Gyeongsang National University, Jinju 52725, Republic of Korea, ²Department of Life Resources Industry, Dong-A University, Busan 49315, Republic of Korea

PNB-80

Analysis of Physicochemical Characteristics and Nutrient Components of Different Kiwifruit Cultivars

Jong Bin Jeong¹, Hee Yul Lee¹, Du Yong Cho¹, Ae Ryeon Lee¹, Jae Gack Jeong¹, Ji Ho Lee¹, Ga Young Lee¹, Mu Yeun Jang¹, Jin Hwan Lee², Kye Man Cho^{1*}

¹Department of GreenBio Science and Agri-Food Bio Convergence Institute, Gyeongsang National University, Jinju 52725, Republic of Korea, ²Department of Life Resources Industry, Dong-A University, Busan 49315, Republic of Korea

PNB-81

Development and Improvement of Analytical Methods for Polycyclic Aromatic Hydrocarbons in Herbal Medicine using GC-MS/MS

Choyeon Han^{1,2}, Dayeon Ryu¹, Kyu-Yeob Kim¹, Jwahaeng Park¹, Sooyeul Cho³, Bangyeon Hwang^{4*}, Jinhee Hwang^{1*}

¹Herbal Medicine Research Division, Ministry of Food and Drug Safety, ²Industrial Pharmacy, College of Pharmacy Chungbuk National University, ³Center for Advanced Analysis, Ministry of Food and Drug Safety, ⁴Pharmacy, College of Pharmacy Chungbuk National University

PNB-82 ***Artemisia argyi* extract and its active compounds inhibit the progression of six colorectal and gastric cancer cell lines overexpressing cancer-specific markers in TCGA human cancer tissues**

Sowoon Choi^{1,2}, Phung Nguyen Ly¹, Tam Thi Le¹, Sang Hoon Jung^{1,3*},
Myungsuk Kim^{1,3,4*}

¹*Natural Product Research Center, KIST, Gangneung, Republic of Korea,*
²*Department of Biotechnology, Yonsei University, Seoul, Republic of Korea,*
³*Division of Bio-Medical Science and Technology, KIST School, University of Science and Technology (UST), Seoul, Republic of Korea,* ⁴*Department of Convergence Medicine, Wonju College of Medicine, Yonsei University, Wonju, Republic of Korea*

PNB-83 **Investigation on the Antioxidant Properties of *Rubus buergeri*, an endemic plant in Jeju island**

Theophilus Bhatti¹, Ji-Yeong Bae^{2*}

¹*Interdisciplinary Department of Advanced Convergence Technology & Science, Jeju National University,* ²*College of Pharmacy and Jeju Research Institute of Pharmaceutical Sciences, Jeju National University*

PNB-84 **Phytochemical analysis and biological activities of *Daphne jejuensis***

Ji-Yeon Lee, Ji-Yeong Bae^{*}

Interdisciplinary Graduate Program in Advanced Convergence Technology & Science, College of Pharmacy and Jeju Research Institute of Pharmaceutical Sciences

PNB-85 **Protective effects of *Angelica decursiva* Franchet & Savatier on allergic responses through enhancement of Nrf2 and suppression of NF-κB/MMP-9 in ovalbumin-exposed mice**

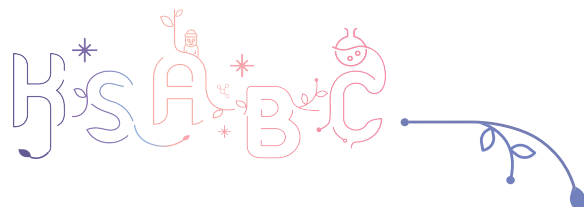
Se Jin Lee, So Won Pak, Woong Il Kim, Yea Gin Yang, Jong Choon Kim,
In Sik Shin^{*}

Veterinary medicine - Pharmacology and toxicology, College of Veterinary Medicine and BK21 FOUR Program, Chonnam National University

PNB-86 ***Loranthus tanakae* Franch. & Sav. ameliorates pulmonary inflammation induced by Asian sand dust**

So-Won Pak, Se-Jin Lee, Woong-Il Kim, Yea-Gin Yang, Jong-Choon Kim,
In-Sik Shin^{*}

College of Veterinary Medicine and BK21 FOUR Program, Chonnam National University, 77 Yongbong-ro, Buk-gu, Gwangju 61186, Republic of Korea



PNB-87

Gintonin Isolated from Ginseng Inhibits the Epithelial-Mesenchymal Transition Induced by TGF- β 1 in A549 Lung Cancer Cells

Sung Jin Kim¹, Seung-Yeol Nah², Ki Sung Kang¹, Myoung-Sook Shin^{1*}

¹College of Korean Medicine, Gachon University, Seongnam, South Korea,

²Department of Physiology, College of Veterinary Medicine, Konkuk University, Seoul, South Korea

PNB-88

Design, Synthesis, and Biological Evaluation of 3-Substituted-Indolin-2-One Derivatives as Potent Anti-Inflammatory Agents

Sung Jin Kim¹, Sang Hyuk Lee², Myoung-Sook Shin^{1*}, Jae Wook Lee^{2*}

¹College of Korean Medicine, Gachon University, ²Natural Product Research Center, Korea Institute of Science and Technology (KIST)

PNB-89

Enhanced Intestinal Immune Response in Mice after Oral Administration of Korean Red Ginseng-Derived Polysaccharide

Do Hwi Park¹, Byungcheol Han², Gwi Seo Hwang¹, Myoung-Sook Shin^{1*}

¹College of Korean Medicine, Gachon University, Korea, ²Efficacy & Safety Team, Korea Ginseng Corp., Korea

PNB-90

Protective Effects of Cyanidin-3-O-Glucoside and Cyanidin-3-O-Rutinoside Isolated from Waste Cherry Fruits against FAK Signaling-Associated Cytotoxicity and Inflammation

Jun-Sub Kim^{*}, Hyang-Yeol Lee

Biotechnology, Korea National University of Transportation

PNB-91

TGF- β 1 Induces Sar1a Expression via TAK1 Signaling, Regulating Procollagen-I Secretion in Hypertrophic Scar Fibroblasts

Jun-Sub Kim^{*}, Hyang-Yeol Lee

Biotechnology, Korea National University of Transportation

PNB-92

Elicitor-mediated biosynthesis of rosmarinic acid in callus suspension cultures of *Lavandula angustifolia*

Bo Ryeong Kim^{1,2}, Cha Young Kim^{1*}

¹Biological Resource Center, Korea Research Institute of Bioscience Biotechnology (KRIBB), ²Department of Plant Biotechnology, College of Agriculture & Life Sciences, Chonnam National University

PNB-93

Effect of Apigetrin on Inflammation of Psoriasis through TNF- α /IL-17/IFN- γ Induced HaCaT Model

Min Ji Kim, Jung Hyun Lee, Hyung Seo Hwang^{*}

Department of Cosmetic Science, Semyung University

PNB-94

Identification of Natural Products from the *Zea mays*

Hui Tan¹, Mi Ja Lee^{2*}, Sang-Jip Nam^{1*}

¹Chemistry & Nanoscience, Ewha Womens University, ²Research Officer, Division of Crop Foundation, National Institute of Crop Science

PNB-95

The Impact of Light Wavelength and Darkness on Metabolite Profiling of Korean Ginseng: Evaluating Its Anti-Cancer Potential against MCF-7 and BV-2 Cell Lines

Nooruddin Bin Sadiq^{1,2}, Seda Nur Kabadayi¹, Ho-Youn Kim^{3,4*}

¹Smart Farm Research Center, Smart Farm Research Center, Korea Institute of Science and Technology (KIST), Gangneung 25451, Republic of Korea, ²Department of Plant Science, Department of Plant Science, Gangneung-Wonju National University, Gangneung 25457, Republic of Korea ³Center of Biomaterials, Korea Institute of Science and Technology (KIST), ⁴Smart Farm Research Center, Smart Farm Research Center, Korea Institute of Science and Technology (KIST), Gangneung 25451, Republic of Korea, ⁴Division of Bio-Medical Science and Technology, Division of Bio-Medical Science and Technology, KIST School, University of Science and Technology (UST), Daejeon 34113, Republic of Korea

PNB-96

Evaluation of Bacterial Neuraminidase Inhibition Activity of Linarin Isolated from *Dendranthema zawadskii*

Ju Yeon Kim, Jae Yeon Park, Yun Gon Son, Jeong Yoon Kim*

Department of Pharmaceutical Engineering, ABC-RLRC, IALS, Gyeongsang National University, Jinju 52725, Republic of Korea

PNB-97

Quantitative Analysis of Acetylcholinesterase Inhibitory Isorhapontin from Olive Tree Stem Barks

Jae Yeon Park, Yun Gon Son, Ju Yeon Kim, Jeong Yoon Kim*

Department of Pharmaceutical Engineering, ABC-RLRC, IALS, Gyeongsang National University, Jinju 52725, Republic of Korea

PNB-98

Characterization of Phytochemicals from *Taraxacum coreanum* Displaying Inhibitory Activities against Viral Neuraminidase

Na Rae Kang, Soo Min Lee, Yun Gon Son, Ju Yeon Kim, Jae Yeon Park, Jeong Yoon Kim*

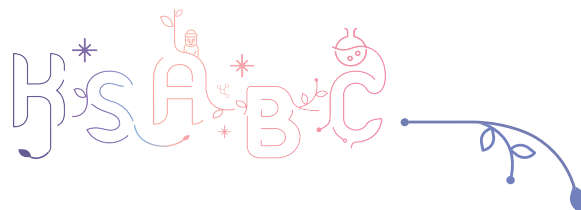
Department of Pharmaceutical Engineering, ABC-RLRC, IALS, Gyeongsang National University, Jinju 52725, Republic of Korea

PNB-99

***Dracocephalum moldavica* and its active component, oleanolic acid, alleviated anxiety in chronic restraint stressed mice by inhibiting the NLRP1 inflammasome**

Ho Jung Bae¹, Ye Eun Cho², Yu-Yeong Choi², Se Jin Park^{1,2*}

¹Agriculture and Life Science Research Institute, Kangwon National University, ²School of Natural Resources and Environmental Sciences, Department of Food Biotechnology and Environmental Science, Kangwon National University



PNB-100

Identification of wheat seedling phenolic compounds, metabolome changes according to harvest time, and inhibition of osteoclast differentiation in extracts

Hangyeol Lee, Seoyeon Moon, Mi Ja Lee, Seung-Yeob Song, Eunji Suh, Hyeo Young Seo, Woo Duck Seo*

Division of Crop Foundation, National Institute of Crop Science, Rural Development Administration

PNB-101

Standardization of Black ginseng manufacturing and analytical method validation of marker compounds

Bo-Ram Choi, Dahye Yoon, Jae-Suk Ban, Woo Cheol Shin, Jin-Kyu Jang, Dae Young Lee*

Department of Herbal Crop Research, National Institute of Horticultural and Herbal Science, RDA, Eumseong 27709, Republic of Korea

PNB-102

UPLC-QTOF/MS and NMR spectroscopy based metabolic comparison of Dill (*Antethum graveolens*) and Fennel (*Foeniculum vulgare*) and UPLC analytical method development of six marker compounds

Woo Cheol Shin^{1,2}, Bo-Ram Choi¹, Dahye Yoon¹, Jae-Suk Ban¹, Jin-Kyu Jang¹, Sookyeong Lee³, Dae Young Lee^{1*}

¹Department of Herbal Crop Research, National Institute of Horticultural and Herbal Science, RDA, Eumseong 27709, Republic of Korea, ²Graduate School of Biotechnology & Department of Oriental Medicinal Biotechnology, Kyung Hee University, Yongin 17104, Republic of Korea, ³National Agrobiodiversity Center, National Institute of Agricultural Sciences, RDA, Jeonju 54874, Republic of Korea

PNB-103

Untargeted metabolomics analysis for discrimination of geographical origin of Turmeric (*Curcuma longa* L.) and its anticancer activity

Dahye Yoon¹, Bo-Ram Choi¹, Woo Cheol Shin^{1,2}, Kwan-Woo Kim¹, Young-Seob Lee¹, Dae Young Lee^{1*}

¹Department of Herbal Crop Research, National Institute of Horticultural and Herbal Science, RDA, Eumseong 27709, Republic of Korea, ²Department of Genetic Engineering and Graduate School of Biotechnology, Kyung Hee University, Yongin 17104, Republic of Korea

PNB-104

Discrimination of *Rehmannia glutinosa* from different geographical origins by untargeted metabolomics using multiplatform approach to NMR spectroscopy and UPLC-QTOF/MS

Jin-Kyu Jang^{1,2}, Dahye Yoon¹, Bo-Ram Choi¹, Woo Cheol Shin^{1,3}, Dae Young Lee^{1*}

¹Department of Herbal Crop Research, National Institute of Horticultural and Herbal Science, RDA, Eumseong 27709, Republic of Korea, ²Department of Plant Science and Technology, Chung-Ang University, Anseong-si 17546, Republic of Korea, ³Department of Genetic Engineering and Graduate School of Biotechnology, Kyung Hee University, Yongin 17104, Republic of Korea



PNB-105

Characterization and identification of secondary metabolites from *Oryza sativa* L. (Rice) seedlings and their effect on osteoblast differentiation

So Yeon Moon^{1,2}, Hangyeol Lee¹, Mi Ja Lee¹, Seung-Yeob Song¹, Eunji Suh¹, Woo Duck Seo^{1*}

¹Division of Crop Foundation, National Institute of Crop Science, Rural Development Administration, ²Agbiotechnology and Natural Resources, Gyeongsang National University

PNB-106

Decursinol angelate as a GDH1 inhibitor: Potential therapeutic implications for colon cancer treatment

Muhammad Haroon, Sukkum Ngullie Chang, Sun Chul Kang*

Department of Biotechnology, Daegu University

PNB-107

Estrogen like Activities and inhibitory effect on RANKL-induced osteoclast differentiation of Betaone barley water extract

Mija Lee^{1*}, Hyun Jin Lee¹, Yong Jin Lee², Han Gyeol Lee¹, Seung Yeob Song¹, Eun Ji Suh¹, Woo Duck Seo¹, June Yeol Choi¹

¹Division of Crop Foundation, National Institute of Crop Science, Rural Development Administration, ²Department of Pharmacy, Suncheon National University

PNB-108

Anti-cancer effect of squid bone extract to SiHa cells

Soo Bin Choi, Dong Gun Lee, Seung Myun Hong, Jae Ho Yeom, Chae Eun Lee, Yeong Eun Ha, Namhyun Chung*

Department of Biotechnology, College of Life Sciences & Biotechnology, Korea University, Seoul, Korea 02841

PNB-109

Exploring Vitamins as Regulators of MMP-2/9: Implications for Cancer Therapy

Hyuck Jin Lee*

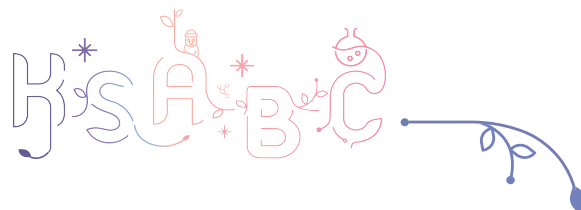
Department of Chemistry Education, Kongju National University

PNB-110

Discovering Metabolic Biomarkers for Different Regions of *Epimedium koreanum* using UHPLC-QTOF/MS

Alfan Danny Arbianto, Min Kim, Hyun Kim, Seon Min Oh, Jongmin Ahn, Sei-Ryang Oh*

Natural Product Research Center, Korea Research Institute of Bioscience & Biotechnology



PNB-111

Anti-methicillin-resistant *Staphylococcus aureus* activity and therapeutic effects of photodynamic treatment with *Ligularia fischeri* extract *in vitro* and in *Caenorhabditis elegans*

Ngoc Minh Ha^{1,2}, Hoseong Hwang¹, Seemi Tasnim Alam^{1,2},
Uyen Tran Tu Nguyen^{1,2}, Soon Kwang Lee¹, Sohyun Lee^{1,2}, Esther Youn¹,
Jin-Chul Kim³, Jin-Soo Park¹, Hak Cheol Kwon¹, Jaeyoung Kwon^{1,2*},
Kyungsu Kang^{1,2*}

¹Natural Product Informatics Research Center, Gangneung Institute of Natural Products, Korea Institute of Science and Technology, Gangwon-do 25451, Republic of Korea, ²Division of Bio-Medical Science & Technology, KIST School, University of Science and Technology (UST), Gangneung, Gangwon-do 25451, Republic of Korea, ³Natural Product Research Center, Gangneung Institute of Natural Products, Korea Institute of Science and Technology, Gangwon-do 25451, Republic of Korea

PNB-112

Utilization of volatile organic compounds for controlling plant pathogens

Gun Woong Lee^{1*}, Mi Hee Kim^{1,2}

¹Green-Bio Division, Future Agriculture Team, Jeonju Agrobio-Materials Institute,
²Department of Plant protection and Quarantine, Jeonbuk National University

PNB-113

Utilization of volatile organic compounds for controlling plant pathogens

Mi Hee Kim^{1,2}, Gun Woong Lee^{2*}

¹Department of Plant protection and Quarantine, Jeonbuk National University,
²Green-Bio Division, Future Agriculture Team, Jeonju Agrobio-Materials Institute

PNB-114

Identification of Compounds Isolated from *Magnolia fargesii* Using UPLC-QTOF/MS

Sun Ho Kam, Hyun-Jae Jang, Doo-Young Kim, Hyung Won Ryu,
Sei-Ryang Oh*

Natural Products Research Center, KRIBB

PNB-115

Quantitative analysis and method validations of metabolites for *Artemisia gmelinii* on harvest period

Ha Eun Song^{1,2}, Seon Min Oh¹, Doo-Young Kim¹, Dae Young Lee³,
In Seon Kim^{1,2}, Bang Yeon Hwang², Sei-Ryang Oh¹, Hyung Won Ryu^{1*}

¹Natural Product Research Center and Natural Product Central Bank, KRIBB, 30-Yeongudanji-ro, Ochang-eup, Cheongwon-gu, Cheongju-si, Chungcheongbuk-do 28116, Korea, ²College of Pharmacy, Chungbuk National University, 194-21, Osongsangmyeong 1-ro, Osong-eup, Heungdeok-gu, Cheongju-si, Chungcheongbuk-do 28160, Korea, ³Department of Herbal Crop Research, National Institute of Horticultural and Herbal Science, RDA, Eumseong 27709, Korea

PNB-116

Exploring Alginate-Degrading Microorganisms for Enhanced Decomposition of Alginic Acid Coating Materials: Isolation, Identification, and Characterization

Seung Hwa Jeong, Yu Bin Kim, Yae Rim Lee, Yeonjong Koo*

Department of Agricultural Chemistry, Chonnam National University

PNB-117

New neolignans and phenolics from the *Aralia cordata*

Hyoung-Geun Kim¹, Hyeon Seon Na¹, Dahye Yoon², Nam-In Baek¹,
Dae Young Lee^{2*}

¹*Graduate School of Biotechnology and Department of Oriental Medicinal Biotechnology, Kyung Hee University*, ²*Department of Herbal Crop Research, National Institute of Horticultural and Herbal Science, RDA*

PNB-118

New hydroxy-fatty acids and phenolics from the seeds of *Coix lacryma-jobi*

Hyoung-Geun Kim¹, Hyeon Seon Na¹, Dahye Yoon², Nam-In Baek¹,
Dae Young Lee^{2*}

¹*Graduate School of Biotechnology and Department of Oriental Medicinal Biotechnology, Kyung Hee University*, ²*Department of Herbal Crop Research, National Institute of Horticultural and Herbal Science, RDA*

PNB-119

Discovering the Chemical Variations of *Epimedium koreanum* from Different Regions using UHPLC-QTOF/MS

Min Kim, Alfán Danny Arbianto, Hyun Kim, Jongmin Ahn, Sei-Ryang Oh*

Natural Product Research Center, Natural Product Central Bank, Korea Research Institute of Bioscience & Biotechnology

PNB-120

Phytochemical investigation from the stem of *Michelia compressa* (Maxim.) Sarg.

Su-Yeon Lee, Hyun-Jae Jang, Jung-Hee Kim, Sei-Ryang Oh,
Hyungwon Ryu*

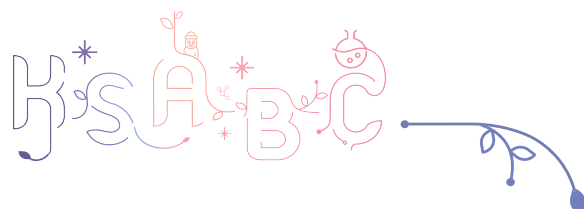
Natural Product Research Center and Natural Product Central Bank, Korea Research Institute of Bioscience and Biotechnology

PNB-121

Phytochemical investigation from the stem of *Capsella bursa-pastoris*

In-Seo Heo, Hyun-Jae Jang, Doo-Young Kim, Sei-Ryang Oh, Hyungwon Ryu*

Natural Product Research Center, Natural Product Central Bank, Korea Research Institute of Bioscience & Biotechnology



PNB-122

The metabolite profiling in *Alnus alnobetula* (Ehrh.) K.Koch subsp. *fruticosa* (Rupr.) Raus by UPLC-QToF-MS

Mi Hyeon Park¹, Sunin Jung², Jongmin Ahn¹, Seonmin Oh¹, Doo-Young Kim¹, Sei-Ryang Oh¹, Hyungwon Ryu^{1*}

¹Natural Product Research Center and Natural Product Central Bank, KRIBB, ²Department of CBRN Medicine Research, center for Special Military Medicine, Armed Forces Medical Research Institute

PNB-123

New benzo(h)cinnoline derivatives from the rhizomes of *Astragalus membranaceus* and their recovery effect on pancreatic islet in alloxan-damaged zebrafish larvae

Hyeon Seon Na¹, Hyoung-Geun Kim¹, Yoon Hee Nam¹, Dahye Yoon², Min-Ho Lee³, Tong Ho Kang¹, Nam-In Baek¹, Dae Young Lee^{2*}

¹Graduate School of Biotechnology and Department of Oriental Medicinal Biotechnology, Kyung Hee University, ²Department of Herbal Crop Research, National Institute of Horticultural and Herbal Science, RDA, ³Department of Food Technology and Services, Eulji University

PNB-124

Phytochemical investigation from the stem of *Acer tegmentosum*

Hyun-Gyu Jung, Hyun-Jae Jang, Jung-Hee Kim, Hyungwon Ryu, Sei-Ryang Oh*

Natural Product Research Center and Natural Product Central Bank, Korea Research Institute of Bioscience & Biotechnology

PNB-125

***Moringa concanensis* L. alleviates atopic dermatitis via suppression of IL-1 β mediated by NLRP3 inflammasome in DNCB-challenged BALB/c mice**

So-Yeon Kim, Ju-Yeon An, Se Jin Park*

Department of Food Biotechnology and Environmental Science, Kangwon National University, Chuncheon 24341, Republic of Korea

PNB-126

Mucin modifies microbial composition and improves metabolic functional potential of a synthetic gut microbial ecosystem

Emmanuel Hitayezu¹, Intan Rizki Mauliasari¹, Anh Thi Kieu Nguyen¹, Humphrey A. Mabwi², Cheol-Ho Pan^{1,3,4*}, Kwang Hyun Cha^{1,4*}

¹Natural Product Informatics Research Center, KIST Gangneung Institute of Natural Products, Gangneung 25451, Republic of Korea, ²Department of Microbiology, Parasitology, and Biotechnology, College of Veterinary Medicine and Biomedical Sciences, Sokoine University of Agriculture, Morogoro P.O. Box 3019, Tanzania, ³Microalgae Ask US Co., Ltd., Gangneung 25441, Republic of Korea, ⁴Division of Bio-Medical Science and Technology, KIST School, Korea University of Science and Technology, Seoul 02792, Republic of Korea

PNB-127 Identification of major compounds isolated from *Paulownia coreana* Uyeki. by UPLC-QTOF/MS

Su-Ah Lee, Mi Hyeon Park, Hyun-Jae Jang, Jung-Hee Kim, Hyungwon Ryu, Sei-Ryang Oh*

Natural Product Research Center and Natural Product Central Bank, KRIBB

PNB-128 Anti-Inflammatory Compounds from Broccoli Leaves

Sook Jahr Park, Jong Rok Lee*

Department of Pharmaceutical Engineering, Daegu Haany University

PNB-129 Rutin from Broccoli Leaves Modulates H₂O₂-Induced Cell Death in PC12 Cells

Sook Jahr Park, Jong Rok Lee*

Department of Pharmaceutical Engineering, Daegu Haany University

PNB-130 Biological activity and isolation of 3-formylindole from fractions of *Oudemansiella raphanipes* extract

Hyeong-Jeong Hwang¹, Jae-Eun Lee¹, Dong-Hee Lee¹, Min-Jae Kang², Gun-Do Kim², Keun-Ki Kim^{1*}

¹*Department of Life Science and Environmental Biochemistry, Pusan National University,* ²*Department of Microbiology, Pukyong National University*

PNB-131 Anti-atopic dermatitis effects of LK5 the complex extract of five different plants in HaCaT cells and atopic dermatitis animal model

Hyun-Jeong Kim, So-Young Cho, Se Jin Park*

Department of Food Biotechnology and Environmental Science, School of Natural Resources and Environmental Sciences, Kangwon National University

PNB-132 Evaluation of Antioxidant and Neuroprotective Effect and Isolation of Bioactive Compounds from *Ginkgo biloba* L. Outer Seed Coat Extract

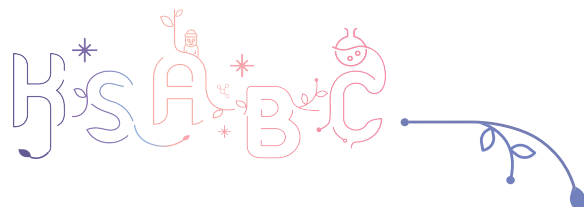
Jae Eun Lee, Hyeon Jeong Hwang, Dong Hee Lee, Seo Young Choi, Mi Song Shin, Kwang Min Lee, Keun Ki Kim*

Department of Life Science and Environmental Biochemistry, Pusan National University

PNB-133 Libertellenone T and pestalotin derivatives from the endolichenic fungus EL000327 from *Graphis*

Jeonghyeon Kim¹, Sang-Jip Nam^{1*}, Hangun Kim^{2*}

¹*Department of Chemistry and Nano Science, Ewha Womans University,* ²*College of Pharmacy, Suncheon National University*



PNB-134

Supernatant of *Chlorella vulgaris* as a Biostimulant: Physiological Effects on Growth in *Arabidopsis thaliana*

Jinyoung Moon¹, Yun Ji Park¹, To Quyen Truong^{1,2}, Sang Min Kim^{1,2*}

¹Smart Farm Research Center, Korea Institute of Science and Technology (KIST) Gangneung Institute of Natural Products, ²Department of Bio-Medical Science & Technology, University of Science and Technology

PNB-135

Comparison of Anti-inflammatory Activity of Solvent Fractions from parts of *Aster chusanensis*, *Aster glehni* and *Aster spathulifolius*

Dong-Hee Lee¹, Hyeon-Jeong Hwang¹, Jae-Eun Lee¹, Min-Jae Kang², Gun-Do Kim², Keun Ki Kim^{1*}

¹Department of Life Science and Environmental Biochemistry, Pusan National University, ²Department of Microbiology, Pukyong National University

PNB-136

Establishment of cortisol analysis method in hair using LC-MS/MS

Sunin Jung^{1,2}, Seon Hee Park¹, Sangghun Pakr¹, Bokyung Choi¹, Jin-Hyo Kim²

¹Department of CBRN Medicine Research, center for Special Military Medicine, Armed Forces Medical Research Institute, ²Department of Agricultural Chemistry, Institute of Agriculture and Life Science(IALS), Gyeongsang National University

PES

Environmental Sciences

PES-1

Sorption/desorption of procymidone on biodegradable microplastics

Ji Won Yang, Da Yun Lee, Eun Hea Jho^{*}

Agricultural and Biological Chemistry, Chonnam National University

PES-2

Effect of Mixing Moisture Control Materials in the Stabilization Process of Manure-based Composts on the Residual Concentrations of Veterinary Antibiotics

Oh Kyung Kwon^{1*}, Sung Chul Kim², Jin Wook Kim², Young Kyu Hong², Won Il Kim³, Young Man Yoon¹

¹Biogas Research Center, Hankyong National University, ²Bio-Environmental Chemistry, Chungnam National University, ³Eco-Friendly Agri-Bio Research Center, Jeonnam Bioindustry Foundation

PES-3

Effect of Light Intensity on the Photodegradation of Streptomycin in Soil

So Yun Park¹, Eun Hea Jho^{2*}

¹Department of Agricultural Chemistry, Chonnam National University, ²Department of Agricultural and Biological Chemistry, Chonnam National University

PES-4

Degradation of agricultural antibiotics using isolated indigenous soil bacteria

So Yun Park¹, Seon Hui Kim¹, Eun Hea Jho^{2*}

¹*Department of Agricultural Chemistry, Chonnam National University,* ²*Department of Agricultural and Biological Chemistry, Chonnam National University*

PES-5

Effect of Developed Functional Fertilizer using Plant Growth-Promoting Bacteria to Reduce Application of Inorganic Fertilizer : Field Test

Han-Na Cho¹, Ikhyeong Lee², Minji Shin², Haeun Ryoo², Se-Won Kang^{3*}

¹*Department of Agricultural Chemistry, Suncheon National University,* ²*Department of Bio-environmental Sciences, Suncheon National University,* ³*Department of Agricultural Life Sciences, Suncheon National University*

PES-6

Growth and Quantity of Tomato as Affected by Top Dressing Applications of Fertilizer in Different Cropping System with self-made organic materials

Hyojung Choi^{*}

Division of Agricultural Environment, Jeollabuk-do Agricultural Research and Extension Services

PES-7

Effects of Biological Resources on Weed Control and Yield in Paddy Rice Fields

Hyojung Choi^{*}

Division of Agricultural Environment, Jeollabuk-do Agricultural Research and Extension Services

PES-8

N vacancy introduced g-C₃N₄ as an efficient catalyst for the degradation of agricultural antibiotic in water

Youn Jun Lee¹, Jong Min Lee², Ji Won Yang³, Eun Hea Jho³, Chang Gu Lee^{2*}

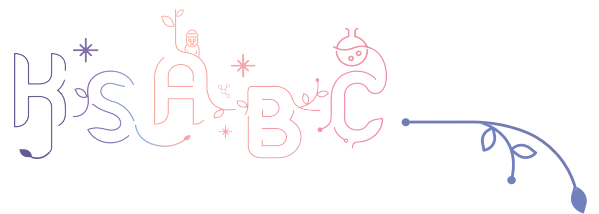
¹*Energy Systems Research, Ajou University,* ²*Environmental and Safety Engineering, Ajou University,* ³*Agricultural and Biological Chemistry, Chonnam National University*

PES-9

Development of simultaneous analysis method for prohibited preservatives in natural and organic cosmetics

Kyoung-Moon Han, Chaegyong Park, Ji Hyun Lee, Hyung Il Kim, Sooyeul Cho^{*}

Center for Advanced Analysis, National Institute of Food and Drug Safety Evaluation, Republic of Korea



PES-10 **Development of analysis method for identifying the illegal synthetic colorants in cosmetics**

Kyoung-Moon Han, You Kyung Kim, Ji Hyun Lee, Hyung Il Kim, Sooyeul Cho*

Center for Advanced Analysis, National Institute of Food and Drug Safety Evaluation

PES-11 **Identification of fragmentation pattern of forbidden synthetic colorants in cosmetics using LC-Q-TOF-MS**

Kyoung-Moon Han, You Kyung Kim, Ji Hyun Lee, Hyung Il Kim, Sooyeul Cho*

Center for Advanced Analysis, National Institute of Food and Drug Safety Evaluation

PES-12 **Adsorption efficiency of heavy metals on clay minerals**

Namin Koo*

Division of Forest Ecology, National Institute of Forest Science

PES-13 **Chemical and surface characteristics of biochar derived from greenhouse crop residues**

Seong Heon Kim, Jae Hong Shim, Dong Won Lee, Sang Ho Jeon, Yun Hae Lee, Soon Ik Kwon*

Soil and Fertilizer Division, National Institute of Agricultural Sciences, Rural Development Administration, Wanju, Jeonbuk 55365, Republic of Korea

PES-14 **Evaluating the Impact of Substituting Chemical Fertilizers with Green Manure on Rice Yield and Quality in Paddy Soil**

Areum Han*, Weon Tai Jeon, Jinseok Lee, Jeong Ju Kim, Chaewon Lee, Mi-Jin Chae

Crop cultivation & Environment Research Division, National Institute of Crop Science

PES-15 **Plastic Waste Management in South Korea: Current Situation, Limitations, and Potential Solutions**

Jiwoon Jeon¹, Keon Kwak¹, Kyeong Kwak¹, Kyuri Kim¹, Haeun Kim¹, Hyejin Kwak¹, Clovis Awah Che¹, Philippe M. Heynderickx^{1,2*}

¹*Department of Environmental Technology, Center for Environmental and Energy Research, Ghent University Global Campus,* ²*Department of Green Chemistry and Technology, Faculty of Bioscience Engineering, Ghent University*

PES-16 **Monitoring of Residual Pesticides Drifted by Unmanned Aerial Vehicle (UAV) Spray and Risk Assessment**

Chang Jo Kim, Xiu Yuan, Min Kim, Hyun Ho Noh*

Residual Agrochemical Assessment Division, National Institute of Agricultural Sciences

PES-17

An investigation of long-term nitrogen fertilizer application through metagenomics and its effects on ammonium oxidizing archaea (AOA) in soybean fields

Si Hyun Park¹, Minsoo Jeong², Jae-Ho Shin^{1,2,3*}

¹*Department of Integrative Biology, Kyungpook National University, Daegu 41566, Republic of Korea,* ²*Department of Applied Biosciences, Kyungpook National University, Daegu 41566, Republic of Korea,* ³*NGS Core Facility, Kyungpook National University, Daegu 41566, Republic of Korea*

PES-18

Residual evaluation of ethyl formate in soil and crops after fumigation in greenhouse

Yubin Lee¹, Yurim Kim², Chaeun Kim², Kyeongnam Kim³, Jieun Lee¹, Kwang-Soo Jung², Yeonju Lim², Sung-Eun Lee^{1,2,3}

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PES-19

Monitoring of Pesticide Residue on Orchard Soil in Jeonnam Province

Sung-Woo Kim^{1*}, Hyeon Ji Kim¹, So Yeon Lee¹, Kyung Jin Kwak¹, Jin Woo Lee¹, Hyo Sub Lee²

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PES-20

Establishment of analysis method for Validamycin-A and Oxolinic acid in soil

Yong-Deok Kim¹, Jung-Hun Sun², Hyun-Ji Park¹, Joon-Kwan Moon^{1*}

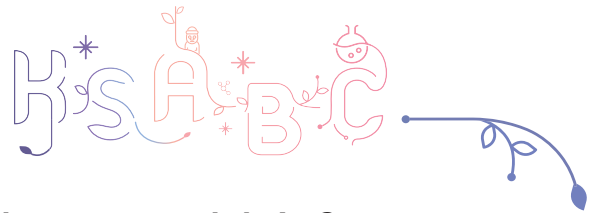
¹*Department of Plant Resources and Landscape Architecture Hankyong National University, Anseong 17579, Republic of Korea,* ²*Hansalim Agro-Food Analysis Center, Hankyong National University Industry Academic Cooperation Foundation*

PES-21

Establishment of analysis method for Oxytetracycline and 4-epi-Oxytetracycline in soil

Hyun-Ji Park¹, Jung-Hun Sun², Yong-Deok Kim¹, Joon-Kwan Moon^{1*}

¹*Department of Plant Resources and Landscape Architecture Hankyong National University, Anseong 17579, Republic of Korea,* ²*Hansalim Agro-Food Analysis Center, Hankyong National University Industry Academic Cooperation Foundation, Suwon 16500, Republic of Korea*



PES-22

Residual Characteristic of Insecticide α -cypermethrin In Corn

Su Eon Choi, Gyu Won Hwang, Seung Jun Ka, Hyun Ji Park, Yong Deok Kim, Jun Kwan Moon*

Department of Plant Resources and Landscape Architecture, Hankyong National University, Anseong 17579, Republic of Korea

PES-23

Effects of crop presence and environmental variation on carbon stable isotope composition of residual pesticide in soil-plant system

Hee Young Yun, Eun-Ji Won, Kyung-Hoon Shin*

Institute of Marine and Atmospheric Sciences, Hanyang University

PES-24

Acute toxic effects of three naphthoquinones on zebrafish (*Danio rerio*) embryos

Yeonju Lim, Sung-Eun Lee*

Department of Applied Biosciences, Kyungpook National University

PES-25

Evaluation of developmental toxicity of two isomers of amlodipine on zebrafish (*Danio rerio*) embryos

Chaeun Kim¹, Yurim Kim¹, Yubin Lee², Donghyeon Kim², Jieun Lee², Yeonju Lim¹, Sung-Eun Lee^{1,2*}

¹*Department of Applied Biosciences, Kyungpook National University,*

²*Department of Integrative Biology, Kyungpook National University*

PES-26

The effects of yield properties, antioxidant contents, and pollen viability of adzuki bean (*Vigna angularis* L.) response in temperature gradient greenhouse and growth periods

Eunji Suh*

Crop Foundation Research Division, Crop resource Materials

PES-27

Pesticide specific isotope analysis provides direct evidence for residual pesticide translocation in simulated rotational cultivation

Hee Young Yun¹, Eun-Ji Won¹, In-Seon Kim², Kyung-Hoon Shin^{1*}

¹*Institute of Marine and Atmospheric Sciences, Hanyang University,*

²*Department of Agricultural Chemistry, Chonnam National University*

PES-28

Characteristics of Greenhouse Gas Emissions from the Agricultural Sector (Non-Energy) in Jeollabuk-do

Chang Kyu Lee*, Sang Young Seo, Seon U Choi, Hyo Jung Choi, Ju Hee Kim

Jeollabuk-Do Agricultural Research and Extension Services, Division of Agricultural Environment

PES-29

Synthesis of Green Catalytic Montmorillonite-based Porous Clay Heterostructure (PCH) Material: Tuning the Cross-linking Length of Primary Amines

Chaeyeon Kang¹, Boyun Choi¹, Muhammad Kashif^{1,2},
Philippe M. Heynderickx^{1,2*}

¹Center for Environmental and Energy Research (CEER) – Engineering of Materials via Catalysis and Characterization, Ghent University Global Campus, 119-5 Songdo Munhwa-Ro, Yeonsu-Gu, Incheon, 406-840 South Korea, ²Department of Green Chemistry and Technology, Faculty of Bioscience Engineering, Ghent University, 653 Coupure Links, Ghent, B-9000, Belgium

PES-30

Selection of Salt-tolerant Green Manure Crops for the Improvement of Salinized Soil

Sang-Young Seo*, Seon-U Choi, Chang-Kyu Lee, Hyo-Jung Choi, Ju-Hee Kim
Agricultural Environment Division, Jeollabuk-do Agricultural Research and Extension Services, Iksan 54591, Republic of Korea

PES-31

Biodegradation of polyethylene (PE) film by *Bacillus subtilis* and *Bacillus licheniformis*

Hyeon Jeong Seong, Zhuang Yao, Dong Uk Kim, Yu-Sin Jang*

Division of Applied Life Science (BK21 Four), Department of Applied Life Chemistry, Institute of Agriculture and Life Science (IALS), Gyeongsang National University (GNU), Jinju, Republic of Korea

PES-32

Effect of Inorganic Fertilization on Kenaf (*Hibiscus cannabinus* L.) Growth Characteristics and Soil Chemical Properties in a Reclaimed Paddy Soil: A Pot Experiment

Sohee Yoon¹, Suyong Park², Sang Yoon Kim^{1,2*}

¹Department of Agricultural Chemistry & Interdisciplinary Program in IT-Bio Convergence System, Suncheon National University, Suncheon 57922, Korea,

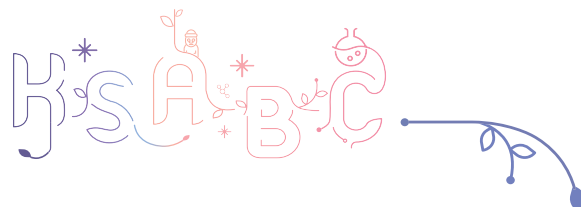
²Department of Agricultural Life Sciences, Suncheon National University, Suncheon 57922, Republic of Korea

PES-33

Pesticides residue characteristics of major fruits cultivated in Gyeongsangnam-do province

Dong Kyu Jeong, Won Min Jeong, Hyeon Hee Kim, Gyeong Hwan Lee,
Dong Yeol Lee*

Anti-Aging Research Group, Gyeongnam Anti-Aging Research Institute



PES-34 Metabolite Composition Analysis of Palmarosa and Clove bud essential oils

Jin-Seong Kim¹, Sang-Woo Kang¹, Ju-Yeon Kim², Jeong-Yoon Kim²,
Sung-Jun Seo¹, Kyeong-Yeol Oh¹, Jin-Hyo Kim^{1*}

¹Department of Agricultural Chemistry, Division of Applied Life Science, Institute of Agriculture and Life Science (IALS), Gyeongsang National University, Jinju 52828 Republic of Korea, ²Department of Pharmaceutical Engineering, Institute of Agriculture and Life Science (IALS), Gyeongsang National University, Jinju 52725, Republic of Korea

PES-35 Screening of trihalomethanes as methanogenesis inhibitor in *Chrysymenia wrightii*

Sung Jun Seo, Sang Woo Kang, Jin Seong Kim, Kyeng Yeol Oh, Jin Hyo Kim*

Department of Agricultural Chemistry, Division of Applied Life Science, Institute of Agriculture and Life Science (IALS), Gyeongsang National University, Jinju 52828 Republic of Korea

PES-36 Investigation of mineral contents in *Chrysymenia wrightii*

Sung Jun Seo, Sang Woo Kang, Jin Seong Kim, Kyeng Yeol Oh, Jin Hyo Kim*

Department of Agricultural Chemistry, Division of Applied Life Science, Institute of Agriculture and Life Science (IALS), Gyeongsang National University, Jinju 52828 Republic of Korea

PES-37 Pulmonary toxicity and kinetics of atmospheric ultrafine carbon particle

Gyuri Kim, Wan-Seob Cho*

Lab of Toxicology, Department of Health Sciences, The Graduate School of Dong-A University, Republic of Korea

PES-38 Plant extract of *Paeonia suffruticosa*, showing insecticidal effect on a thrips(*Frankliniella occidentalis*) among 67 medicine plants

Mi Hye Seo*, Kyung San Choi, Sun-Young Lee, Jung Beom Yoon

Horticultural&Herbal Crop Environment Division, National Institute of Horticultural and Herbal Science, RDA

PES-39 Development of multi residue pesticide analytical reference materials production technique in soil for Quality control

Se-In Kim, Gun-Hee Jung, Hyang-Hee Kim, Hyo-Sub Lee, Won-Tae Jeong, Taek-Kyum Kim*

Residual Agrochemical Assessment Division, National Institute of Agricultural Sciences

PES-40

Investigation of Growth Characteristics, Physiological Activities, and Antioxidant Activities of Wild-simulated Ginseng According to the Climate Change Scenario (SSP)

Yeong-Bae Yun¹, Jeong-Hoon Huh¹, Yeong Geun Song², Kyeong Cheol Lee², Yurry Um¹

¹Forest Medicinal Resources Research Center, National Institute of Forest Science,
²Department of Crops and Forestry, Korea National University of Agricultural and Fisheries

PES-41

Changes in Growth Characteristics and Ginsenoside Contents of Wild-simulated Ginseng with Different Harvest Periods

Yeong-Bae Yun, Jeong-Hoon Huh, Dae-Hui Jeong, Yurry Um*

Forest Medicinal Resources Research Center, National Institute of Forest Science

PES-42

Establishment of Pre-Harvest Residue Limit for Spinetoram in Kale by LC-MS/MS

Hye-Min Gwak, Hee-Ra Chang*, A-Yeon Oh, Rae-Chang Lee, Jae-Hyeong Kim

Pharmaceutical Engineering, Hoseo National University

PES-43

Research on Distribution Characteristics of Pesticides in the Youngsan River Basin

Bong Jun Kang*

water team, SUNCHON NATIONAL UNIVERSITY Environmentally-friendly Agriculture Center

PES-44

Residual Characteristics and Dissipation Pattern of Three Pesticides in Lettuce at Three Different Place

Jeong-Hoon Lee, Hui-Yeon Ahn, Ji-Woo Yu, Min-Ho Song, Ji-Won Shin, Geon-Woo Park, Young-Soo Keum, Ji-Ho Lee*

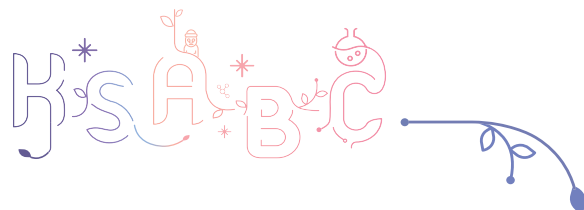
Crop science, Konkuk University

PES-45

Residual Characteristics and Dissipation patterns of Fluopicolide, Thiacloprid, and Trifloxystrobin in Lettuce

Hui-Yeon Ahn, Jung-Hoon Lee, Min-Ho Song, Ji-Woo Yu, Geon-Woo Park, Ji-Won Shin, Young-Soo Keum, Ji-Ho Lee*

Crop Science, Konkuk University



PES-46

Occurrence and Seasonal Variation of Veterinary Antibiotics in Soil, Crops, and Watershed

Jin Wook Kim¹, Young Kyu Hong¹, Sang Su Kim², Oh Kyung Kwon³,
Sung Chul Kim^{1*}

¹*Bio-Environmental Chemistry, Chungnam National University*, ²*National Institute of Agricultural Sciences, Chemical Safety Division*, ³*Hankyung National University, Biogas Research Center*

PES-47

Lysimeter Study for Estimation of Crop Coefficient and Water Requirement for Upland Crops

Jung-Hun Ok^{*}, Dong-Hyun Kim, Seung-Oh Hur, Seon-Ah Hwang,
Bu-Yeong Oh, Min-Kyeong Park, Hyun-Seo Yang

Division of Soil and Fertilizer, National Institute of Agricultural Sciences, Rural Development Administration

PES-48

Cultivation of *Salvia miltiorrhiza* Bunge using hydroponic system for enhanced production and phytochemical content

Da Hye Ryu¹, Jwa Yeong Cho^{1,2}, Ho Youn Kim^{1,2*}

¹*Smart Farm Research Center, Korea Institute of Science and Technology (KIST)*,
²*Division of Bio-Medical Science and Technology, KIST School, Korea University of Science and Technology (UST)*

PES-49

Removal efficiency of dyes and heavy metals by carbonized materials derived from melamine sponge

Ye-Ji Lee¹, Jeong-Min Lee¹, Hae-Been Kim¹, Dong-Cheol Seo²,
Jong-Hwan Park^{1*}

¹*Department of Life Resources Industry, Dong-A University*, ²*Department of Applied Life Chemistry (Institute of Agriculture and Life Science), Gyeongsang National University*

PES-50

Nutrient Balance in Rice Paddy Weighable Lysimeters Affected by Soil Texture and Fertilizer Rate

Seung Gyu Lee, Eun Jin Lee, Ha Il Jung, Myung Sook Kim, Tae Gu Lee^{*}

Soil and Fertilizer Division, National Institute of Agricultural Sciences, Rural Development Administration, Wanju, Jeonbuk 55365, Republic of Korea

PES-51

Effect of pyrolysis temperature on seed germination of iron-rich sewage sludge-derived biochar

Hae-Been Kim¹, Jeong-Min Lee¹, Ye-Ji Lee¹, Dong-Cheol Seo²,
Jong-Hwan Park^{1*}

¹*Department of Life Resources Industry, Dong-A University*, ²*Department of Applied Life Chemistry (Institute of Agriculture and Life Science), Gyeongsang National University*

PES-52 Establishment of Quantitative fragment ions of difficult-to-analyze Pesticide Analysis using GC-HRMS

Do Kim, Hyun-Ho Noh, Yuan Xiu, Chang-Jo Kim, Se-In Kim, Min Kim, Taek-Kyum Kim, Won-Tae Jeong*

Residual Agrochemical Assessment Division, National Institute of Agricultural Sciences

PES-53 Development of Simultaneous Analysis Method for 6 Pesticides including 2,4-DB in agricultural products by LC-MS/MS

Joon-Kyung Oh, Hee-Ra Chang*, Ga-Eul-Hae An, Hye-Min Gwak, Sun-Woo Ban

Pharmaceutical Engineering, Hoseo National University

PES-54 Physicochemical properties of biochar prepared from coffee grounds waste discharged from various coffee shops

Jeong-Min Lee¹, Hae-Been Kim¹, Ye-Ji Lee¹, Dong-Cheol Seo², Jong-Hwan Park^{1*}

¹Department of Life Resources Industry, Dong-A University, ²Department of Applied Life Chemistry (Institute of Agriculture and Life Science), Gyeongsang National University

PES-55 Effect of reducing electrical conductivity of nutrient solution on growth and yield of tomato in a smart farm

Jeong Yeon Kim, Yeong Ju Seok, Su Kyeong Sin, Jin Kyung Cha, Jin Seok Lee, Seung Jun Lee, Si Wook Ryu, Yee Eun Lee, Jin Hee Park*

Department of Environmental and Biological Chemistry, Chungbuk National University, Cheongju, Chungbuk, Republic of Korea 28644

PES-56 Comparative analysis of methane and nitrous oxide emissions according to water and fertilizer management

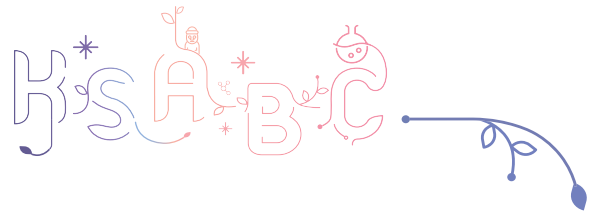
Jin Seok Lee, Yeong Ju Suk, Jeong Yeon Kim, Su Kyeong Sin, Jin Kyung Cha, Jin Hee Park*

Department of Environmental and Biological Chemistry, Chungbuk National University, Cheongju 28644, Republic of Korea

PES-57 Prediction of plant available nutrient levels in soil using EC monitored by sensor

Su Kyeong Sin, Yeong Ju Seok, Jeong Yeon Kim, Jin Kyung Cha, Jin Seok Lee, Jin Hee Park

Department of Environmental and Biological Chemistry, Chungbuk National University



PES-58 Control of *Bemisia tabaci* Using Systematic insecticide-treated Tobacco Plant

Leesun Kim, Yeyeon Kwak, Dageyong Jeong, Mi-Ja Seo, In-Hong Jeong
Crop Protection Division, National Institute of Agricultural Sciences, RDA

PES-59 Multi-residue analysis of 34 soil germicides using modified QuEChERS and LC-MS/MS

Leesun Kim¹, In-Hong Jeong¹, Chang Jo Kim², Kyungae Son², Hee-Dong Lee², Hyun Ho Noh^{2*}

¹*Crop Protection Division, National Institute of Agricultural Sciences, Rural Development Administration,* ²*Residual Agrochemical Assessment Division, National Institute of Agricultural Sciences, Rural Development Administration*

PES-60 Managing insecticide resistance as a strategy for pest control: Development of a platform for recommending insecticides against *Thrips tabaci*(Thysanoptera:Thripidae)

So-Hee Kim*, Young Su Lee, Jong Yoon Choi, Hyun-Ju Lee, Sang-Woo Lee, Jung-Soo Park

Environmental agricultural research Div., Gyeonggi-do Agricultural Research and Extension Services

PES-61 Effects of Amino Acid Liquid Fertilizer Made Using Rendered Residue as Feedstock on Lettuce Growth according to the Application Method

Jae Hyuk Park, Se Won Kang, Seong Bum Chu, Si Won Song, Ju Sik Cho*
Department of Agricultural Life Science, Sunchon National University

PES-62 Dynamic seasonal changes of fungal community in rhizosphere of *Quercus glauca* plants growing in Jeju island

Jaemin Hwang¹, Sang-June Nam^{1,2}, Jin-Young Song², Minkyun Kim^{1*}

¹*Department of Agricultural Biotechnology, Seoul National University,* ²*Research & Business Development Institute, Agricultural Corporation, Jeju Chunji*

PES-63 Behavior in the Soil and Absorption into the Crops of VPs with the Irrigation Method of Agricultural Water

Hee Su Jeon¹, Ye Chan Moon¹, Young Jae Park², Song Hee Ryu³, Jae Young Cho^{1*}

¹*Department of Agriculture Chemistry, Jeonbuk National University, Jeonju-si 56756, Jeollabuk-do, Korea,* ²*Department of Horse Industry and Sports Rehabilitation, Jeonju Kijeon College, Jeonju-si, Jeollabuk-do, Korea,* ³*Agro-Food Safety and Crop Protection Department, National Institute of Agricultural Sciences, Rural Development Administration, Jeonju-si 55365, Jeollabuk-do, Korea*

PES-64

Impact of Traceable Farming Type Solar Power Generation Facilities on Crop Yield and Soil Moisture: A Comparative Study in Barley Cultivation

Hee Su Jeon¹, Ye Chan Moon¹, Young-Jae Park², Jung Min Sohn³,
Jae Young Cho^{1*}

¹Department of Agriculture Chemistry, Jeonbuk National University, Jeonju-si 56756, Jeollabuk-do, Korea, ²Department of Horse Industry and Sports Rehabilitation, Jeonju Kijeon College, Jeonju-si, Jeollabuk-do, Korea, ³Department of Mineral Resources & Energy Engineering, Jeonbuk National University, Jeonju-si 56756, Jeollabuk-do, Korea

PES-65

Evaluating Crop Productivity of Traceable Farming Type Solar Power Generation Facilities: A Case Study on Welsh Onion Cultivation

Hee Su Jeon¹, Ye Chan Moon¹, Young Jae Park², Jung Min Sohn³,
Jae Young Cho^{1*}

¹Department of Agriculture Chemistry, Jeonbuk National University, Jeonju-si 56756, Jeollabuk-do, Korea, ²Department of Horse Industry and Sports Rehabilitation, Jeonju Kijeon College, Jeonju-si, Jeollabuk-do, Korea, ³Department of Mineral Resources & Energy Engineering, Jeonbuk National University, Jeonju-si 56756, Jeollabuk-do, Korea

PES-66

Unintentional Introduction of Veterinary Pharmaceuticals in Agricultural Systems

Hee Su Jeon¹, Ye Chan Moon¹, Young Jae Park², Song Hee Ryu³,
Jae Young Cho^{1*}

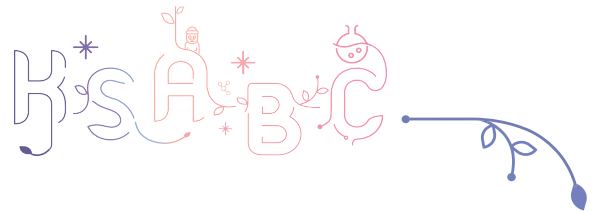
¹Department of Agriculture Chemistry, Jeonbuk National University, Jeonju-si 56756, Jeollabuk-do, Korea, ²Department of Horse Industry and Sports Rehabilitation, Jeonju Kijeon College, Jeonju-si, Jeollabuk-do, Korea, ³Agro-Food Safety and Crop Protection Department, National Institute of Agricultural Sciences, Rural Development Administration, Jeonju-si 55365, Jeollabuk-do, Korea

PES-67

Impact of Traceable Farming Type Solar Power Generation Facilities on Crop Yield and Soil Moisture: A Comparative Study in Barley Cultivation

Hee Su Jeon¹, Ye Chan Moon¹, Young Jae Park², Jung Min Sohn³,
Jae Young Cho^{1*}

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PES-68

Effect of Biochar Application on Greenhouse Gas Emissions During the Annual Cabbage Cultivation Period

Jae Hyuk Park, Se Won Kang, Si Won Song, Seong Bum Cho, Ju Sik Cho*

Department of Agricultural Life Science, Suncheon National University

PES-69

Rice husk mulching as an alternative to plastic film mulching for mitigating ammonia and greenhouse gas emissions and for enhancing productivity in maize cropping field

Hyerin An¹, Suyong Park², Sang Yoon Kim^{1,2*}

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²*Department of Agricultural Life Sciences, Suncheon National University, Suncheon 57922, Republic of Korea*

PES-70

Effects of Biochar Application on Algae Growth and Chlorophyll-a Levels in Water at Various Temperatures

Seul-Rin Lee¹, Dong-Cheol Seo^{1*}, Yu-Jin Park¹, Jae-Hoon Lee¹, Jong-Hwan Park²

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PES-71

Effect of Salt Removal in Food Waste-biochar on Lettuce Growth

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PES-72

Gene expression in nitrogen reduction fertilization and alternate wetting and drying(AWD)

Minji Kim, Boyun Lee, Minchang Kim, Jwakyung Sung*, Gahyun Kim, Ga-Eun Kim

Chungbuk National University, Department of Crop science

PES-73

Degradation of mulching film by thermal fenton reaction and identification of degradation products derived from mulching film

Ah-Young Choi¹, Jae-Hoon Lee¹, Jun-Suk Rho¹, Jong-Hwan Park², Dong-Cheol Seo^{1*}

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PES-74

Enhancing Nutrient Content in Biochar for Sustainable Soil Improvement through Co-pyrolysis of Plant and Animal Biomass

Junsuk Rho¹, Jaehoon Lee¹, Jonghwan Park², Dongcheol Seo^{1*}

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PES-75

A study on the Impact of Different Application Ratios of Food Waste Compost on Chinese Cabbage (*Brassica rapa* L.) Productivity and Soil Properties

Young-Jae Jeong, Jae-Hong Shim*, Seong-Heon Kim, Sang-Ho Jeon, Youn-Hae Lee, Soon-Ik Kwon

Division of Soil and Fertilizer, National Institute of Agricultural Sciences, RDA

PES-76

Effect of Peat Moss and Biochar Mixtures as Livestock Litter for Enhanced Composting Efficiency and Quality

Yu-Jin Park¹, Jae-Hoon Lee¹, Sin-Sil Kim¹, Jong-Hwan Park², Dong-Cheol Seo^{1*}

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PFS

Food Sciences

PFS-1

Extracellular polysaccharides purified from *Aureobasidium pullulans* SM-2001 (Polycan) mitigates DSS-induced ulcerative colitis by alleviating intestinal barrier function and improving inflammation

Young-Suk Kim^{1*}, Jong-Min Lim¹, Tae Woo Oh^{2*}

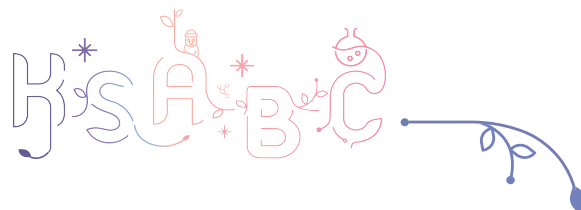
¹*Research Institute, Glucan Co. Ltd., ²Korean Medicine (KM) Application Center, Korea Institute of Oriental Medicine (KIOM)*

PFS-2

Recovery of reducing sugar, soluble protein, and polyphenol by enzymatic hydrolysis from coffee waste

Man-Jin In, Yu Min Jang, Min Yong Jo, Hee Jeong Kim, Junsu Kim, Jin Chan Shim, Dong Chung Kim*

Department of Chemical and Biological Engineering, Chungwoon University



PFS-3 Residual Characteristics and Biological Half-life of Fluazinam in Korean goatsbeard

Dong Ju Kim, Young Jin Ham, Jun Young Kim, Eun Bin Oh, Chae Yeon Lee, Kee Sung Kyung*

College of Agriculture, Life and Environment Sciences, Chungbuk National University, Cheongju 28644, Korea

PFS-4 Residual Patterns of Insecticide Metaflumizone in Chard and Crown Daisy as Minor Crops

Ji Eun Oh, Su-Young Park, Jae-Won Choi, Chang-Hao Gao, Hee-Jin Roh, Ji-Hyun Choi, Jang-Eok Kim*

School of Applied Biosciences, Kyungpook National University, Daegu 41566, Korea

PFS-5 Development of a simple only solvent QuEChERS method for simultaneous analysis of 317 pesticide residues in kidney bean reflect milling size using LC-MS/MS

Xiu Yuan, Chang Jo Kim, Jeong Yoon Choi, Min Kim, Hyun Ho Noh*

Residual Agrochemical Assessment Division, National Institute of Agricultural Sciences

PFS-6 Determination of Tetrodotoxin and Its Analogues in Korean *Nassarius* Gastropod Species

Bong Ki Park¹, Hyunjun Lee¹, Kwang-Sik Choi², Wan-Ok Lee³, Changsun Choi⁴, Jihyun Lee^{1*}

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PFS-7 Antifungal activity of massoia oil and massoia lactone against *Fusarium graminearum*

Jieun Lee, Yubin Lee, Sung-Eun Lee*

Department of Integrative Biology, Kyungpook National University

PFS-8 Improvement of QuEChERS method for simultaneous analysis of multi-pesticide residues in mung bean according to grinding size with LC-MS/MS

Jeong Yoon Choi¹, Hyun Ho Noh^{1*}, Xiu Yuan¹, Chang Jo Kim¹, Min Kim¹, Jang Hyun Hur²

¹Residual Agrochemical Assessment Division, National Institute of Agricultural Sciences, ²Department of Biological Environment, Kangwon National University

PFS-9

Effects of environmental temperature-induced stress on the lipids and volatile organic compounds profiles of sesame seeds

Young Jin Park¹, Ye Jin Kim¹, Sang Un Park², Hyun Young Kim³, Ji Yeong Yang³, Seung-Yeob Song³, Mi Ja Lee³, Woo Duck Seo^{3*}, Jae Kwang Kim^{1,4}

¹Division of Life Sciences, Incheon National University, Incheon 22012, Republic of Korea, ²Department of Crop Science, Chungnam National University, 99 Daehak-ro, Yuseong-gu, Daejeon 34134, Republic of Korea, ³Division of Crop Foundation, National Institute of Crop Science, Rural Development Administration, Wanju, Jeonbuk 55365, Republic of Korea, ⁴Convergence Research Center for Insect Vectors, College of Life Sciences and Bioengineering, Incheon National University, Incheon 22012, Republic of Korea

PFS-10

Effect of Fungicides on *Fusarium graminearum* species complex, the causal agent of *Fusarium* Head Blight

Jung-Hye Choi, Jiseon Baek, So Soo Kim, Mi-Jeong Lee, Theresa Lee, Ja Yeong Jang*

Microbial Safety Division, National Institute of Agricultural Sciences

PFS-11

Simultaneous Determination of 285 pesticide residues in green flesh black bean with LC-MS/MS

Min Kim, Hyun Ho Noh*, Xiu Yuan, Chang Jo Kim

Residual Agrochemical Assessment Division, National Institute of Agricultural Sciences

PFS-12

Dissipation Patterns of Pymetrozine Residue in Coastal Hogfennel (*Peucedanum Japonicum* Thund.)

Ji Youn Lee¹, Yong Beom Kim¹, Jun Hyuk Hwang¹, Chae Lin Song¹, Hyo Been Choi¹, Yang Bin Ihm¹, Kee Sung Kyung^{2*}

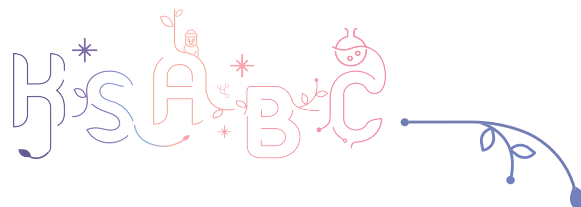
¹Center for Environmental Resources and Analysis Chungbuk National University, Chungbuk National University, Cheongju 28644, Korea, ²Department of Environmental & Biological Chemistry, College of Agriculture, Life and Environment Sciences, Chungbuk National University, Cheongju 28644, Korea

PFS-13

Residual Characteristics and Biological Half-life of Fluazinam in Korean goatsbeard

Dong Ju Kim, Young Jin Ham, Jun Young Kim, Eun Bin Oh, Chae Yeon Lee, Kee Sung Kyung*

College of Agriculture, Life and Environment Sciences, Chungbuk National University, Cheongju 28644, Korea



PFS-14

A multi-residue method for the determination of 42 pesticides in aquaculture products using GC-MS/MS

Myunghoon Kim¹, Mihyun Cho¹, So Eun An¹, Mi Ra Jo², Yoonmi Lee², Moo-Hyeog Im^{1*}

¹Department of Food Engineering, Daegu University, ²Food Safety and Processing Research Division, National Institute of Fisheries Science

PFS-15

Effect of reducing indoxacarb by washing methods in welsch onion

Mihyun Cho¹, Myunghoon Kim¹, So Eun An¹, Jae Bin Im¹, Chang Kyo Seo¹, Nam Uk Cho¹, Seohong Kim², Moo-Hyeog Im^{1*}

¹Department of Food Engineering, Daegu University, ²Department of Environmental and Biological Chemistry, Chungbuk National University

PFS-16

Residue Pattern of Deltamethrin and Methomyl(thiodicarb) in Greenhouse-cultivated Wild Garlic and Their Health Risk Assessment

Yeong-Jin Kim, Sung-Gil Choi, Young-Sang Kwon, Jin-Woo Park, Deuk-Yeong Lee, Won Noh, Wenting Wang, Jong-Hwan Kim*

Environmental Safety-Assessment Center, Korea Institute of Toxicology

PFS-17

Quality characteristics and Food application of 'Baromi 2' lactic acid bacteria fermented product

Hye Sun Choi*, Ji Hyun Lee, Ji Eun Kwak, Seon Min Oh, Young Kim

Crop Post-Harvest Technology Division, National Institute of Crop Science

PFS-18

Physicochemical properties of raw materials and puffed snacks (*Gang naeng-i*) according to Korean maize cultivars

Hye-Young Park¹, Hwan-Hee Bae², Hye Sun Choi¹, Ji Young Park¹, Eun-Yeong Sim¹, Hong-Sig Kim¹, Mi Jung Kim^{2*}

¹Crop Post-Harvest Technology Division, National Institute of Crop Science, RDA, Suwon 16613, Korea, ²Central Area Crop Breeding Division, National Institute of Crop Science, RDA, Suwon 16429, Korea

PFS-19

Validation of Optimized HPLC Method for Determining Flavonoids in Jeju Native Citrus Fruits from Different Harvest Times

Hyejin Hyeon, Ho Bong Hyun, Boram Go, Sung Chun Kim, Seon-A Yoon, Yong-Hwan Jung, Young-Min Ham*

Biodiversity Research Institute, Jeju Technopark, Seogwipo, Jeju 63608, Republic of Korea

PFS-20

The Nutrient Compositions and Antioxidant Activities of Strawberry's Kombucha with Ginseng Sprout

Ga Young Lee¹, Hee Yul Lee¹, Du Yong Cho¹, Ae Ryeon Lee¹,
Jae Gack Jeong¹, Jong Bin Jeong¹, Ji Ho Lee¹, Mu Yeun Jang¹,
Jin Hwan Lee², Kye Man Cho¹

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PFS-21

Changes in LC/MS-Based Metabolomic Analysis and Antioxidant Activities of Mountain-Cultivated Ginseng Sprout by Two *Monascus* sp. Fermentation

Ae Ryeon Lee¹, Hee Yul Lee¹, Du Yong Cho¹, Jae Gack Jeong¹,
Jong Bin Jeong¹, Ji Ho Lee¹, Ga Young Lee¹, Mu Yeun Jang¹, Jin Hwan Lee²,
Kye Man Cho^{1*}

¹Department of GreenBio Science and Agri-Food Bio Convergence Institute, Gyeongsang National University, Jinju 52725, Republic of Korea, ²Department of Life Resources Industry, Dong-A University, Busan 49315, Republic of Korea

PFS-22

***Peucedanum japonicum* Thunberg Extract Attenuates Neuroinflammation by regulating NF-κB and MAPKs in BV-2 Microglia**

Seung Hwan Yang*

Department of Biotechnology, Chonnam National University

PFS-23

Fungal diversity before and after fermentation of *meju*

Mi-Jeong Lee¹, Soobin Yim¹, Jung-Hye Choi¹, So-Young Kim², Jieun Park²,
Theresa Lee², Ja Yeong Jang^{1*}

¹Division of Microbial safety, National Institute of Agricultural Sciences, Rural Development Administration, Wanju 55365, Republic of Korea, ²Division of fermented processed food, National Institute of Agricultural Sciences, Rural Development Administration, Wanju 55365, Republic of Korea

PFS-24

Dissipation patterns of Penthiopyrad in Japanese Angelicae leaves for the determination of biological half-life

So-Hee Kim, Yoon-Hee Lee, Mun-Ju Jeong, Su-Min Kim, Hye-Ran Eun,
Ye-Jin Lee, Yongho Shin*

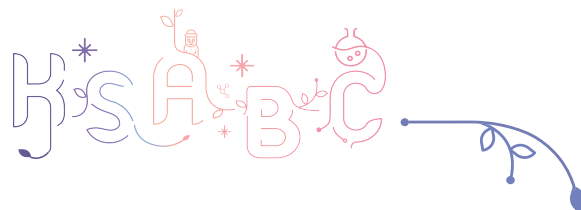
Department of Applied Bioscience, Dong-A University, Busan 49315, Republic of Korea

PFS-25

Dietary exposure assessment of insecticides, fluxametamide and pyrifluquinazon, based on the MRLs

Jae-Won Choi*, Jin-Surk Choi, Sang-Oh Jeon, Chang-Su Seok

R&D Division, Kyung Nong Co., Ltd., Gyeongju 38175, Republic of Korea

**PAM****Applied Microbiology****PAM-1****Wood decay associated fungal community and the expression of lignin degradation enzymes**

Endang Rahmat^{1,2}, Roggers Gang^{1,2,3}, Happy Kenneth^{1,2}, Yeongjun Ban¹, Min Lee⁴, Changho Kang⁵, Youngmin Kang^{2,6*}

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²*Korean Convergence Medicine Major, University of Science and Technology (UST), Republic of Korea,* ³*National Agricultural Research Organization (NARO), National Semi Arid Resources Research Institute (NaSARRI), Soroti, Uganda,* ⁴*Department of Forest Products, National Institute of Forest Science(NiFoS), Seoul 02455, Republic of Korea,* ⁵*Plant Molecular Biology and Biotechnology Research Center, Gyeongsang National University, Jinju, Gyeongnam 52828, Republic of Korea,* ⁶*Herbal Medicine Resources Research Center, Korea Institute of Oriental Medicine (KIOM), 111 Geonjae-ro, Naju-si, Jeollanam-do 58245, Republic of Korea*

PAM-2**Long-term Soil-Kept Plant Growth Promoting Rhizobacteria with Phosphate Solubilizing Activity for Eco-Friendly Fertilizer Use: Isolation and Characterization**

Justina Klingaite¹, HyunWoo Son^{2*}, Sihyun Park^{1*}, Jae-Ho Shin^{1,2,3*}

¹*Department of Integrative Biology, Kyungpook National University, Daegu 41566, Republic of Korea,* ²*Department of Applied Biosciences, Kyungpook National University, Daegu 41566, Republic of Korea,* ³*Next Generation Sequencing (NGS) Core Facility, Kyungpook National University, Daegu 41566, Republic of Korea*

PAM-3**Improving Lettuce Quality and Disease Resistance: The Impact of Mechanical Stimulation in Hydroponic Systems**

Yeon Kyeong Lee¹, Jae Ho Shin^{1,2,3*}

¹*Department of Integrative Biology, Kyungpook National University, Daegu 41566, Republic of Korea,* ²*Department of Applied Biosciences, Kyungpook National University, Daegu 41566, Republic of Korea,* ³*NGS Core Facility, Kyungpook National University, Daegu 41566, Republic of Korea*

PAM-4**Reducing Livestock Manure Odor with Probiotic Feed Additives**

Wanro Kim¹, YoungJae Jo², Jae-Ho Shin^{1,2,3*}

¹*Department of Intergrative biology, Kyungpook National University, Daegu 41566, Republic of Korea,* ²*Department of Applied Biosciences, Kyungpook National University, Daegu 41566, Republic of Korea,* ³*NGS Core Facility, Kyungpook National University, Daegu 41566, Republic of Korea*

PAM-5

Alleviation of Plant Stress through Biofumigation-induced Soil Microbiome Modification under Drought Conditions in Tomato (*Solanum lycopersicum* L.)

Dokyung Lee¹, Tae-Hyung Park¹, Ga-Yeon Nam², Kyeongmo Lim²,
Jae-Ho Shin^{1,2,3*}

¹Department of Integrative Biology, Kyungpook National University, Daegu 41566, Republic of Korea, ²Department of Applied Biosciences, Kyungpook National University, Daegu 41566, Republic of Korea, ³NGS Core Facility, Kyungpook National University, Daegu 41566, Republic of Korea

PAM-6

Investigating the Impact of Artificial Sweeteners on Glycemic Responses through Analysis of the Gut Microbiome

YoungJae Jo¹, Jae-Ho Shin^{1,2,3*}

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PAM-7

Production of commercially valuable bio-carotenoids using methanol as sole Carbon source

Birla Singh Hawaibam, Moonhyuk Kwon*, Seon-Won Kim*

Division of Applied Life Science (BK21 Four), ABC-RLRC, PMBBRC, Gyeongsang National University

PAM-8

Metabolic engineering of *E. coli* for high-level production of triacetin

Yan Wang, Moonhyuk Kwon*, Seon-Won Kim*

Division of Applied Life Science (BK21 Four), ABC-RLRC, PMBBRC, Gyeongsang National University

PAM-9

Effects of Essential Oil and Cetylpyridinium Chloride Mouthwash on Oral Microbiota and Salivary Biomarkers

Hyunwoo Son¹, Vineet Singh¹, Dokyung Lee², Sihyun Park², Yu-Jin Hyun¹,
Jae-Ho Shin^{1,2,3*}

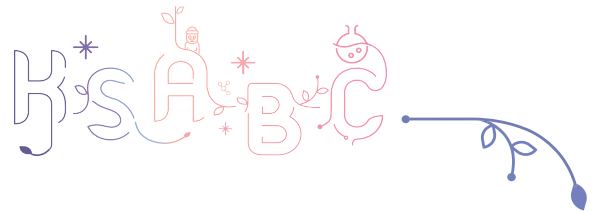
¹Department of Applied Biosciences, Kyungpook National University, Daegu, Republic of Korea, ²Department of Integrative Biology, Kyungpook National University, Daegu, Republic of Korea, ³Next Generation Sequencing (NGS) Core Facility, Kyungpook National University, Daegu, Republic of Korea

PAM-10

Prodigiosin production from *Serratia* sp. PDGS¹²⁰⁹¹⁵ and research of optimal production conditions

Keunho Ji¹, Hak Jun Kim^{2*}

¹Basic Science Research Institute, Pukyong National University,
²Chemistry, Pukyong National University



PAM-11

Enhancing Maize Growth with Diazotrophic Bacteria under potted conditions

Flory Tino Bashizi¹, Minsoo Jeong¹, Jae-Ho Shin^{1,2*}

¹*Department of Applied Biosciences, Kyungpook National University, Daegu 41566, Republic of Korea,* ²*NGS Core Facility, Kyungpook National University, Daegu 41566, Republic of Korea*

PAM-12

Detecting morphological differences of tomato (*Solanum lycopersicum*) rhizosphere in presence of L-malic acid & profiling microbial community composition

Sandamali Harshani Kumari Hathurusinghe¹, Jae-Ho Shin^{1,2*}

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PAM-13

Early induction of solvents production in *Clostridium acetobutylicum*

Haeng Lim Lee, Sampathkumar Palaniswamy, Ye Rin Yoon,
Hyeon Jeong Seong, Yu-Sin Jang

Division of Applied Life Science (BK21 Four), Department of Applied Life Chemistry, Institute of Agriculture & Life Science (IALS), Gyeongsang National University (GNU), Jinju, Republic of Korea

PAM-14

Rhizosphere microbiome structure and underlying factors determining pathogen-suppressiveness and homeostasis

Yohannes Ebabuye Andargie^{1,2}, Jae-Ho Shin^{1,3,4*}, Minsoo Jeong¹, Gyudae Lee¹

¹*Department of Applied Biosciences, Kyungpook National University, Daegu 41566, Republic of Korea,* ²*Department of Plant Sciences, Bahir Dar University, Bahir Dar, Ethiopia,* ³*Department of Integrative Biology, Kyungpook National University, Daegu 41566, Republic of Korea,* ⁴*NGS Core Facility, Kyungpook National University, Daegu 41566, Republic of Korea*

PAM-15

Control of Soft Rot Caused by Streptomycin-Resistant *Pectobacterium carotovorum* pv. *carotovorum* by Endophytic Bacteria

Kwang-Hyun Baek^{*}, Muhammad Fazle Rabbee

Biotechnology, Yeungnam University

PAM-16

Elucidation of the Mechanism of Horizontal Transfer of the Streptomycin-Resistance between Plant Pathogens and Food Poisoning Pathogens

Kwang-Hyun Baek^{*}, Jinhee Choi

Biotechnology, Yeungnam University

PAM-17

Inference of ecological evolution of *strA* gene for streptomycin resistance by phylogenetic analysis of GenBank-retrieved database

Seo-Yeon Yang¹, Hyung-Geun Song¹, Alpana Joshi^{1,2}, Ji-Hoon Lee^{1,3*}

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PAM-18

Bacterial spot disease induced rhizosphere microbiota changes of red pepper (*Capsicum annuum* L.)

Hyung-Geun Song¹, Yu-Sung Cho¹, Seo-Yeon Yang¹, Alpana Joshi^{1,2}, Ji-Hoon Lee^{1,3*}

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PAM-19

Analysis of rhizosphere microbial community of Chinese cabbage (*Brassica rapa* L.) inoculated *Pectobacterium carotovorum* (formerly *Erwinia carotovora*) causing bacterial soft rot

Hyung-Geun Song¹, Yu-Sung Cho¹, Seo-Yeon Yang¹, Alpana Joshi^{1,2}, Ji-Hoon Lee^{1,3*}

¹Department of Agricultural Chemistry, Jeonbuk National University, ²Department of Agriculture Technology & Agri-Informatics, Shobhit Institute of Engineering & Technology, ³Department of Bioenvironmental Chemistry, Jeonbuk National University

PAM-20

Gummosis Alleviation and Microbiome Alterations in Peach Trees [*Prunus persica* (L.) Batsch] Treated with *Bacillus amyloliquefaciens* KNU-28

Tae-Hyung Park¹, Dokyung Lee¹, Wanro Kim¹, Sihyun Park¹, Yeon-Kyeong Lee¹, Youngjae Jo², Jae-Ho Shin^{1,2,3*}

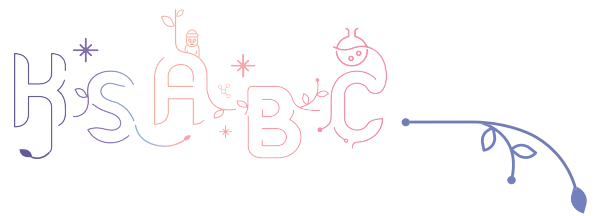
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PAM-21

Dynamic proteomic responses during plant-microbe interactions between rice cultivars and the bacterial plant growth-promoting endophyte *Methylobacterium oryzae* CBMB20

Denver Walitang¹, Chungwoo Kim², Kiyoon Kim³, Aysha Rizwana Jamal¹, Tongmin Sa^{1*}

¹Department of Environmental and Biological Chemistry, Chungbuk National



University, ²Chungcheongbuk-do Agricultural Research and Extension Services,
³Forest Medicinal Resources Research Center, National Institute of Forest Science

PAM-22

Modulation of plant defense responses and the persistent integration of the endophytic plant growth promoting *Methylobacterium oryzae* CBMB20 into the seed-borne endophytic bacterial community of rice

Denver Walitang¹, Chungwoo Kim¹, Kiyoon Kim², Aysha Rizwana Jamal¹,
Tongmin Sa^{1*}

¹Department of Environmental and Biological Chemistry, Chungbuk National University, ²Forest Medicinal Resources Research Center, National Institute of Forest Science

PAM-23

Six ginseng growth promoting bacteria isolated from the ginseng soil secret siderophores and change soil microbiome

Euyeon Kim, Ji Hyeon Baek, Yeonjong Koo*

Chonnam National University, Department of Agricultural Chemistry

PBD

Bio-health/Drug development

PBD-1

SAV1 Is Required for Restoration of Kidney Function after Ischemia and Reperfusion Injury

Daeun Moon¹, Jinu Kim^{1,2*}

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PBD-2

Cisplatin Induces Myofibroblast Transformation and Cellular Senescence through YAP Inactivation in Kidney Fibroblasts

Jia-Bin Yu¹, Jinu Kim^{1,2*}

¹Interdisciplinary Graduate Program in Advanced Convergence Technology & Science, Jeju National University, Republic of Korea, ²Department of Anatomy, Jeju National University College of Medicine, Republic of Korea

PBD-3

Orchiectomy Reduces Aristolochic Acid-Induced Nephrotoxicity

Wei-Long Li¹, Jinu Kim^{1,2*}

¹Interdisciplinary Graduate Program in Advanced Convergence Technology & Science, Jeju National University, Republic of Korea, ²Department of Anatomy, Jeju National University College of Medicine, Republic of Korea

PBD-4

Effect of Jeju Lava Seawater on Antioxidant and Anti-inflammatory Activities of *Daucus carota* L. Leaves Extracts

Sun Hee Yang¹, Ji Soo Kim², Tae Hyeon Yoon¹, Tae Baek Lee¹, Ji Hee Lim¹,
Somi Kim Cho^{1,2,3*}

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PBD-5

The effects of Jeju Lava seawater salt on articular chondrocytes and osteoarthritis

Mangeun Kim¹, Minhae Kim², Yunhui Min¹, Yunji Heo², Jinho Kim³,
Kyungpil Kang³, Junsu Lee³, Mrinmoy Ghosh^{2,4}, Young-Ok Son^{1,2,5*}

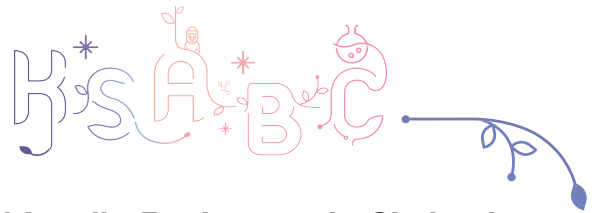
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PBD-6

Excessive sucrose exacerbates high fat diet-induced hepatic inflammation and fibrosis promoting osteoarthritis in mice model

Yunhui Min¹, Dohyun Ahn², Thi My Tien Truong¹, Mangeun Kim¹, Yunji Heo³,
Youngheun Jee^{1,4}, Inhae Kang^{1,2}, Young-Ok Son^{1,3,5*}

¹Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju Special Self-Governing Province, Republic of Korea, ²Department of Food Science and Nutrition, Jeju National University Jeju Special Self-Governing Province, Republic of Korea, ³Department of Animal Biotechnology, Faculty of Biotechnology, College of Applied Life Sciences, Jeju National University, Jeju Special Self-Governing Province, Republic of Korea, ⁴Department of Veterinary Medicine and Veterinary Medical Research Institute, Jeju National University, Jeju Special Self-Governing Province, Republic of Korea, ⁵Practical Translational Research Center, Jeju National University, Jeju 63243, Korea



PBD-7

Inulin Improves Palmitate-Induced Insulin Resistance in Skeletal Muscle Cell

Ka Yeon Ko¹, Eun Young Kim¹, Jia Mei Cui¹, Min Hyeok Kang²,
Gui Guo Zhang^{3*}, Yun Kyoung Lee^{1,2*}

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PBD-8

Anti-obesity effects of *Laminaria japonica* and its polysaccharide: *in vitro* and *in vivo* approaches

Eun Young Kim¹, Jia Mei Cui¹, Min Hyeok Kang², Ka Yeon Ko¹,
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PBD-9

A Study of Antioxidant activities from the cultural extracts of probiotics using *Dendropanax morbiferus*'s leaves

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PBD-10

A Study of Antioxidant activities from the cultural extracts of probiotics using *Camellia japonica*

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PBD-11

A Study of Anti-cancer activity from probiotics fermentation using *Camellia japonica*

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PBD-12

A Study of Antioxidant and anti-inflammatory activities from the cultural extracts of probiotics using *Torreya nucifera*

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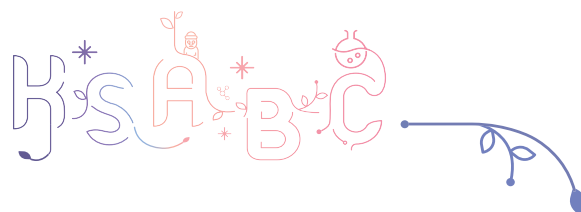
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PBD-13

Potential therapeutic effects of polysaccharide derived from *Ulva* on nonalcoholic fatty liver disease by *in vitro* approach

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PBD-14

Effects of *Ganoderma lucidum* Spore Oil on Rheumatoid Arthritis

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PBD-15

Adjuvant effects of *Peyssonnelia caulifera* extract on influenza vaccine efficacy in a mice model

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PBD-16

Phytochemical analysis and biological activities of *Daphne jejudoensis*

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PBD-17

Insights on arsenic-mediated oxidative stress trigger osteoarthritis pathogenesis and disease progression through the NF-κB-Hif-2a/Zip8-signaling pathway

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PBD-18

Identifying effective phytochemical extracts for inhibiting T cell activation

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PBD-19

High fat diet shapes dynamics of regulatory T cells in mice

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PBD-20

Changes in ammonia-oxidizing microbial activity at various copper concentrations

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PBD-21

Competitive Inhibition on the Ammonia Oxidation in Co-culture System with three different Ammonia-Oxidizing Microorganisms

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PBD-22

Various pH effects on the nitrogen gaseous compounds production of comammox bacteria

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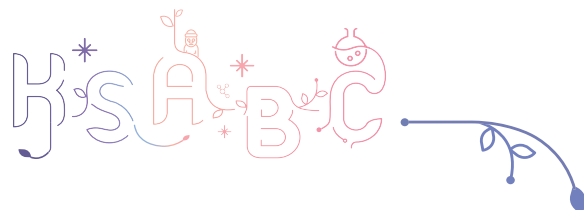
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PBD-23

Investigation on the Antioxidant Properties of *Rubus buergeri*, an endemic plant in Jeju island

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PBD-24

Effect of Antioxidant and Anti-inflammatory on Bioactive Components of Carrot (*Daucus carota* L.) Leaves from Jeju Island

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PBD-25

Comparative study on native *Taraxacum* species and *Hypochaeris radicata* for the authentication

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