

2021
International Symposium
and Annual Meeting
of the **KSABC**

August 23-24, 2021
Ramada Plaza Jeju, Korea

2021년도

(사)한국응용생명화학회 국제학술대회

최종 안내

발표논문일람



한국응용생명화학회
The Korean Society for Applied Biological Chemistry

2021
International Symposium
and Annual Meeting
of the KSABC


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I. 2021 (사)한국응용생명화학회 국제학술대회 일정

국제학술대회 개요

행사명	2021년도 (사)한국응용생명화학회 국제학술대회 및 제110차 정기총회 2021 International Symposium and Annual Meeting of the KSABC
주제	Breakthroughs for applied biological chemistry in the new-normal era
일자	2021. 8. 23(월) - 24(화)
장소	라마다프라자 제주호텔
주최	 한국응용생명화학회 The Korean Society for Applied Biological Chemistry

주요사항

1. 모든 행사 일정은 현장 진행이며 부득이 행사장에 못 오시는 분들을 위해 학회 홈페이지에서 Zoom을 통한 강연보기 서비스가 제공됩니다(현장 상황 및 시청자의 인터넷 환경에 따라 영상·음성 송출이 불안정할 수도 있으니 이용에 참고하시기 바랍니다).

온라인강연보기 절차안내 * 8월 23일 오픈 예정

한국응용생명화학회 홈페이지 접속 → '온라인 강연 바로가기' 배너 클릭 → 사전등록자 로그인 (ID/PW 문자발송 예정) → Program에서 시청을 원하는 강연장의 ZOOM 아이콘 클릭 → 성명/이메일 정보 입력 후 '참가' 클릭

2. 코로나19 방역을 위해 현장등록은 진행하지 않습니다.
3. Poster 발표는 사회적 거리두기 준수를 위해 별도의 발표시간 없이 보드게시만으로 진행됩니다.
4. 코로나19 방역가이드 고시에 따라 행사 기간 중 식사는 제공되지 않습니다.



I. 2021 (사)한국응용생명화학회 국제학술대회 일정

Program at a Glance

August 23 Mon.

Time	Venue	Ramada Ballroom 1	Lobby (8F)	Lobby (2F)
09:00		Registration		
10:00-10:20		Opening Ceremony		
10:20-11:00		PL-1 zoom		
11:00-11:40		GS zoom		
11:40-13:00		Lunch	P Poster Presentation	Bio- exhibition
13:00-13:30		SL-1 zoom		
13:30-14:10		GS zoom		
14:20-14:50		SL-2 zoom		
15:00-16:40		KS-1~4 zoom		
16:50-18:05		KS-5~7 zoom		

PL

Plenary Lectures

KS

Keynote Speakers

S

Symposia

GS

Graduate Student Presentation

SL

Special Lectures

AL

Award Lectures

YS

Young Scientist Presentation

P

Poster Presentation



zoom ZOOM Live Streaming



I. 2021 (사)한국응용생명화학회 국제학술대회 일정

Program at a Glance

August 24 Tue.

Venue Time	Ramada Ballroom 1	Ramada Ballroom 2	Ramada Ballroom 3	Ramada Ballroom 4	Mara Hall	Halla Hall (8F)	Lobby (8F)	Lobby (2F)
09:00	YS1 Biochemistry· Molecular Biology	YS2 Natural Products· Bioactive Materials· Biomedical Sciences	YS3 Environmental Sciences	YS4 Food Sciences	YS5 Applied Microbiology	S11 국내 잔류농약 안전관리· 연구관리 현황		
10:10- 10:50	PL-2 / Ramada Ballroom 1 zoom							
10:50- 11:30	GS / Ramada Ballroom 1 zoom							
11:30- 13:00	Lunch							
13:00- 14:40	S1 Biochemistry· Molecular Biology	S2 Natural Products	S3 Bioactive Materials· Biomedical Sciences	S4 Environmental Sciences	S5 Food Sciences	S12 Bio-health/ innovative drug development using subtropical bio-resources	P Poster Presentation	Bio- exhibition
14:50- 16:30	S6 Applied Microbiology	S7 Agro-Bio Genome Editing	S8 Bio-Start up & Valuation	S9 KIST Session	S10 Beyond Research			
16:40- 17:00	AL-1 / Ramada Ballroom 1 zoom							
17:00- 17:20	AL-2 / Ramada Ballroom 1 zoom							
17:20- 17:40	General Assembly Meeting							
17:40- 18:00	Closing Ceremony							



I. 2021 (사)한국응용생명화학회 국제학술대회 일정

기조강연

2021
International
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the KSABC

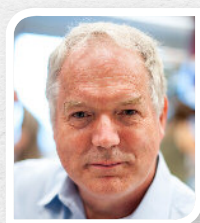
August 23-24, 2021
Ramada Plaza Jeju, Korea

Breakthroughs for
applied biological chemistry
in the new-normal era



Plenary Lecture 1

Controlling the HCV pandemic



NOBEL LAUREATE in Physiology or Medicine 2020

Michael Houghton

Director, Li Ka Shing Applied Virology Institute,
Li Ka Shing Professor, Department of Medical Microbiology & Immunology,
7-126A Li Ka Shing Centre for Health Research Innovation,
University of Alberta, Edmonton, T6G 2E1, Canada

Date 10:20-11:00, August 23

Venue Ramada Ballroom 1

2021
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Breakthroughs for
applied biological chemistry
in the new-normal era



Plenary Lecture 2

Hsp72 in mammary tumor growth, metastasis and response to treatment



Stuart K. Calderwood

Director of Molecular and Cellular Radiation Oncology,
Department of Radiation Oncology,
Beth Israel Deaconess Medical Center,
Harvard Medical School, Boston, MA 02215, USA

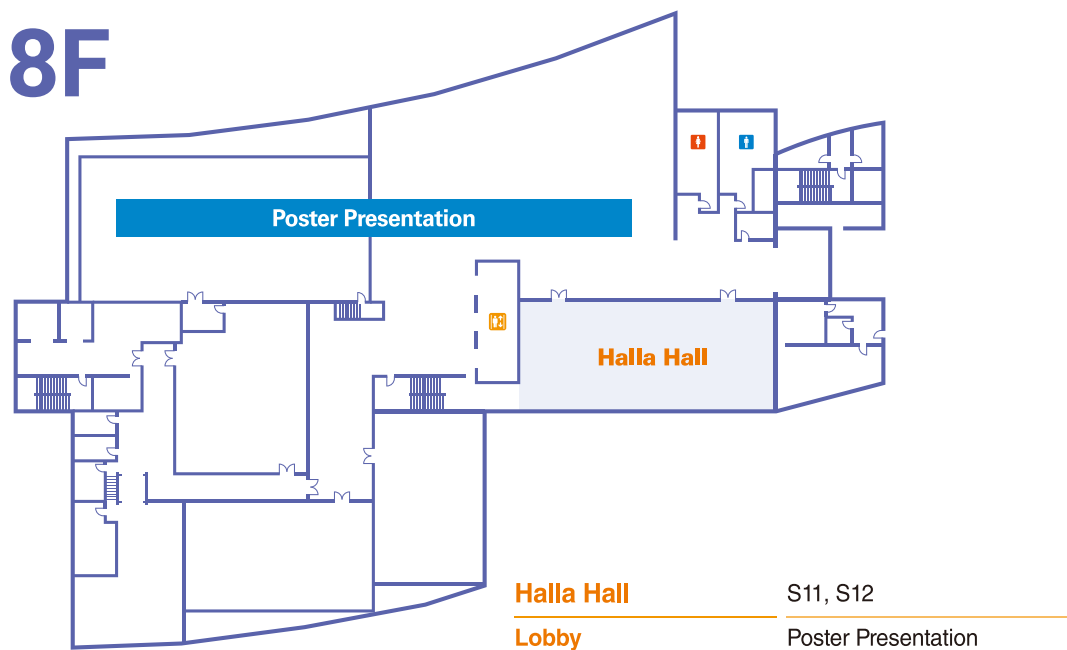
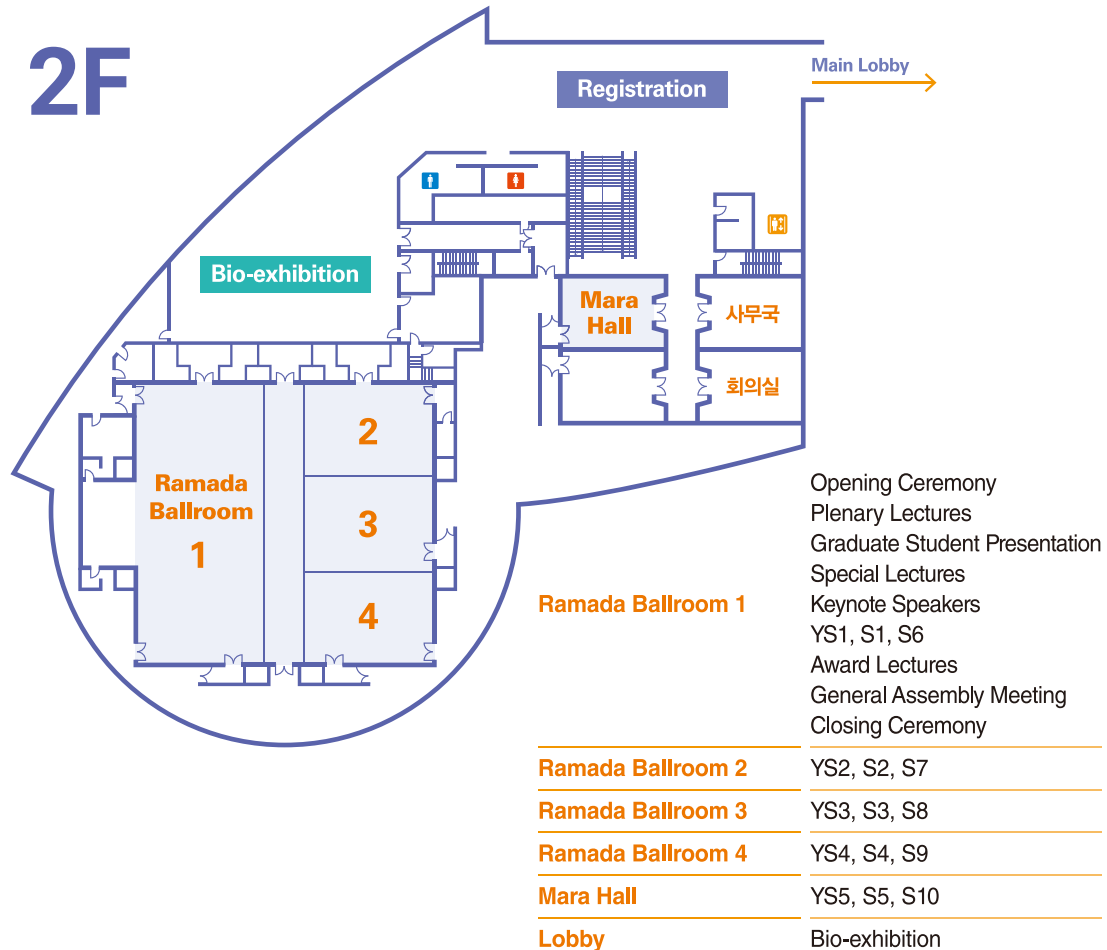
Date 10:10-10:50, August 24

Venue Ramada Ballroom 1



I. 2021 (사)한국응용생명화학회 국제학술대회 일정

Floor Plan





II. 코로나19 방역 수칙 및 매뉴얼 안내

우리학회에서는 행사기간 중 안전한 학술대회 환경 조성 및 철저한 방역관리를 통한 코로나19 확산 방지를 위해 아래와 같이 방역 수칙 및 매뉴얼을 안내드리오니 행사 참가 전에 미리 숙지하여 주시기 바랍니다.

행사기간 중 거리두기 등 방역관리 매뉴얼이 다소 불편하시더라도 안전한 행사 개최를 위함이니 협조를 부탁드립니다.

코로나19 방역 수칙



- 1 문자발송 될 온라인 문진표를 매일 참가 전 작성하여 제출해야 합니다.



- 6 참가자간 사회적 거리두기 1m 이상 간격을 유지합니다.



- 2 구글플레이스토어(안드로이드)/앱스토어(iOS)에서 '제주안심코드' 앱을 설치해야 합니다(제주 방문자 필수 사항이며 행사장 전 자출입 명부로 사용).



- 7 현장 참석인원 파악 및 제한을 위해 출입 시 QR코드를 스캔해주셔야 합니다.



- 3 행사 당일 코로나19 증상(발열, 기침, 인후통, 코막힘 등)이 의심되는 경우, 참석하지 않고 사무국으로 통보해야 합니다.



- 8 행사장 출입통로 일원화로 참석 인원의 동선이 제한됩니다.



- 4 마스크 미착용 시 입장이 불가하며, 행사장 내에서 악수 등 신체접촉과 대화를 자제합니다.



- 9 공용물품 및 집기류를 만진 후 손 씻기와 손 소독제 사용을 권고합니다.



- 5 행사장 2층 등록데스크에서 체온 측정을 하셔야 입장이 가능합니다.



- 10 행사참여 전후로 사람이 몰리는 곳을 피하고 관광활동을 자제 부탁드립니다.



II. 코로나19 방역 수칙 및 매뉴얼 안내

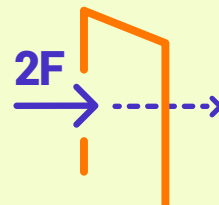
코로나19 방역에 따른 참가자 입장 절차

1



모바일 문진표 작성 및 제출

2



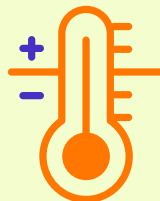
2층 등록처 입장

3



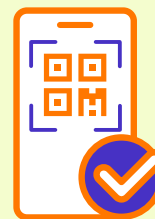
제주안심코드 스캔

4



발열 체크

5



사전 문자발송된 QR코드 준비

6



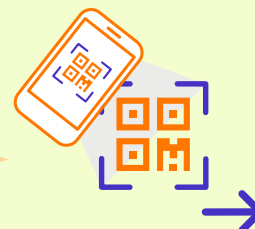
키오스크를 통한 명찰 tag 수령

7



방역용품, 경품교환권, 프로그램북
수령 및 체온측정 정상 스티커 부착

8



QR코드 스캔 후 행사장 입장

입장 예약시스템 안내



행사장 출입인원 제한에 따른 등록처 혼잡 최소화 및 대기참가자의 편의를 위해 입장예약 시스템을 운영합니다.

행사장 입장 인원이 초과되어 대기할 경우, 등록처에 마련된 입장예약시스템에 본인의 정보를 기재하여 예약하시면 대기번호가 발송되며, 번호순서에 따라 입장이 가능합니다.



III. 포스터 발표 안내

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

홈페이지
바로가기
→

2. Poster 발표는 코로나19 상황을 고려하여 4회의 교체 발표로 진행되오니,
해당 분야의 발표 날짜와 시간 등을 반드시 지켜주시기 바랍니다.
초록접수 시 부여된 번호와 최종 발표번호는 다를 수 있으므로 Poster 발표번호도 꼭 확인하시기
바랍니다.

3. Poster 크기 : 90cm (가로) × 150cm (세로)

4. 모든 Poster는 게시시간 종료 후 발표자가 직접 철거합니다.
(게시 종료 후 철거되지 않은 Poster는 사무국에서 일괄 철거 및 폐기합니다.)

Poster Category

PBM	Biochemistry · Molecular Biology
PNB	Natural Products · Bioactive Materials · Biomedical Sciences
PES	Environmental Sciences
PFS	Food Sciences
PAM	Applied Microbiology
PDD	Drug Development

Poster Presentation

Date	Category	PBM	PNB	PES	PFS	PAM	PDD
August 23 (Mon)	I 09:00-12:00	1-25	1-40	1-21	1-15	1-5	1-7
	II 14:10-17:10	26-50	41-80	22-42	16-30	6-10	8-14
August 24 (Tue)	III 09:00-12:00	51-75	81-120	43-63	31-45	11-15	15-21
	IV 14:40-17:40	76-99	121-155	64-85	46-61	16-22	22-29
Place		Lobby (8F)					



IV. 공지사항

1. 2021년도 학회상 수상자 명단

구분	성명 (소속)
제39회 학술상	배의영 교수 (서울대학교)
제11회 (基倉)기창과학상	강선철 교수 (대구대학교)
제23회 젊은과학자상	류형원 박사 (한국생명공학연구원)
제9회 ABCH 최우수논문상	정남현 교수 (고려대학교)
ABCH 우수논문상	장유신 교수 (경상대학교)
ABCH 우수편집위원장	김지연 교수 (서울과학기술대학교)
ABCH 최우수심사위원장	이지현 교수 (중앙대학교)
ABCH 우수심사위원장	정성근 교수 (경북대학교)
제16회 JABC 우수논문상	권혁우 교수 (극동대학교)
제31회 과학기술 우수논문상 (한국과총 시상) 추천	백남인 교수 (경희대학교)

구분	성명 (소속)
감사패	2020년도 회장 고병섭 박사 (한국한의학연구원)
	2020년도 운영위원장 장유신 교수 (경상대학교)

2. 등록비 안내

구분		회원		비회원	
		일반	학생	일반	학생
Early Bird (선등록 할인)	2021. 5. 10 - 6. 30	160,000	100,000	220,000	120,000
일반등록	2021. 7. 1 - 8. 16	180,000	110,000	250,000	140,000

※ 등록자만 발표장에 입장하실 수 있습니다.



IV. 공지사항

3. 현지 교통 및 숙소 안내

교통	교통정보 바로가기 →
* 행사장내 주차비 무료	
숙소	숙소정보 바로가기 →

4. 행사장 오시는 길

라마다프라자 제주호텔

주소 : 제주특별자치도 제주시 탑동로 66

연락처 : 064-729-8100

5. 경품 및 기념품

구분	상세내용	수량
경품	1등 아이패드 에어	1
	2등 블루투스 스피커	2
	3등 에어팟 프로	4
	4등 스타벅스 텀블러	10
	5등 스타벅스 충전카드 (만원권)	1~4등을 제외한 모든 참가자
기념품	미스트, 손 소독제	모든 참가자

2021
International Symposium
and Annual Meeting
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V. 발표논문일람



2021 International Symposium and Annual Meeting of the **KSABC**

Hosted by



Co-organized by



건국대학교
생명분자정보학센터



경북대학교
생물소재 특성화대학원 사업



식품의약품안전처
Ministry of Food and Drug Safety



한국과학기술연구원 강릉
천연물연구소



경북대학교
농산물품질·안전성평가연구소

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(사)한국농식품생명과학협회
THE KOREAN ASSOCIATION OF SCIENCES FOR
AGRICULTURE, FOOD, AND LIFE SCIENCES



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Plenary Lectures





Plenary Lectures

August 23 (Mon), Ramada Ballroom 1

Chair: Yonghoon Kwon (Seoul National University)



PL-1

10:20-11:00



NOBEL LAUREATE in Physiology or Medicine 2020

Controlling the HCV pandemic

Michael Houghton*

*Director, Li Ka Shing Applied Virology Institute,
Li Ka Shing Professor, Department of Medical Microbiology & Immunology,
7-126A Li Ka Shing Centre for Health Research Innovation,
University of Alberta, Edmonton, T6G 2E1, Canada*

August 24 (Tue), Ramada Ballroom 1

Chair: Heeyoun Bunch (Kyungpook National University)



PL-2

10:10-10:50

Hsp72 in mammary tumor growth, metastasis and response to treatment

Stuart K. Calderwood*

*Director of Molecular and Cellular Radiation Oncology,
Department of Radiation Oncology,
Beth Israel Deaconess Medical Center,
Harvard Medical School, Boston, MA 02215, USA*



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Special Lectures





Special Lectures

August 23 (Mon), Ramada Ballroom 1

Chair: Cheol-Ho Pan (KIST)



SL-1

13:00-13:30

Microbiome and Applied Biological Chemistry

Su-Il Kim*

*Professor Emeritus, College of Agriculture and Life Sciences, Seoul National University,
Member, The National Academy of Sciences, Republic of Korea*

August 23 (Mon), Ramada Ballroom 1

Chair: Hyejung Mok (Konkuk University)



SL-2

14:20-14:50

Natural Language Processing Problems and Application Systems

Harksoo Kim*

*Division of Computer Science and Engineering, Konkuk University, Seoul 05029,
Republic of Korea*



2021
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Award Lectures



Award Lectures

August 24 (Tue), Ramada Ballroom 1

Chair: Somi Kim Cho (Jeju National University)



AL-1

16:40-17:00

학술상 

Structural Biology of Bacterial Antiphage Defense Systems: CRISPR and Beyond

Euiyoung Bae*

Department of Agricultural Biotechnology, Seoul National University, Seoul 08826, Republic of Korea



AL-2

17:00-17:20

기창(基倉)과학상 

The 9-Mer Dimer Peptide CopA3 Effectively Modulates Cell Fate via Inhibition of p53-MDM2 Interaction to Ameliorate Gut inflammation and Abrogates Colorectal Tumorigenesis

Sun Chul Kang*, Debasish Kumar Dey

Department of Biotechnology, Daegu University, Jillyang, Naeri-ri Gyeongsan, Gyeongbuk 38453, Republic of Korea



2021
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Keynote Speakers



Keynote Speakers

August 23 (Mon), Ramada Ballroom 1

Chair: Namhyun Chung (Korea University)



KS-1 15:00-15:25

Culturomics-based analysis integrated with phylogenomics reveals the distinct metabolic deficiency of gut microbiota in ulcerative colitis

Jeong-Hoon Kim¹, Gi-Ung Kang², So-Yeon Yang³, Jung-Mo Lee⁴,
Jae-Ho Shin², Hong Koh⁵, Dong-Woo Lee^{1,4*}

¹Graduate Program in Bio-industrial Engineering, Yonsei University, Seoul 03722, Republic of Korea, ²Department of Applied Biosciences, Kyungpook National University, Daegu 41566, Republic of Korea, ³Department of Life Science and Biotechnology, Yonsei University, Seoul 03722, Republic of Korea, ⁴Department of Biotechnology, Yonsei University, Seoul 03722, Republic of Korea, ⁵Department of Pediatrics, College of Medicine, Yonsei University, Seoul 03722, Republic of Korea



KS-2 15:25-15:50

The way to true plant genome editing

Youngbin Oh, Hyunjin Kim, Sang-Gyu Kim*

Department of Biological Sciences, KAIST, Daejeon 34141, Republic of Korea



KS-3 15:50-16:15

Development of deubiquitinase USP15 inhibitors for Non-alcoholic fat liver diseases

Kyung-Hee Chun*

Department of Biochemistry and Molecular Biology, Yonsei University College of Medicine, Seoul 03722, Republic of Korea



KS-4 16:15-16:40

The strategic formulation studies using nanostructured lipid carriers for improving the convenience and therapeutic efficacy

Cheong-Weon Cho*

College of Pharmacy, Chungnam National University, Daejeon, Republic of Korea



August 23 (Mon), Ramada Ballroom 1

Chair: Jin Hyo Kim (Gyeongsang National University)



KS-5

16:50-17:15

Pharmabiotics for Gastric Illness and Plant Infection

Soon-Kyeong Kwon^{1,2*}, Min-Jung Kwak², Jae Kyung Yoon², Jun Chul Park³, Kwang H. Kim⁴, Seon-Woo Lee⁵, Ki Taek Nam⁴, Yong Chan Lee², Jihyun F. Kim²

¹Division of Life Science, Gyeongsang National University, Republic of Korea, ²Department of Systems Biology and Division of Life Sciences, Yonsei University, Republic of Korea, ³Department of Internal Medicine and Institute of Gastroenterology, Severance Hospital, Yonsei University College of Medicine, Republic of Korea, ⁴Severance Biomedical Science Institute, Yonsei University College of Medicine, Republic of Korea, ⁵Department of Applied Biology, Dong-A University, Republic of Korea



KS-6

17:15-17:40

Management policy of biological resources

Tae-Eun Jin^{*}

Korea Bioinformation Center, Korea Research Institute of Bioscience & Biotechnology, Daejeon 34141, Republic of Korea



KS-7

17:40-18:05

Building a biotech startup and the new plant cell culture technology

Jeong Hun Lee, Hyo Hyun Seo, Su Yoon Kim, Ji Yeon Kim, Sang Hyun Moh^{*}
Research Institute of Plant Cell, BIO-FD&C Co., Ltd, Incheon 21990, Republic of Korea



Symposia

S1	Biochemistry · Molecular Biology <i>Mechanisms & Methods for Cutting Edge Biological Discoveries</i>	026
S2	Natural Products	027
S3	Bioactive Materials · Biomedical Sciences <i>Emerging biomaterials in Red biotechnology</i>	027
S4	Environmental Sciences	028
S5	Food Sciences	029
S6	Applied Microbiology <i>Applications of microbiome for agricultural and environmental health</i>	030
S7	Agro-Bio Genome Editing <i>Crop Evolution by Genome Editing</i>	030
S8	Bio-Start up & Valuation	031
S9	KIST Session <i>Bringing happiness to mankind with natural products</i>	032
S10	Beyond Research 1. Company Showcase (COSMAX BTI) 2. Scientific Networking (KOSEN) 3. Research Center Showcase (ABC-RLRC) 4. Global R&D (KEIT)	033
S11	국내 잔류농약 안전관리 · 연구관리 현황	034
S12	Bio-health/innovative drug development using subtropical bio-resources	035



Symposia

S1 Biochemistry · Molecular Biology

Co-organized by



경북대학교
생물소재 특성화대학원 사업

August 24 (Tue), Ramada Ballroom 1

Chair: Choonkyun Jung (Seoul National University)

S1-1 13:00-13:25

Membrane components in the construction and maintenance of the root meristem

Keith Lindsey^{*}, Xiaoyan Gu, Kumari Fonseka, Eleri Short, Julien Agneessens, Jennifer Topping

Department of Biosciences, Durham University, Durham DH1 3LE, United Kingdom

S1-2 13:25-13:50

Single-cell enhancer identification reveals genetic mechanisms of human diseases

Akiko Oguchi^{1,2}, Akari Suzuki², Shuichiro Komatsu², Tomoko Kasahara³, Naoki Hirose³, Shruti Bhagat², Chikashi Terao², Kazuhiko Yamamoto², Yasuhiro Murakawa^{2,3,4,5*}

¹Department of Nephrology, Graduate School of Medicine, Kyoto University, Kyoto, Japan, ²RIKEN Center for Integrative Medical Sciences, Yokohama, Japan, ³Institute for the advanced study of human biology, Kyoto University, Kyoto, Japan, ⁴Department of Medical Systems Genomics, Graduate School of Medicine, Kyoto University, Kyoto, Japan, ⁵IFOM—the FIRC Institute of Molecular Oncology, Milan, Italy

S1-3 13:50-14:15

Plant image science (plant phenomics), a new tool for plant research

Do-Soon Kim^{1,2*}, Tae-Kyung Noh²

¹Department of Plant Science, Research Institute of Agriculture & Life Sciences, College of Agriculture & Life Sciences, Seoul National University, Republic of Korea, ²Department of Agriculture, Forestry, and Bioresources, College of Agriculture & Life Sciences, Seoul National University, Republic of Korea

S1-4 14:15-14:40

Introduction to freeze fracture transmission electron microscopy and its possible applications

Dong Ki Yoon^{*}

Department of Chemistry, KAIST, Daejeon 34141, Republic of Korea



S2 Natural Products

August 24 (Tue), Ramada Ballroom 2

Chair: Jae-Kwang Kim (Incheon National University)

S2-1 13:00-13:25

Next generation metabolite profiling: Novel sequential surface mass spectrometry-based brain tumour tissue analysis

Dong-Hyun Kim*

Director of the Centre for Analytical Bioscience, Advanced Materials and Healthcare Technologies Division, School of Pharmacy, University of Nottingham, UK

S2-2 13:25-13:50

Discovering and engineering the biosynthesis of medicinal monoterpenoid indole alkaloids from plants

Yang Qu*

Department of Chemistry and Department of Chemical Engineering, University of New Brunswick, NB, Canada

S2-3 13:50-14:15

Procurement and Utilization of Foreign Natural Products

Sangho Choi, Soo-Yong Kim, Jin-Hyub Paik*

Korea Research Institute of Bioscience and Biotechnology, 125 Gwahak-ro, Yuseong-gu, Daejeon 34141, Republic of Korea

S3 Bioactive Materials · Biomedical Sciences

August 24 (Tue), Ramada Ballroom 3

Chair: Kyungsu Kang (KIST Gangneung)

S3-1 13:00-13:25

Biomedical Textile Technologies for Tissue Engineering

Tae Hee Kim*

Advanced Textile R&D Department, Korea Institute of Industrial Technology, Ansan 15588, Republic of Korea



S3-2

13:25-13:50

Nanoformulation approaches for natural bioactive compounds and their biomedical applications

Hwa Seung Han¹, Song Yi Koo¹, Ki Young Choi^{1,2*}

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

S3-3

13:50-14:15

Curcumin ameliorates acrolein-induced pulmonary emphysema by inhibiting apoptosis of alveolar epithelial cells

Eun Hee Jo, Eun Moon, Moon Han Chang, Jin Hyup Lee*

Department of Food and Biotechnology, Korea University, Sejong, Republic of Korea

S4

Environmental Sciences

August 24 (Tue), Ramada Ballroom 4

Chair: Jin Hee Park (Chungbuk National University)

S4-1

13:00-13:25

Valorization of rice husk for the production of value added materials and bioenergy

Jin Hyung Lee*

Korea Institute of Ceramic Engineering and Technology, Cheongju 28160, Republic of Korea

S4-2

13:25-13:50

The adverse effects of dietary selenomethionine on brain and skeletal muscle in steelhead trout (*Oncorhynchus mykiss*)

Jang-Won Lee^{1*}, Jinsu Lee¹, Dong-Fang Deng², Kiyoun Kim³, Hyun Jin Jung⁴, Youngshik Choe⁴, Seung Hwa Park⁵, Minjung Yoon^{6*}

¹Department of Integrated Bioindustry, Sejong University, Seoul 05006, Republic of Korea, ²School of Freshwater Sciences, University of Milwaukee, WI, USA, ³Department of Medical Biotechnology, Soonchunhyang University, Asan 31538, Republic of Korea, ⁴Aging Neuroscience Research Group, Korea Brain Research Institute, Daegu 41068, Republic of Korea, ⁵Department of Anatomy, Konkuk University School of Medicine, Seoul 05029, Republic of Korea, ⁶Department of Horse, Companion and Wild Animal Science, Kyungpook National University, Sangju 37224, Republic of Korea



S4-3

13:50-14:15

Simultaneous Analysis of Pesticide Multiresidues in Complex Matrices

Yongho Shin^{1*}, Hyun Ho Noh², Eunyoung Park³, Jeong-Han Kim³

¹Department of Applied Biology, College of Natural Resources and Life Science, Dong-A University, Busan 49315, Republic of Korea, ²National Institute of Agricultural Sciences, Rural Development Administration, Wanju 55365, Republic of Korea, ³Department of Agricultural Biotechnology and Research Institute of Agriculture and Life Sciences, Seoul National University, Seoul 08826, Republic of Korea

S5

Food Sciences

August 24 (Tue), Mara Hall

Chair: Soon-Mi Shim (Sejong University)

S5-1

13:00-13:25

The Comparative Study on Immunomodulatory and Anti-allergic Effect of New *Glycyrrhiza* variety WONGAM and Official Compendia

Yun-Mi Kang¹, Jeong-Hoon Lee², Jonghyun Lee³, Wonnam Kim⁴, Jong-Sik Jin⁵, Hyo-Jin An^{1*}

¹Department of Pharmacology, College of Korean Medicine, Sangji University, 83 Sangjidae-gil, Wonju-si, Gangwon-do 26339, Republic of Korea, ²Department of Herbal Crop Research, NIHHS, Eumseong 27709, Republic of Korea, ³Department of Natural Medicine, College of Pharmacy, Dongduk Women's University, 60 Hwarang-ro 13-gil, Seongbuk-gu, Seoul 02748, Republic of Korea, ⁴Cnh Center for Cancer Research, Gangnam-gu, Seoul 06154, Republic of Korea, ⁵Department of Oriental Medicine Resources, Jeonbuk National University, 79 Gobong-ro, Iksan, Jeollabuk-do 54596, Republic of Korea

S5-2

13:25-13:50

Agriculture in the Post-Pandemic Era: Dissection of Gluten Genomic Region for Hypoallergenic Wheat by Multi-omics Analysis

Jong-Yeol Lee^{*}

National Institute of Agricultural Science, RDA, Jeonju 54874, Republic of Korea

S5-3

13:50-14:15

Beta-carotene prevent acute gout by suppressing NLRP3 inflammasome activation

Gabsik Yang^{1*}, Joo Young Lee²

¹College of Korean Medicine, Woosuk University, Jeonbuk 55338, Republic of Korea, ²College of pharmacy, The catholic university of Korea, Bucheon-si, Republic of Korea



S6

Applied Microbiology

August 24 (Tue), Ramada Ballroom 1

Chair: Jae-Ho Shin (Kyungpook National University)

S6-1

14:50-15:15

Sunlight-triggered electrical interplay between semiconducting minerals and microorganisms

Juan Liu*

College of Environmental Sciences and Engineering, Peking University, Beijing 100871, China

S6-2

15:15-15:40

Adaptation of methanotrophs to environmental changes and its biochemical implication to applications

Dongfei Han*

Chinese Academy of Agricultural Sciences (CAAS), Institute of Environment and Sustainable Development in Agriculture, Beijing, China

S6-3

15:40-16:05

Characterization of Microbial Diversity and Community Composition of Groundwater in the Geum River Basin, S. Korea

Dong-Hun Kim*, Kyoochul Ha

Groundwater Research Center, Korea Institute of Geoscience and Mineral Resources, Daejeon 34132, Republic of Korea

S7

Agro-Bio Genome Editing

August 24 (Tue), Ramada Ballroom 2

Chair: Jae-yeon Kim (Gyeongsang National University)

S7-1

14:50-15:15

Precision genome editing via gene targeting and subsequent marker excision in plants

Masaki Endo*

Institute of Agrobiological Sciences, National Agriculture and Food Research Organization, 3-1-3 Kannondai, Tsukuba 305-8604, Japan



S7-2

15:15-15:40

Applying CRISPR/Cas in plants: From gene editing to chromosome engineering

Holger Puchta*

Botanical Institute, Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany

S7-3

15:40-16:05

Virus-mediated genome editing of host factors in Solanaceous crops

Hwa-Jeong Kang¹, Seyoung Lee², Venkatesh Jelli², Byoung-Cheorl Kang^{1,2*}

¹Interdisciplinary Program in Agricultural Biotechnology, College of Agriculture and Life Sciences, Seoul National University, Seoul 08826, Republic of Korea, ²Department of Agriculture, Forestry and Bioresources, Research Institute of Agriculture and Life Sciences, Plant Genomics and Breeding Institute, College of Agriculture and Life Sciences, Seoul National University, Seoul 08826, Republic of Korea

S7-4

16:05-16:30

Customizing fruit crops for vertical farming by genome editing

Choon-Tak Kwon*

Department of Horticultural Biotechnology, Kyung Hee University, Yongin 17104, Republic of Korea

S8

Bio-Start up & Valuation

August 24 (Tue), Ramada Ballroom 3

Chair: Sang Hyun Moh (BIO-FD&C Co., Ltd)

S8-1

14:50-15:15

마이크로바이옴 기술 기반 창업과 도전

Hansoo Park^{1,2*}

¹Genome & Company, B-8F Silicon Park, 35 Pangyo-ro 255beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do 13486, Republic of Korea, ²Department of Biomedical Science and Engineering, Gwangju Institute of Science and Technology(GIST), 123 Cheomdangwagi-ro, buk-gu, Gwangju 61005, Republic of Korea

S8-2

15:15-15:40

성공적인 IPO를 위한 투자전략

이윤경*

DB금융투자 IB사업부 FAS본부 FAS팀



S8-3 15:40-16:05

Application, Challenge, and Start-up of genome editing technologies

Goo Jang^{1,2*}

¹College of Veterinary Medicine, Seoul National University, Republic of Korea,

²LARTBio Inc., Seoul, Republic of Korea

S8-4 16:05-16:30

IT 기업과 Biotech 기업의 사업구조 비교 및 위기 관리 방안

이혁준*

파티앱젠 대표이사

S9 KIST Session

August 24 (Tue), Ramada Ballroom 4

Chair: Dae-Geun Song (KIST Gangneung Institute of Natural Products)

S9-1 14:50-15:10

NP x M research platform: understanding the links between natural products, microbiome and health

Kwang Hyun Cha*

Natural Product Informatics Research Center, KIST Gangneung Institute of Natural Products

S9-2 15:10-15:30

Effects of *Chlorella vulgaris* in microbiome remodeling and immune tolerance in health and disease

Choong-Gu Lee*

Natural Product Informatics Research Center, KIST Gangneung Institute of Natural Products

S9-3 15:30-15:50

Application of biophotonics in natural material research for functional product development

Jin-Chul Kim*

Natural Product Informatics Research Center, KIST Gangneung Institute of Natural Products



S9-4

15:50-16:10

Development of biliverdin-binding near-infrared fluorescent proteins by computational protein design

Keunwan Park*

Natural Product Informatics Research Center, KIST Gangneung Institute of Natural Products

S9-5

16:10-16:30

BlueBell Innovation Program

Jaeyoung Kwon*

Natural Product Informatics Research Center, KIST Gangneung Institute of Natural Products

S10

Beyond Research

August 24 (Tue), Mara Hall

Chair: Moonhyuk Kwon (Gyeongsang National University)

S10-1

14:50-15:10

화장품 적용 마이크로바이옴 기술 연구 흐름과 개발 사례

Dong-Geol Lee*

R&I Center, COSMAX BTI, Seongnam, Republic of Korea

S10-2

15:10-15:30

KOSEN을 활용한 과학기술자 네트워킹

Jungsun Yoon*

Convergence Service Center, Korea Institute of Science and Technology, Daejeon 34141, Republic of Korea

S10-3

15:30-15:50

Anti-aging Bio Cell factory Research Center for an aging society

Seon-Won Kim*, Moonhyuk Kwon, Byung-Hoon Cho, Jae-Yean Kim, Kwang-Dong Kim

Division of Applied Life Science (BK21 Four), ABC-RLRC, PMBBRC, Gyeongsang National University, Jinju 52828, Republic of Korea



S10-4 15:50-16:10

KEIT 글로벌 R&D 지원센터 소개 및 주요 추진 업무현황

Byoung Jai Kim*

Korea Evaluation Institute of Industrial Technology

S10-5 16:10-16:30

산업부 바이오 R&D 프로그램과 글로벌 협력과제 성공전략

Sang Ho Lee*

College of Pharmacy, Jeju National University, Jeju 63243, Korea

S11 국내 잔류농약 안전관리·연구관리 현황

August 24 (Tue), Halla Hall

Chair: 신영민 (식품의약품안전처)

S11-1 09:05-09:35

스마트 해썹(HACCP) 확산을 통한 식품안전의 패러다임 전환

고지훈*

식품의약품안전처 식품안전인증과

S11-2 09:35-10:05

식품의약품안전처 2021년 소면적 재배 농산물의 농약 잔류허용기준 설정 연구

김장익¹, 경기성², 김태화³, 금영수⁴, 곽세연¹, 김동주², 채 석³, 유지우⁴

¹경북대학교 농업생명과학대학 응용생명과학부 환경생명화학전공, ²충북대학교 농업생명환경대학 환경생명화학학과, ³주분석기술과미래, ⁴건국대학교 생명환경과학대학 식량자원과학과

S11-3 10:05-10:35

Set-up of risk profiles for the elaboration of MRLs of veterinary drugs required for new evaluation or re-evaluation in process of MRL establishment

Ki-Hun Kim¹, Se-Jong Park², Jiyeon Jeong², Sang-Hee Jeong^{1*}

¹Biomedical Science Research Center, Department of Biomedical Laboratory Science, Hoseo University, Asan 31499, Republic of Korea, ²Residues and Contaminants Standard Division, Ministry of Food and Drug Safety, Osong 28159, Republic of Korea



S11-4 10:50-11:20

축산물 중 잔류물질 위해프로파일 구축 연구 (Ⅲ)

이지호^{1*}, 최 훈², 이광현¹, 김진찬¹, 강석현¹, 고락도¹, 심우종¹

¹한국건설생활환경시험연구원, 바이오본부, ²원광대학교 생명환경화학학과

S11-5 11:20-11:50

농·축·수산물의 잔류허용기준 체계 개편 방향

최 훈^{1,2*}

¹원광대학교 생물환경화학학과, ²원광대학교 생명자원과학연구소

S11-6 11:50-12:20

농식품 스타트업 지원 프로그램 및 푸드테크 스타트업 사례

송용준^{*}

건국대학교 컴퓨터공학부

S12 Bio-health/innovative drug development using subtropical bio-resources

August 24 (Tue), Halla Hall

Chair: Young-Ok Son (Jeju National University)

S12-1 13:00-13:20

Expanded physiological function of ammonia-oxidizing archaea from Nitrosocosmicus oleophilus

Man-Young Jung^{1,2*}

¹Department of Biology Education, Jeju National University, 102 Jejudaehak-ro, Jeju 63243, Republic of Korea, ²Interdisciplinary Graduate Program in Advance Convergence Technology and Science, Jeju National University, 102 Jejudaehak-ro, Jeju 63243, Republic of Korea

S12-2 13:20-13:40

Role of Adipokines in Pathogenesis of Osteoarthritis-an *in-vitro* Approach

Dahye Kim^{*}

Department of Animal Biotechnology, Faculty of Biotechnology, College of Applied Life Sciences, Jeju National University, Jeju Special Self-Governing Province 63243, Republic of Korea



S12-3

13:40-14:00

Determination of novel Anthraquinones, Quantification and Enzyme Modulation of *Bulbine natalensis* Baker

Ji-Yeong Bae*

College of Pharmacy, Jeju Research Institute of Pharmaceutical Sciences and Interdisciplinary Graduate Program in Advanced Convergence Technology & Science, Jeju National University, Jeju 63243, Republic of Korea

S12-4

14:00-14:20

Application of GSK5182 as a Therapeutic Drug for Osteoarthritis

Young-Ok Son^{1,2,3,4*}

¹Department of Animal Biotechnology, Faculty of Biotechnology, Jeju National University, Jeju Special Self-Governing Province 63243, Republic of Korea,

²Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju Special Self-Governing Province 63243, Republic of Korea, ³Bio-Health Materials Core-Facility Center, Jeju National University, Jeju Special Self-Governing Province 63243, Republic of Korea,

⁴Practical Translational Research Center, Jeju National University, Jeju Special Self-Governing Province 63243, Republic of Korea

S12-5

14:50-15:05

Carbonic anhydrases on cartilage degenerations

Yunhui Min*

Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju Special Self-Governing Province 63243, Republic of Korea

S12-6

15:05-15:20

Rapid Assessment of Functional Roles of Genes in Regulation of Leaf Senescence in Arabidopsis Protoplasts

Phan Phuong Thao Doan*

Interdisciplinary Graduate Program in Advanced Convergence Technology & Science, Jeju National University, Jeju 63243, Republic of Korea

S12-7

15:20-15:35

***Sargassum horneri* containing phenolics attenuate PM-induced apoptosis through suppressing oxidative stress in allergic asthma mice**

Hyo Jin Kim*

Department of Food Bioengineering, Jeju National University, Jeju 63243, Republic of Korea



S12-8

15:35-15:50

Ampelopsin Attenuates Stem Cell Properties and Oxidative Phosphorylation in Therapy-resistant MDA-MB-231 Breast Cancer Cells

Vi Nguyen-Phuong Truong*

Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju Special Self Governing Province 63243, Republic of Korea

S12-9

15:50-16:05

Metal ion on cartilage degenerations

Godagama Gamaarachchige Dinesh Suminda*

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

S12-10

16:05-16:20

Dihydroconiferyl ferulate purified from *Dendropanax morbiferus* suppresses breast cancer stem cells via nEGFR/Stat3/c-Myc signaling

Yu-Chan Ko*

Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju 63243, Republic of Korea



2021
International Symposium
and Annual Meeting
of the **KSABC**

Young Scientist Presentation

YS1

Biochemistry · Molecular Biology

039

YS2

Natural Products · Bioactive Materials ·
Biomedical Sciences

040

YS3

Environmental Sciences

041

YS4

Food Sciences

042

YS5

Applied Microbiology

043



Young Scientist Presentation

YS1

Biochemistry · Molecular Biology

August 24 (Tue), Ramada Ballroom 1

Chair: Byoung Il Je (Pusan National University)

YS1-1

09:00-09:20

The study of calorie restriction-mediated lifespan extension using *C. elegans*

Sungjin Kim^{1,2*}, Bowen Yang², Denis Titov²

¹Department of Microbiology & Molecular Biology, Chungnam National University, Daejeon, Republic of Korea, ²Department of Molecular and Cell Biology, University of California at Berkeley, Berkeley CA 94720, USA

YS1-2

09:20-09:40

Anticancer Mechanism of Diplacone Isolated from *Paulownia tomentosa*: Ferroptosis for Immunogenic Cell Death

Myung-Ji Kang¹, Hyung Won Ryu¹, Eun Sol Oh^{1,2}, Yu Na Song^{1,2}, Ro Woon Lee^{1,2}, Sunin Jung¹, Doo-Young Kim¹, Hyunju Ro², Sei-Ryang Oh¹, Su Ui Lee^{1*}, Mun-Ock Kim^{1*}

¹Natural Medicine Research Center, Korea Research Institute of Bioscience and Biotechnology (KRIBB), Cheongju, Chungbuk 28116, Republic of Korea, ²Department of Biological Sciences, College of Bioscience and Biotechnology, Chungnam National University, Daejeon 34134, Republic of Korea

YS1-3

09:40-10:00

Polymer mimics of natural polyphenols and their applications

Kyueui Lee^{*}

Department of Chemistry, Kyungpook National University, Daegu 41566, Republic of Korea



YS2

Natural Products · Bioactive Materials · Biomedical Sciences

August 24 (Tue), Ramada Ballroom 2

Chair: Seung Joon Baek (Seoul National University)

YS2-1

09:00-09:20

Induced CICD by downregulation of ESRP1 drives Colorectal Cancer Cell death

Yellamandayya Vadlamudi, Sun Chul Kang*

Department of Biotechnology, Daegu University, Gyeongsan, Gyeongbuk 38453, Republic of Korea

YS2-2

09:20-09:40

New Insight of Perspective Importance of Standardization in Processing Method by Korean Traditional Medicines

Yuseong Chung¹, 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

YS2-3

09:40-10:00

Potential anti-skin aging effect of antioxidants from natural products

Sullim Lee*

Department of Life Science, College of Bio-Nano Technology, Gachon University, Seongnam 13120, Republic of Korea



YS3

Environmental Sciences

August 24 (Tue), Ramada Ballroom 3

Chair: Eun Hea Jho (Chonnam National University)

YS3-1

09:00-09:20

Biological Production and Mechanism of C₆-C₈ Medium-Chain Carboxylic Acids (MCCAs)

Byoung Seung Jeon^{1*}, Kurt Gemeinhardt², Jin Hyung Lee³, Wang Han², Hyunjin Kim³, Yong-In Kim⁴, Jinhwan Lee⁴, Byoung-In Sang³, Largus T. Angenent²

¹Center of Convergence Bioceramic Materials, Korea Institute of Ceramic Engineering & Technology, Osong 28160, Republic of Korea, ²Centrum for Applied GeoSciences, University of Tübingen, Tübingen 72076, Germany, ³Department of Chemical engineering, Hanyang University, Seoul 04763, Republic of Korea, ⁴Center for Bioanalysis, Korea Research Institute of Standards and Science, Daejeon 34113, Republic of Korea

YS3-2

09:20-09:40

***In situ* formation of Fe oxides as a risk mitigation measure of arsenic-contaminated soil and its stability in terms of chemical extractability and biological responses**

Jinsung An^{*}

Department of Biological and Environmental Engineering, Semyung University, 65 Semyung-ro, Jecheon-si, Chungcheongbuk-do 27136, Republic of Korea

YS3-3

09:40-10:00

Novel Ecological Assessment Approach based on the Phenotypic Features of Groundwater Microbiome

Jin-Kyung Hong, Soo Bin Kim, Bo Ram Kang, Jee Hyun No, Gui Nam Wee, Eun Sun Lyoo, Tae Kwon Lee^{*}

Division of Environmental Energy Engineering, Yonsei University, Republic of Korea



YS4

Food Sciences

August 24 (Tue), Ramada Ballroom 4

Chair: Jong-Suep Baek (Kangwon National University)

YS4-1

09:00-09:20

***Carica papaya* leaf extract inhibits prostatitis-associated prostatic hyperplasia via the TRAF6/TAK1/MEK/NF- κ B pathway**

Bo-Ram Jin, Hyo-Jin An*

*Department of Pharmacology, College of Korean Medicine, Sangji University,
83 Sangjidae-gil, Wonju-si, Gangwon-do 26339, Republic of Korea*

YS4-2

09:20-09:40

Novel technology for enhanced bioavailability and sustained therapeutic effects of natural products

Suji Ryu^{1,2}, Jong-Suep Baek^{1,2*}

¹Department of Bio-Health Convergence, Kangwon National University, Chuncheon 24341, Republic of Korea, ²Department of Herbal Medicine Resource, Kangwon National University, Samcheok-si 25949, Gangwon-do, Republic of Korea

YS4-3

09:40-10:00

Heme oxygenase-1 induced by desoxo-narchinol-A attenuated the severity of acute pancreatitis via blockade of neutrophil infiltration

Gi-Sang Bae^{1,2,†}, Dong-Gu Kim^{2,3,†}, Il-Joo Jo^{1,4}, Sun-Bok Choi^{1,2}, Myoung-Jin Kim¹, Joon Yeon Shin¹, Dong-Uk Kim¹, Ho-Joon Song¹, Myungsoo Joo⁵, Sung-Joo Park^{1,2*}

¹Department of Herbology, School of Oriental Medicine, Wonkwang University, Iksan, Jeonbuk 54538, Republic of Korea, ²Hanbang Cardio-Renal Syndrome Research Center, Wonkwang University, Iksan, Jeonbuk 54538, Republic of Korea, ³Department of Oriental Medicine Resources, Jeonbuk National University, 79 Gobong-ro, Iksan, Jeolla-buk-do 54596, Republic of Korea, ⁴Division of Beauty Sciences, School of Natural sciences, Wonkwang University, Iksan, Jeonbuk 54538, Republic of Korea, ⁵School of Korean Medicine, Pusan National University, Yangsan 50621, Republic of Korea



YS5

Applied Microbiology

August 24 (Tue), Mara Hall

Chair: Ji-Hoon Lee (Chonbuk National University)

YS5-1

09:00-09:20

Microbiome Dynamics in Freshwater Impacted by Cyanobacterial Blooms and the effects of Cyanotoxins in the Agricultural Environment and Public Health

Seung Jun Lee^{1*}, Morgan V. Evans², Molly C. Mills², Ji Young Lee²

¹Department of Food Science and Nutrition, College of Fisheries Science, Pukyong National University, Busan 48513, Republic of Korea, ²Division of Environmental Science, College of Public Health, Ohio State University, Columbus 43210, USA

YS5-2

09:20-09:40

Cold-Adapted Denitrifying Bacteria in Woodchip Bioreactors

Jeonghwan Jang^{1*}, Emily L. Anderson², Satoshi Ishii^{2,3}

¹Division of Biotechnology, Jeonbuk National University, Iksan, Republic of Korea, ²Department of Soil, Water, and Climate, University of Minnesota, St. Paul, MN, USA, ³BioTechnology Institute, University of Minnesota, St. Paul, MN, USA

YS5-3

09:40-10:00

Stabilization of microbial carbonic anhydrase for CO₂ capture and utilization

Byung Hoon Jo^{*}

Division of Life Science and Research Institute of Life Science, Gyeongsang National University, Jinju 52828, Republic of Korea



2021
International Symposium
and Annual Meeting
of the **KSABC**

Graduate Student Presentation



Graduate Student Presentation

August 23 (Mon), Ramada Ballroom 1

Chair: Heeyoun Bunch (Kyungpook National University)

GS-1

11:00-11:05

Characterization of two novel family IV esterases and a family VIII esterase from compost metagenomic library

Jong Eun Park, Geum Seok Jeong, Hyun Woo Lee, Hoon Kim*

Department of Pharmacy, and Research Institute of Life Pharmaceutical Sciences, Sunchon National University, Suncheon 57922, Republic of Korea

GS-2

11:05-11:10

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, Republic of Korea

GS-3

11:10-11:15

BRCA1-BARD1 regulates transcription through modulating topoisomerase II β

Jae Hyeon Jeong¹, Keun Soo Kang², Doo Sinjo Jo³, Anh Tq Cong⁴,
Dong Uk Kim⁵, Deuk Yeong Kim⁵, Dong Hyung Cho⁶,
Matthew Jschellenberg Schellenberg⁴, Stuart K. calderwood Calderwood⁷,
Benjamin P.c. Chen⁸, Heeyoun Bunch^{1,5*}

¹Department of Applied Biosciences, College of Agriculture and Life Sciences, Kyungpook National University, Daegu 41566, Republic of Korea, ²Department of Microbiology, College of Natural Sciences, Dankook University, Cheonan 31116, Republic of Korea, ³Brain Science and Engineering Institute, Kyungpook National University, Daegu 41566, Republic of Korea, ⁴Department of Biochemistry and Molecular Biology, Mayo Clinic, Rochester, MN 55905, USA, ⁵School of Applied Biosciences, College of Agriculture and Life Sciences, Kyungpook National University, Daegu 41566, Republic of Korea, ⁶Department of Life Science, College of Natural Science, Kyungpook National University, Daegu 41566, Republic of Korea, ⁷Department of Radiation Oncology, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts 02115, USA, ⁸Department of Radiation Oncology, University of Texas Southwestern Medical Center, Dallas, Texas 75390, USA



GS-4

11:15-11:20

***Atfcp1* mutations develop a huge fasciation and bifurcation of SAM**

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, Republic of Korea

GS-5

11:20-11:25

CopA3 Treatment Induces Cell Cycle Arrest at G1 Phase and Promotes Senescence in Colorectal Cancer Cells

Debasish Kumar Dey, Sun Chul Kang*

Department of Biotechnology, Daegu University, Gyeongsan 38453, Republic of Korea

GS-6

11:25-11:30

p-Coumaric Supplementation Prevents High Fat and High Sucrose-Mediated Hepatic Inflammation and Fibrosis

Truong Thi My Tien^{1,2}, Seok Hee Seo¹, Inhae Kang^{1,2*}

¹Department of Food Science and Nutrition, Jeju National University, Jeju 63243, Republic of Korea, ²Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju Special Self-Governing Province 63243, Republic of Korea

GS-7

11:30-11:35

Nano-encapsulated quercetin by polysaccharide enhances anticancer, anti-inflammation and antioxidant activities

Hyunjin Moon¹, Pattawika Lertpatipanpong¹, Yukyung Hong¹, Chong-Tai Kim², Seung Joon Baek^{1*}

¹Laboratory of signal transduction, College of Veterinary Medicine, Seoul National University, Seoul, Republic of Korea, ²R&D Center, EastHill Co. 33, Omokcheon-ro 132 beon-gil, Gwonseon-gu, Suwon-si, Gyeonggi-do, Republic of Korea

GS-8

11:35-11:40

Phytochemical Constituents from *Salvia plebeia* and Chemical Profiling of Three *Salvia* Species

Leo Adrienne Paje, Jung Won Choi, Hak-Dong Lee, Juree Kim, Sanghyun Lee*

Department of Plant Science and Technology, Chung-Ang University, Anseong 17546, Republic of Korea



August 23 (Mon), Ramada Ballroom 1

Chair: Dong-Sung Lee (Chosun University)

GS-9

13:30-13:35

Various Applications of Cancer cell-derived Vesicles for Antitumor Therapies

Ji Hyeon Song, Hee Sun Jung, Hye Jung Mok*

Department of Bioscience and Biotechnology, Konkuk University, Seoul 05029, Republic of Korea

GS-10

13:35-13:40

Subcritical water extraction of *Gracilaria chorda* improves insulin resistance in *in vitro* and *in vivo* models

Laxmi Sen Thakuri^{1,2}, Chul Min Park^{1,3}, Jin Yeong Choi^{1,2}, Jung Eun Kim¹, Dong Young Rhyu^{1,2*}

¹Department of Nutraceutical Resources, Institute of Korean Medicine Industry, 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, ³Inhalation Toxicity Research Group, Korea Institute of Toxicology, Jeongeup-si, Jeollabuk-do 56212, Republic of Korea

GS-11

13:40-13:45

Red maca (*Lepidium meyenii* Walp) extract enhance myogenesis through AKT/p38 pathway and attenuate dexamethasone induced muscle atrophy

Jong Beom Chae, Hunseong Kim, Dongyup Hahn, Ju-Ock Nam*

Department of Food Science and Biotechnology, Kyungpook National University, Daegu 41566, Republic of Korea

GS-12

13:45-13:50

Metabolomic Analysis for Shikimate Metabolites in the Flowers of *Coreopsis lanceolata* Grown in Different Environments

Hyoung-Geun Kim¹, Seon Min Oh¹, Nguyen Trong Nguyen¹, Bo-Ram Choi², Hyun-Ji Oh¹, Dahye Yoon², Dae Young Lee¹, Nam-In Baek^{1*}

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



GS-13

13:50-13:55

Multi-platform Metabolomics for Discrimination of *Acnathopanax* spp. and Metabolic Profiling of Liver Tissue in Obese Mice Treated with *A. sessiliflorus* Fruits

Bo-Ram Choi^{1,2}, Dahye Yoon¹, Hyoung-Geun Kim², Young Seob Lee¹, Yunji Lee¹, Kyung-Sook Han¹, Nam-In Baek², 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 and Department of Oriental Medicine Biotechnology, Kyung Hee University, Yongin 17104, Republic of Korea

GS-14

13:55-14:00

A Study on Itch Improvement of C-phycocyanin Using a Zebrafish model

Min-Seung Kim, Jae-Chan Yang, Hee-Jin Kim, Bo Ae Kim*

Department of Cosmetics, Mokwon University, Doanbuk-ro 88, Republic of Korea

GS-15

14:00-14:05

Optimization of Laccase Mediator System (LMS) for the Biocatalytic Removal of a Metabolite 3,5-dichloroaniline derived from Dicarboximide Fungicides

Aniruddha Sarker, Sang-Hyeob Lee, Se-Yeon Kwak, Rakhi Nandi, Jang-Eok Kim*

School of Applied Biosciences, College of Agriculture and Life Sciences, Kyungpook National University, Daegu 41566, Republic of Korea

GS-16

14:05-14:10

Fe(II)-doped Activated Biochar Sorbents Triggers Mitochondria dysfunction with Oxidative stress in *Daphnia magna*

Song-Hee Lee¹, Eun Hea Jho^{2*}, Soo-Im Shin^{1*}

¹Interdisciplinary Program of Bioenergy and Biomaterials Graduate School, 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



August 24 (Tue), Ramada Ballroom 1

Chair: Tatsuya Unno (Jeju National University)

GS-17

10:50-10:55

Effect of Reducing the Uptake of Endosulfan in Crops by Soil Amendments Treatment

Se-Yeon Kwak, Sang-Hyeob Lee, Dong-Ju Lee, Ye-Jin Heo, Jae-Won Choi,
Ji-Eun Oh, Jang-Eok Kim*

School of Applied Biosciences, Kyungpook National University, Daegu 41566, Republic of Korea

GS-18

10:55-11:00

Development and validation Simultaneous multiplexing detection method of 21 allergenic foods with LC/MS

Kyung-Do Kim, Zee-Yong Park*

Department of Life Science, Gwangju Institute of Science and Technology, 1 Oryong-dong, Buk-gu, Gwangju 61005, Republic of Korea

GS-19

11:00-11:05

Development of a Single Sample-Preparation Method for Simultaneous Analysis of Prothioconazole and Prothioconazole-desthio in Six Different Livestock Products

Seon Wook Kim, Da Jung Lim, Ji Hyun Yoon, In Seon Kim*

Department of Agricultural Chemistry, Chonnam National University, Yongbongro-77, Gwangju, Republic of Korea

GS-20

11:05-11:10

Entric-coated solid lipid nanoparticles for protection and targeted delivery of potentilla chinensis

Su Ji Ryu, Jong-Suep Baek*

Department of Bio-Health Convergence, Kangwon National University, Chuncheon 23431, Republic of Korea



GS-21

11:10-11:15

Whole Genome Sequencing of *Metschnikowia persimmonesis*, a novel endophytic yeast species isolated from Korean Medicinal Plant *Diospyros kaki* Thunb.

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

GS-22

11:15-11:20

Effects of dietary interventions in response to the individual gut microbiota of users as demonstrated by the *in vitro* model of beef

Vineet Singh, Youn-Chul Ryu, Tatsuya Unno*

Faculty of Biotechnology, School of Life Sciences, SARI, Jeju National University, Jeju 63243, Republic of Korea

GS-23

11:20-11:25

Soil Micro-and Mycobiome and Climate Factors Are Associated with the Decline of Korean Firs (*Abies koreana*) in Regions of Jeju Mt. halla, Jeju Island, Korea

Minsoo Jeong¹, Min-Ji Kim¹, Setu Bazie Tagele¹, Da-Ryung Jung¹, Young Jae Jo¹, Yeong-Jun Park¹, Jae-Ho Shin^{1,2*}

¹Department of Applied Biosciences, Kyungpook National University, Daegu 41566, Republic of Korea, ²Department of Biomedical Convergence Science & Technology, Kyungpook National University, Daegu 41566, Republic of Korea

GS-24

11:25-11:30

Characterization of Prophage Like Sequences Encoding Antibiotic Resistance in Multidrug Resistant Bacteria

Adeel Farooq, Tatsuya Unno*

Faculty of Biotechnology, School of Life Sciences, SARI, Jeju 63243, Republic of Korea



2021
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Poster Presentation

PBM

Biochemistry · Molecular Biology

053

PNB

Natural Products · Bioactive Materials ·
Biomedical Sciences

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PES

Environmental Sciences

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PFS

Food Sciences

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PAM

Applied Microbiology

121

PDD

Drug Development

125



Poster Presentation

Poster Category

PBM	Biochemistry · Molecular Biology
PNB	Natural Products · Bioactive Materials · Biomedical Sciences
PES	Environmental Sciences
PFS	Food Sciences
PAM	Applied Microbiology
PDD	Drug Development

Poster Presentation

<i>Date</i>		<i>Category</i>	PBM	PNB	PES	PFS	PAM	PDD
August 23 (Mon)	I	09:00-12:00	1-25	1-40	1-21	1-15	1-5	1-7
	II	14:10-17:10	26-50	41-80	22-42	16-30	6-10	8-14
August 24 (Tue)	III	09:00-12:00	51-75	81-120	43-63	31-45	11-15	15-21
	IV	14:40-17:40	76-99	121-155	64-85	46-61	16-22	22-29
Place			Lobby (8F)					



PBM

Biochemistry · Molecular Biology

PBM-1

The effect of 42 amino acids long amyloid- β peptides on *Arabidopsis* plants

Hangyeol Lee, Ji Woo Kim, Jeong Hwan Lee*

Division of Life Sciences, Jeonbuk National University

PBM-2

Molecular analysis of soyasaponin biosynthetic genes in two soybean (*Glycin max* (L.) Merr.) cultivars

Young Jae Yun, Jeong Hwan Lee*

Division of Life Sciences, Jeonbuk National University

PBM-3

Isolation and functional characterization of a floral activator, *BcSOC1*, from Pak-choi (*Brassica rapa* ssp. *chinensis*)

Eun Bin Choi, Young-Cheon Kim, Jeong Hwan Lee*

Division of Life Sciences, Jeonbuk National University

PBM-4

Isolation and functional characterization of a floral activator, *BcFT*, from Pak-choi (*Brassica rapa* ssp. *chinensis*)

Hwa Hyun Jung, Young-Cheon Kim, Jeong Hwan Lee*

Division of Life Sciences, Jeonbuk National University

PBM-5

Development of late flowering lettuce (*Lactuca sativa* L.) by CRISPR/Cas9-mediated *LsFT* and *LsSOC1* editing

Young Jae Yun, Jeong Hwan Lee, Young-Cheon Kim*

Division of Life Sciences, Jeonbuk National University

PBM-6

Molecular characterization and expression analysis of a gene encoding an isoamylase-type starch debranching enzyme 3 in grain amaranths

Young-Jun Park*

Rural Research Institute, Korea Rural Community Corporation

PBM-7

Molecular Cloning, Expression and Characterization of a gene encoding a Squalene Synthase in grain amaranths

Young-Jun Park*

Rural Research Institute, Korea Rural Community Corporation

PBM-8

***BcFT* and *BcTCP* edited Pak-choi (*Brassica rapa* ssp. *chinensis*) by CRISPR/Cas9 system**

Hwa Hyun Jeong, Young-Cheon Kim, Jeong Hwan Lee*

Division of Life Sciences, Jeonbuk National University



PBM-9 ***BcSOC1* and *BcPIF4* edited Pak-choi (*Brassica rapa* ssp. *chinensis*) by CRISPR/Cas9 system**

Eun Bin Choi, Young-Cheon Kim, Jeong Hwan Lee*

Division of Life Sciences, Jeonbuk National University

PBM-10 **Characterization of two novel family IV esterases and a family VIII esterase from compost metagenomic library**

Jong-Eun Park, Hoon Kim*

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

PBM-11 **Effects of treatment of riboflavin phosphate with blue light irradiation to the skin on mechanical properties**

Seo Young Kim, Jae Hak Kim, Hyun Jong Lee*

Department of Chemical and Biomolecular Engineering, Gachon University, Seongnam 13120, Republic of Korea

PBM-12 **Collagen photocrosslinking by riboflavin phosphate activation for skin elasticity enhancement**

Jae Hak Kim, Seo Young Kim*, Hyeong Jong Lee*

Department of Chemical and Biomolecular Engineering, Gachon University, Seongnam 13120, Republic of Korea

PBM-13 ***Amorpha fruticosa* L. root extract inhibits pigmentation through melanosome autophagy in B16F10 cell**

Si Hyeon Lee, Kwang Dong Kim*

Division of Applied Life Science, Gyeongsang National University

PBM-14 **Light-regulated GATA transcription factor involved in biomass production**

Byeonggyu Kim¹, Kihwan Kim², Juhung Shin¹, Ji-Bum Seo², Tae-An Kang², Won-Chan Kim^{1,2*}

¹*Department of Integrative Biology, Kyungpook National University*, ²*Department of Applied Biosciences, Kyungpook National University*

PBM-15 **Transcriptome analysis of two different rice (*Oryza sativa* L.) traits related with pre-harvest sprouting**

Chanseok Shin^{1,2*}, Woochang Choi¹, Minsu Park¹, Sang-Yoon Shin¹, Hongman Moon¹, Dowhan Lee¹

¹*Department of Agricultural Biotechnology, Seoul National University*, ²*Research Center for Plant Plasticity, Seoul National University*



PBM-16

Transcriptome profiling of organs reveals differential expressions of innate immune response, detoxification and sex-determination genes in *Apis cerana*

Chanseok Shin^{1,2*}, Igojo Kang¹, Woochang Choi¹

¹Department of Agricultural Biotechnology, Seoul National University, ²Research Center for Plant Plasticity, Seoul National University

PBM-17

Structure and function of anti-CRISPR AcrIF7

Jasung Koo, Iktae Kim, So Young An, Jeong-Yong Suh, Euiyoung Bae*

Department of Agricultural Biotechnology, Seoul National University

PBM-18

Molecular Characterization of FLOWERING LOCUS T in *Platycodon grandiflorus*

Gayeon Kim, Hyunwoo Cho, Tae Kyung Hyun*

Department of Industrial Plant Science and Technology, College of Agricultural, Life and Environmental Sciences, Chungbuk National University

PBM-19

Structure and function of Thoeris defense proteins in bacteria against phage infection

Hyejin Oh, Euiyoung Bae*

Department of Agricultural Biotechnology, Seoul National University

PBM-20

Comparative Transcriptome Analysis of Spinach in Response to Insect Herbivory

Jiwon Kim¹, Reniel S. Pamplona¹, Jang Won Lee², Chang Sook Kim¹, Kyung-Hwan Boo^{1,3*}

¹Department of Biotechnology, College of Applied Life Science (SARI), Jeju National University, Jeju 63243, South Korea, ²Department of Integrated Bio-industry, Sejong University, Seoul 05006, South Korea, ³Subtropical/Tropical Organism Gene Bank, Jeju National University, Jeju 63243, South Korea

PBM-21

Development of wet-injury detection method for soybeans under flooding stress

Ji-Bum Seo¹, Kihwan Kim¹, Byeonggyu Kim², Juhyung Shin², Tae-An Kang¹, Won-Chan Kim^{1,2*}

¹Department of Applied Biosciences, Kyungpook National University, ²Department of Integrative Biology, Kyungpook National University

PBM-22

Anti-inflammatory Activity of Mongolian medicinal crops in LPS-induced RAW 264.7 Macrophages

Se Hui Lee, Mi-Rae Shin, Seong-Soo Roh*

Department of Herbology, College of Korean Medicine, Daegu Haany University



PBM-23

Analysis of saponarin content and biosynthetic genes of 8 varieties of barley sprout

HanGyeol Lee^{1,2}, Jeong Hwan Lee², Mi-Ja Lee¹, Hyun Young Kim¹,
Seung-Yeob Song¹, Woo Duck Seo^{1*}

¹Division of Crop Foundation, National Institute of Crop Science, Rural Development Administration, Jeollabuk-do 55365, Republic of Korea, ²Division of Life Sciences, Jeonbuk National University, 567 Baekje-daero, Deokjin-gu, Jeonju, Jeollabuk-do 54896, Republic of Korea

PBM-24

Various phytohormones affect ethylene biosynthesis in etiolated Arabidopsis and rice seedlings

Han Yong Lee^{*}

Department of Biology Science, College of Nature Science, Chosun University

PBM-25

Negative regulation of CIN-like TCP transcription factors by HANABA TARANU

Juhyung Shin¹, Kihwan Kim², Byeonggyu Kim¹, Tae-An Kang², Ji-Bum Seo²,
Won-Chan Kim^{1,2*}

¹Department of Integrative Biology, Kyungpook National University, ²Department of Applied Biosciences, Kyungpook National University

PBM-26

ZmPLA1 homolog, a novel candidate gene involved in haploid production of agricultural useful crops

Jin Hoon Jang^{1,2}, Yu-Jin Kim³, Ok Ran Lee^{1,2*}

¹Department of Applied Plant Science, College of Agriculture and Life Science, Chonnam National University, Gwangju 61186, Republic of Korea, ²Interdisciplinary Program in IT-Bio Convergence System, Chonnam National University, Gwangju 61186, Republic of Korea, ³Department of Life Science and Environmental Biochemistry, Pusan National University, Miryang 50463, Republic of Korea

PBM-27

The recent trends of haploid plant production by genome engineering

Jin Hoon Jang^{1,2}, Ok Ran Lee^{1,2*}

¹Department of Applied Plant Science, College of Agriculture and Life Science, Chonnam National University, Gwangju 61186, Republic of Korea, ²Interdisciplinary Program in IT-Bio Convergence System, Chonnam National University, Gwangju 61186, Republic of Korea

PBM-28

Maize phospholipase1 homolog, a valuable tool for doubled haploid production in tomato

Hae Seong Seo^{1,2}, Jin Hoon Jang^{1,2}, Chul Min Kim³, Ok Ran Lee^{1,2*}

¹Department of Applied Plant Science, College of Agriculture and Life Science, Chonnam National University, Gwangju 61186, Republic of Korea, ²Interdisciplinary Program in IT-Bio Convergence System, Chonnam National University, Gwangju 61186, Republic of Korea, ³Division of Horticulture Industry, Wonkwang University, Iksan 54538, Republic of Korea



PBM-29

Real-Time PCR detection method of Mealworm (*Tenebrio molitor*) using the allergen coding gene analysis

Hong-Rae Kim¹, Seung-Man Suh¹, Jeon Hwang-bo², Hae-Yeong Kim^{1*}

¹Department of Food Science and Biotechnology, Kyung Hee University, Yongin, Korea, ²Department of Genetic Engineering, Kyung Hee University, Yongin, Korea

PBM-30

Simultaneous detection of edible-insect using multiplex PCR

Seung-Man Suh¹, Hong-Rae Kim¹, Jeon Hwang-bo², Hae-Yeong Kim^{1*}

¹Department of Food Science and Biotechnology, Kyung Hee University, Yongin, Korea, ²Department of Genetic Engineering, Kyung Hee University, Yongin, Korea

PBM-31

A Platform for Utilizing Bio Research Data: National Bio Data Station (NBDS)

Jung Woo Park^{*}, Junehawk Lee, Yukyung Jun, Hyojung Paik, Min Sun Yeom

Center for Supercomputing Applications, Dev. of National Supercomputing R&D, Korea Institute of Science and Technology Information (KISTI)

PBM-32

Selection and characterization of wheat lines missing 1D chromosome encoded omega gliadins in 675 wheat germplasm

Sewon Kim, Jae-Ryeong Sim, Su Bin Lee, Jong-Yeol Lee^{*}

National Institute of Agricultural Science, RDA

PBM-33

Increased health-related total phenol, total flavonoid contents and simultaneously reduced glucosinolates in *GIGANTEA* knock-down Chinese cabbage sprouts

Nan-Sun Kim, Hyo Seon Choi, Soo In Lee, Jin A Kim^{*}

Department of Agricultural Biotechnology, National Academy of Agricultural Science, Rural Development Administration

PBM-34

Skin hydration effects of Korean freeze-dried royal jelly extracts in human epidermal keratinocytes irradiated with UVB

Hyo Young Kim, Soon Ok Woo, Se Gun Kim, Seon Mi Kim, Hong Min Choi, Hyo Jung Moon, Sang Mi Han^{*}

National Institute of Agricultural Science, Department of Agricultural Biology

PBM-35

Targeted mutation of circadian clock related gene *GIGANTEA* using CRISPR-Cas9 technology change the primary and secondary metabolites contents in Chinese cabbage

Nan-Sun Kim, Hyang Suk Kim, Soo In Lee, Jin A Kim^{*}

Department of Agricultural Biotechnology, National Academy of Agricultural Science, Rural Development Administration



PBM-36

Cloning and Expression of Thermostable α -Amylase and 1,4- α -glucan 6- α -glucosyltransferase coding gene for Isomaltodextrin Production

Bo Gyoung Choi¹, Dariimaa Ganbat¹, Gi-Seob Hong¹, Seung Yeon Yoo¹, Joon-Young Hur¹, Ji Yeong Park¹, Ji-U Im¹, Dong-Woo Lee², Seong-Bo Kim³, Han-Seung Lee¹, Sang-Jae Lee^{1*}

¹Major in Food Biotechnology and Research Center for Extremophiles & Marine Microbiology, Silla University, Busan 46958, Republic of Korea, ²Department of Biotechnology, Yonsei University, Seoul 03722, Republic of Korea, ³Bio-Living Engineering Major, Global Leaders College, Yonsei University, Seoul 03722, Republic of Korea

PBM-37

Protective effect of chestnut honey via modulates immune response on influenza A virus

Eun-Bin Kwon, Jang-Gi Choi*, Young Soo Kim, Tae Woo Oh

Korean Medicine (KM) Application Center, Korea Institute of Oriental Medicine

PBM-38

Molecular Cloning and Characterization of a Gene Encoding Thermostable β -Glucosidase A from *Thermotoga maritima*

Chung Ho Kim*

Department of Food and Nutrition, Seowon University

PBM-39

Production of C-Glucosylated Flavonoids in Engineered *Escherichia coli*

Yoo Jin Chong, Joong-Hoon Ahn*

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

PBM-40

Overexpression of abiotic stress-induced *AtANR1* plays a negative role in salt stress induced root growth inhibition in *Arabidopsis thaliana*

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PBM-41

Establishment of fast and reproducible RP-UPLC method for HMW-GS allelic analysis and application in large-scale wheat germplasms

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PBM-42

Biosynthesis of Ethyl Caffate in *Escherichia Coli* by Expressing Caffeoyle-CoA Acyltransferase

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PBM-43

Enhanced nitrate reductase activity offers *Arabidopsis* ecotype *Landsberg erecta* better salt stress resistance than Col-0

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PBM-44

PEP-associated protein 3 regulates chloroplast development in rice

Deok Hyun Seo, Geupil Jang*

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PBM-45

Investigation of lipid scrambling activity of human TMEM16C variants

Hang-Gu Kim, Byoung-Cheol Lee*

Neurovascular unit research group, Korea Brain Research Institute (KBRI)

PBM-46

Isolation and identification of antagonistic microbes against peach tree gummosis

Tae-An Kang¹, Kihwan Kim¹, Juhung Shin², Byeonggyu Kim², Ji-Beom Seo¹, Won-Chan Kim^{1,2*}, Chang-Hee Lee^{3*}

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PBM-47

Antibiotic activity of microbial-derived polysaccharide polymer-coated liposomal peptide conjugate

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PBM-48

Effectiveness of sodium silicate in leaf rust resistance gene expression of korean wheat cultivars

Ga Hyun Lee, Yong Hoon Joo, Hyeri Lee, Dong Gun Lee, Chang Geun Choi, Seung Myun Hong, Chae Eun Lee, Deok Jae Lee, Namhyun Chung*

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PBM-49

Gold nanoparticle-resveratrol complex induces apoptosis in PANC-1 pancreatic cell line

Seung Myun Hong, Yong Hoon Joo, Hyeri Lee, Dong Gun Lee, Chang Geun Choi, Ga Hyun Lee, Chae Eun Lee, Deok Jae Lee, Namhyun Chung*

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PBM-50

Sound waves promote *Arabidopsis thaliana* root growth by regulating root phytohormone content

Joo Yeol Kim, Jin A Kim, Mi-Jeong Jeong*

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PBM-51

Investigation of human TMEM16F-interacting proteins

Bong-Seon Lee, Byoung-Cheol Lee*

Neurovascular Unit Research Group, Korea Brain Research Institute

PBM-52

Characterization of Novel Bacterial Tyrosinase Isolated from South Korea

Chan Mi Park^{1*}, Gun Su Cha², Han Sol Jang¹, Ji-Ae Mok¹, Chul-Ho Yun¹

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²*Department of research and development, Namhae Garlic Research Institute*

PBM-53

Functional characterization of OsLDP responsible for chloroplast development in rice

Hui Jin Kim, Geupil Jang*

School of Biological Sciences and Technology, Chonnam National University

PBM-54

RNA-seq transcriptome analysis of pancreatic cancer cell lines under lapathoside A treatment

Mi Sook Kang¹, Young-Min Ham², Dae-Ju Oh², Song-I Han³, Jae Hoon Kim^{1,3*}

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PBM-55

Influence of Double Mutations in OsLSPH1 Residues on the Levels of Carotenoids and Chlorophylls in Rice

Yeo Jin Lee, Min Kyung You, Sun-Hwa Ha*

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PBM-56

Circadian clock gene GIGANTEA editing can develop high productivity Chinese cabbage with tolerance to multi-environmental stress tolerance

Jin A Kim*, Nan-Sun Kim, Eun Young Lee, Soo In Lee

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PBM-57

Functional Compartmentation of *Trans*-Prenyltransferase Families and Their Interactions Affecting Terpenoid Metabolism in Rice

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

Graduate School of Biotechnology, Kyung Hee University

PBM-58

Uneven distribution of auxin hormones induced by methyl bromide fumigation on *Arabidopsis thaliana*

Hwang-Ju Jeon¹, Kyeongnam Kim¹, Chaeun Kim², Jungeun Park²,
Woosung Kim³, Jeong Oh Yang⁴, Sung-Eun Lee^{1*}

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PBM-59

Toxicological evaluation of 3-phenoxybenzoic acid, a metabolite of pyrethroid insecticide using zebrafish (*Danio rerio*) embryos

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PBM-60

Promoter Editing of Rice Phytoene Synthase 1 Gene to Alter Translational Expression

Byeong-Hoon Kim, Hyung-Keun Ku, Sun-Hwa Ha*

Graduate School of Biotechnology, Kyung Hee University

PBM-61

Alteration of mRNA level by activation of AHR signaling as exposed to pyraclostrobin in zebrafish embryos (*Danio rerio*) and HepG2 cells

Chaeun Kim¹, Hwang-Ju Jeon², Yerin Cho³, Kyeongnam Kim², Sung-Eun Lee^{2*}

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PBM-62

Functional Identification of Orange Variants Enhancing Carotenoid Accumulation in Rice Callus

Min Kyoung You¹, Sang-Ah Lee², Byeong-Hoon Kim¹, Ji Su Yu¹, Yeo Jin Lee¹,
Soo Yeon Lim¹, Sun-Hwa Ha^{1*}

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PBM-63

Evaluation of supplements capable of reducing methyl bromide-induced phytotoxicity in *Arabidopsis thaliana*

Kyeongnam Kim¹, Chaeun Kim², Jungeun Park², Donghyeon Kim³,
Jeong Oh Yang⁴, Sung-Eun Lee^{1*}

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PBM-64

Chlorogenic acid activates autophagy to protect human chondrocytes from cell death under oxidative stress

Trang Minh Pham, Sahib Zada, Deok Kim^{*}

Department of Biochemistry and Convergence Medical Science, Gyeongsang National University College of Medicine

PBM-65

Phytotoxicity assessment using hyperspectral imaging of ethyl formate and phosphine, alternative fumigants of methyl bromide against *Arabidopsis thaliana*

Jungeun Park¹, Kyeongnam Kim², Chaeun Kim¹, Jeong Oh Yang³,
Sung-Eun Lee^{2*}

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PBM-66

Azoxystrobin activated Aryl hydrocarbon receptor signaling in zebrafish embryos (*Danio rerio*) and HepG2 cells

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PBM-67

Functional Study of Natural Antisense Transcript *ELENA19* Induced by Pathogen-Associated Molecular Patterns in *Arabidopsis*

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PBM-68

Selection of high-efficiency gRNA for generating herbicide-resistant tomato by targeting PDS, ALS, and EPSPS genes

Sohee Yang, Euyeon Kim, Hyosun Park, Yeonjong Koo*

Department of Agricultural Chemistry, Chonnam National University

PBM-69

Purification of 6Histidine-tagged Amicyanin by Ni-NTA Immobilized Magnetic Nanoparticles

Eunjeong Kim, Sooim Shin*

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PBM-70

One-step Production of Butyl Butyrate through The Introduction of Alcohol Acyltransferase from *Fragaria x ananassa* or *Malus sp.* into *Clostridium acetobutylicum* ATCC 824

Hyeon Ji Noh¹, Ji Eun Woo¹, Ye Rin Yoon¹, Sang Yup Lee², Yu Sin Jang^{1*}

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PBM-71

Galactose-utilizing Leloir Pathway Based Hyaluronic Acid Production in *Escherichia coli*

Ji Eun Woo¹, Hyeon Jeong Seong¹, Sampathkumar Palaniswamy¹, Sang Yup Lee², Yu-Sin Jang^{1*}

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PBM-72

Effect of Knockout of Galactose Operon Repressor on Carbon Source Consumption in *Escherichia coli*

Hyeon Jeong Seong, Yu-Sin Jang*

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PBM-73

Development of Strategies for The Control of Galactose-to-Glucose Consumption Ratio in *Escherichia coli*

Hyeon Jeong Seong, Ji Eun Woo, Yu-Sin Jang*

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PBM-74

Profiling of Korean snake venom shows the distinct venom protein composition of three different venom snakes

Yeonjong Koo*, Hyosun Park

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PBM-75

The inhibitory effect of antidepressant metergoline on Kv1.4 channel

Junho Lee*

Department of Biotechnology, Chonnam National University

PBM-76

Characterization of excitatory GABA-gated cation channel in nematode

Junho Lee*

Department of Biotechnology, Chonnam National University

PBM-77

Synergistic Effect of Methyl Jasmonate and Cyclodextrin Co-Treatment on Pterocarpin Production in *Sophora flavescens* Cell Cultures

Soyoung Kim^{1,2}, Cha Young Kim^{1*}, Yu Jeong Jeong¹, Sung-Chul Park¹, Jae Cheol Jeong¹, Bo-Keun Ha¹

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PBM-78

Enhanced Production of Avenanthramide by Co-Treatment with Methyl Jasmonate and Absciscic Acid in Oat Seedlings

Soyoung Kim^{1,2}, Cha Young Kim^{1*}, Yu Jeong Jeong¹, Suhyun Park¹, Jae Cheol Jeong¹, Bo-Keun Ha¹

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PBM-79

Plant virus and disease control through RNAi mechanism with application of dsRNA

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PBM-80

DNA-free genome editing mediated by CRISPR/Cas9 RNP in regulating glucosinolate contents in *Brassica rapa*

Gilok Shin¹, Sora Lee¹, Suhyung Park², Sung-Chul Park¹, Cha Young Kim¹, Jae Cheol Jeong^{1*}

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PBM-81

Cis-Natural Antisense Transcript DRIL6 stimulates the expression of CYCLING DOF FACTOR in Rice

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PBM-82

In vitro analysis of MAPK-mediated transcriptional activation at human *EGR1* gene

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PBM-83

ZmFCP1 peptide signaling is involved in vascular development in maize leaf

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PBM-84

The function of *CLV2* has diversified in rice

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

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PBM-85

Enhanced butyric acid production by redox regulation in *Clostridium acetobutylicum*

Yu-Sin Jang^{1*}, Zhuang Yao¹, Jung Ae Im², So Young Choi², Jung Im Lee², Sang Yup Lee²

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PBM-86

PAMP-induced long noncoding RNAs, *ELENA3* and *ELENA11* negatively regulate the innate immunity in *Arabidopsis*

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PBM-87

Tumor-derived extracellular vesicle-associated miRNAs as potential diagnostic biomarkers of early-stage breast cancer

Min Woo Kim¹, Sunyoung Park², Hyojung Lee¹, Hogyeong Gwak²,
Kyung-A Hyun², Jee Ye Kim¹, Hyo-Il Jung^{2*}, Seung Il Kim^{1*}

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PBM-88

Physiological and RNA-Seq analysis of *Ligularia fischeri* under drought stress

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PBM-89

Optimization of bioactive trifolin production in *Escherichia coli*

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PBM-90

The effect of light intensity on fucoxanthin production in *Phaeodactylum tricornutum*

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

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PBM-91

Identification of the medicinal Ephedra species using SNP-based KASP assay

Bo Reum Park, Sun Hee Lee, Kyoung Moon Han, Jin Woo Hwang,
Hyung Il Kim, Sun Young Baek*

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PBM-92 Anti-inflammatory effect of *Rhamnella franguloides* leaves extract
Hyun Ji Eo, Da Som Kim, Gwang Hun Park*

Forest Medicinal Resources Research Center, National Institute of Forest Science

PBM-93 Detection method for GM maize MON95379 using PCR

Jeong Yun Jo, Seung Jin Hong, Chang Hun Choi, Min Ki Shin, In Sun Ju,
Jong Seok Park*

Novel Food Division, National Institute of Food & Drug Safety Evaluation

PBM-94 Characterization of Methylendioxybenzoate hydratase-lyase, a novel enzyme from *Piper nigrum* L., producing piperonal from 2,3-methylendioxybenzoate

Moonhyuk Kwon¹, Zhehao Jin², Juraithip Wungsintaweekul³, Dae-Kyun Ro⁴,
Seon-Won Kim^{1*}, Soo-Un Kim^{5,6*}

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PBM-95 Characterization of *cis*-prenyltransferase and its binding protein promoter in lettuce

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Yang Qu³, Seon-Won Kim¹, Dae-Kyun Ro^{2*}

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PBM-96 Mining of a novel esterase (*est3S*) gene from cow rumen metagenomic library expressing organophosphorus insecticides degradation: catalytic insights by site directed mutation, docking and molecular dynamics simulation

Hee Yul Lee, Du Yong Cho, Min Ju Kim, Jea Gack Jung, Kye Man Cho*

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PBM-97

Creation of novel phenylpropanoids using enzyme engineering

Nari Kim, Seon-Won Kim*

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PBM-98

Development of papaya pot cultivation technology

Ran-Seon Choi*, Jin-Young Kim, Dae-Gyun Kim, Ji-Eun Hwang, Seoni Won

Division of Horticultural Research, Gyeonggi-Do Agricultural Research & Extension Services

PBM-99

Isolation and characterization of formate dehydrogenase from wood rot fungus for formate production from carbon dioxide

Su Yeon Lee*, Seokyeon Jang, Soo Min Lee, Mi Jin Park

Forest Products and Industry Department, National Institute of Forest Science

PNB

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PNB-1

Correlation of saponarin content with three biosynthesis-related gene expression in eight hulled and hullless barley (*Hordeum vulgare* L.) cultivars

Jae-Hyeok Park, Jeong Hwan Lee*

Division of Life Sciences, Jeonbuk National University

PNB-2

Antioxidant potential, Polyphenolic contents and Fourier Transform Near-Infrared Spectroscopy of different tissues of *Aspilia africana*

Denis Okello^{1,2}, Yuseong Chung¹, Endang Rahmat^{1,2}, Roggers Gang^{1,2}, Youngmin Kang^{1,2*}

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PNB-3

Restored Fertility in Dogs after Orchiopexy Surgery

Feriel Yasmine Mahiddine, Inhwan You, Heekee Park, Min Jung Kim*

Department of Research and Development, Mjbiogen corp.



PNB-4 Inhibition of STAT3 activity mediated TK extracts-induced apoptosis in EGFR TKI-resistant human lung cancer cells

Shin-Hyung Park*, Hyun-Ji Park

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PNB-5 The tuber of PT attenuates cancer cell migration by inhibiting M2 macrophage polarization

Shin-Hyung Park*, Hyun-Ji Park

Department of Pathology, College of Korean Medicine, Dong-eui University, Busan 47227, Republic of Korea

PNB-6 The root of AT suppressed angiogenesis and diminished the endothelial cells-induced EGFR TKI resistance *in vitro*

Shin-Hyung Park*, Hyun-Ji Park

Department of Pathology, College of Korean Medicine, Dong-eui University, Busan 47227, Republic of Korea

PNB-7 The root of SB inhibited M2 macrophage polarization and suppressed the M2 macrophage-induced migration of cancer cells

Shin-Hyung Park*, Hyun-Ji Park

Department of Pathology, College of Korean Medicine, Dong-eui University, Busan 47227, Republic of Korea

PNB-8 The root of TK inhibited the migration of EGFR TKI-resistant lung cancer cells by inactivation of EMT and Src activity

Shin-Hyung Park*, Hyun-Ji Park

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PNB-9 The NLRP3 inflammasome inhibitor attenuates nanoparticle-induced airway inflammation in mice

Yongmun Choi*

Biomaterials R&D Team, Gyeonggido Business & Science Accelerator

PNB-10 Injectable furfuryl gelatin hydrogel can be used as a tissue engineering scaffold, using Riboflavin phosphate as initiator

Min Sun Kong, Hyun Jong Lee*

Department of Chemical and Biological Engineering, Gachon University, Seongnam 13120, Republic of Korea



PNB-11

Changes in the contents of secondary metabolites in *Aster spathulifolius* Callus through SMART-RC² Technology

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PNB-12

Development of virus-free crop production technology

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President, Anti-aging Research Institute of BIO-FD&C Co., Ltd.

PNB-13

Skin Protection Effect of Kurarinone enriched fraction from *Sophora Flavescens* by UV Blocking in Keratinocytes

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PNB-14

PLGA-PEMA Nanoparticle with DerP.1 Protein for House Dust Mite Allergy Treatment

Yoon Bok Lee¹, Ji An Kim², Hyun Jong Lee^{1*}, Yoon Hong Chun²

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PNB-15

Gamma irradiation induced structural change and enhancement of antioxidant property on Genistein

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³*Department of Biotechnology, Korea University*

PNB-16

Novel immunostimulatory properties of *Chrysanthemum zawadskii* Herbich var. *latilobum*-derived polysaccharides as potent vaccine adjuvant

Jeong Moo Han^{1,2}, Ha-Yeon Song^{1,2}, Kwang-II Kim¹, Ho Seong Seo¹, Eui-Baek Byun^{1*}

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PNB-17

Optimization of saponarin extraction method from dried barley sprout

Dong-Gyu Lee¹, Sung-Jun Seo¹, Kyeong-Yeol Oh², Deuk-Yeong Lee²,
Jin-Hyo Kim^{1,2*}

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PNB-18

Gamma-irradiated chrysin exhibits Tollip-mediated anti-inflammatory action in lipopolysaccharide-stimulated macrophage Cells

Eui-Baek Byun¹, Ha-Yeon Song^{1,2}, Jeong Moo Han^{1,2}, Kwang-Il Kim^{1,3},
Ho Seong Seo^{1*}

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PNB-19

A hydroxymethoxyl chrysin analogue, confers tolerogenic properties in bone marrow-derived dendritic cells

Ha-Yeon Song^{1,2}, Jeong Moo Han^{1,2}, Kwang-Il Kim^{1,3}, Ho Seong Seo¹,
Eui-Baek Byun^{1*}

¹Radiation Research Division, Korea Atomic Energy Research Institute, ²Department of Biotechnology, Korea University, ³Department of Radiation Science and Technology, University of Science and Technology

PNB-20

IL-10-producing tolerogenic dendritic cells are generated by galangin treatment during differentiation

Eui-Baek Byun^{1*}, Ha-Yeon Song^{1,2}

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PNB-21

Growth and agronomic characteristics of Adlay Sprout (*Coix lacryma-jobi* L. var. *ma-yuen* Stapf.)

Eun Song Lee^{*}, Yong Il Kim, Jeong Hoon Lee, Tae Jin An, Young Ho Yoon
Herbal Crop Research Division, Rural development administration

PNB-22

Tumor microenvironment-recognizable hyaluronic acid conjugate for cancer immunotherapy

Jung Min Shin, Mi-Jin Yim, Seok-Chun Ko, Jeong Min Lee, Hyun-Soo Kim,
Dae-Sung Lee^{*}

Department of Genetic Resources, National Marine Biodiversity Institute of Korea (MABIK)



PNB-23

Chemical constituents of the brown alga *Sargassum micracanthum*

Ji-Yul Kim¹, Jeong Min Lee¹, Hyun-Soo Kim¹, Dae-Won Ki², Mi-Jin Yim¹,
Seok-Chun Ko¹, Jung Min Shin¹, Myeong Seok Lee¹, Jae Hyuk Jeon¹,
Yun Gyeong Park¹, Dae-Sung Lee^{1*}

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PNB-24

Functional Compounds and Antioxidant Activities in Soybean Core Collection

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PNB-25

Estrogenic and anti-osteoporotic activities of Oat Bran Extract

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PNB-26

Fraction of *Inula helenium* extract and its inhibitory effect on prolactin secretion

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PNB-27

Identification and composition of polyphenol of Korean wheat seedling extracts and their antioxidant activity

Hyoung Jae Ahn^{1,2}, Woo Duck Seo^{1*}, Mi-Ja Lee¹, Hyun Young Kim¹,
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PNB-28

Epoxomicin Suppresses TRIF-dependent Signaling Pathway of TLRs

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PNB-29

Pristimerin Inhibits iNOS Expression Induced by TLR Agonists

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PNB-30

Identification of secondary metabolites isolated from *Avena sativa* L. (Oat) seedlings and their effects on osteoblast differentiation

Woo Duck Seo^{*}, So-Yeun Woo, Ji Yeong Yang, Mi Ja Lee, Hyun Young Kim,
Seung Yeob Song, Hangeol Lee, Hyoung Jae Ahn, Kwang Sik Lee

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PNB-31

Syntheses of Avenanthramides Derived from Avenaluminic Acids

Min-Ho Song, Ji-Woo Yu, Young-Soo Keum^{*}

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PNB-32

Biological Properties of Extracts from Different Organs of *Rosa rugosa* THUNB

Eunhui Kim, Min-A Ahn, Tae Kyung Hyun^{*}

Department of Industrial Plant Science and Technology, College of Agricultural,

Life and Environmental Sciences, Chungbuk National University

PNB-33

Metabolic Responses of Lettuce(*Lactuca sativa*) on Allelochemicals from Iris Seeds

Ji-Woo Yu, Min-Ho Song, Young-Soo Keum^{*}

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Seoul 05029, Korea

PNB-34

Comparative Study on Antioxidant and Anti-inflammatory Activities of Different *Amaranthus* Species

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Life and Environmental Sciences, Chungbuk National University

PNB-35

Secondary Metabolites Analysis Between Brussels sprouts (*Brassica oleracea* var. *gemmifera*) and Cabbage (*Brassica oleracea* var. *capitata*)

Kwan Woo Jeon¹, Chang Sook Kim^{1,2,3*}, Min Gun Kim², Kyung Hwan Boo³

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Jeju National University, ³Subtropical/tropical Organism Gene Bank, Jeju National University



PNB-36

Changes of the Qualities and Active Components of New Carrot Cultivar 'Tamnahong' According to Different Harvest Time

Kwan Woo Jeon¹, Chang Sook Kim^{1,2*}, Min Gun Kim², Jae Hong Park³

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PNB-37

Plant Regeneration from Embryogenic Callus through *in vitro* Tissue Culture of *Miscanthus* spp.

Kwangsoo Kim^{1*}, Younho Moon², Younglok Cha², Jieun Lee², Won Park², Yonghwa Lee³, Yeonsang Song²

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PNB-38

Antioxidant properties of silkworm pupae according to varieties, pupation day, sex, and extraction method

Bonwoo Koo, Su-Bae Kim, Hae Yong Kweon, Ji Hae Lee*

Department of Agricultural Biology, National Institute of Agricultural Sciences, Rural Development Administration

PNB-39

Change of the Nutritive Components of Mulberry Fruits on Irrigation Scheduling

Wan Taek Ju*, Ji Hae Lee, Bon Woo Koo, Hae Yong Kweon

Department of Agricultural Biology, National Institute of Agricultural Sciences

PNB-40

Processed ginsenoside isolated from black ginseng ameliorates airway inflammation and mucus secretion by suppressing inflammatory molecules and MUC5AC and regulating PKC signaling pathways *in vitro* and *in vivo*

Yu Na Song^{1,2}, Jae-Won Lee¹, Mun-Ock Kim¹, Jae-Hong Min¹, Seong-Man Kim¹, Myung-Ji Kang¹, Eun Sol Oh^{1,2}, Ro Woon Lee^{1,2}, Sunin Jung¹, Hyunju Ro², Jae Kyoung Lee³, Hyung Won Ryu¹, Dae Young Lee^{4*}, Su Ui Lee^{1*}

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PNB-41

Transforming Growth Factor β Inhibits MUC5AC Expression by Smad3/HDAC2 Complex Formation and NF- κ B Deacetylation at K310 in NCI-H292 Cells

Eun Sol Oh^{1,2}, Mun-Ock Kim¹, Myung-Ji Kang¹, Hyunju Ro², Ro Woon Lee^{1,2}, Yu Na Song^{1,2}, Sunin Jung¹, Jae-Won Lee¹, Soo Yun Lee³, Taeyeol Bae^{3,4}, Jung Hae Kim⁵, Su Ui Lee¹, Sung-Tae Hong^{5,6*}, Tae-Don Kim^{3,4*}

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PNB-42

Metabolite profiling for evaluation of bioactive compounds of *Dioscorea* (yam) leaves reveals the potentials for renewable sources

Min Ji Kim¹, Su Young Son^{1*}, Jeong Gu Kim^{2*}, Choong Hwan Lee^{1*}

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PNB-43

Development and validation of UPLC method for robinin isolated from *Robinia* honey

Se Gun Kim^{*}, Sang Mi Han, Hyo Young Kim, Hong Min Choi, Hye Jin Lee, Hyo Jung Moon

Department of Agricultural Biology, National Institute of Agricultural Sciences, Rural Development Administration

PNB-44

HPLC/UV Analysis of (+)-Catechin in *Filipendula glaberrima*

Hak-Dong Lee¹, Leo Adrienne Paje¹, Juree Kim¹, Jungwon Choi¹, Yunji Lee², Hangeun Kim³, Sanghyun Lee^{1*}

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PNB-45

Quantitative Analysis of Phenolic Acids and Flavonoids from Edible Tree Sprout

Juree Kim¹, Leo Adrienne Paje¹, Jungwon Choi¹, Hak-Dong Lee¹, Hanna Shin², Sanghyun Lee^{1*}

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PNB-46

Schisandrin C improved intestinal permeability through NF- κ B and p38 MAPK mediated regulation of MLCK/MLC/tight junction signaling pathway

Mi Ri Kim¹, Kyungsu Kang^{1,2*}

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PNB-47

Essential Components and Effects of Propolis for Inflammatory Response

Sung-Kuk Kim, Sang Mi Han, Se Gun Kim, Hyo Young Kim, Sik Ryu, Soon Ok Woo*

National Institute of Agricultural Sciences, Department of Sericulture and Apiculture

PNB-48

Inhibition of ER Stress-mediated Hyperphosphorylation of Tau by Korean Propolis

Sung-Kuk Kim, Sang Mi Han, Se Gun Kim, Hyo Young Kim, Sik Ryu, Soon Ok Woo*

National Institute of Agricultural Sciences, Department of Agricultural and Apiculture

PNB-49

Inhibitory activity of flavonoids from the root bark of paper mulberry (*Broussonetia papyrifera*) on bacterial neuraminidase

Sunin Jung¹, Mi Hyeon Park¹, Doo- Young Kim¹, Jinhyuk Lee^{2,3}, Sei- Ryang Oh¹, Su Ui Lee^{1*}, Hyung Won Ryu^{1*}

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PNB-50

Tagetulatin, a new flavone oxidation product from the aerial parts of *Tagetes patula*

Seong Su Hong*, Ji Eun Lee, Yeon Woo Jung, Hanna Cha, Wonsik Jeong, Dong Woo Han, Eun-Kyung Ahn, Chun Whan Choi

Natural Products Research Team, Gyeonggido Business & Science Accelerator

PNB-51

Human neutrophil elastase inhibitory iridal-type triterpenoids from the roots of *Belamcanda chinensis*

Jeong Ho Kim, Si Won Moon, Ki Hun Park*

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PNB-52

Quantitative and metabolomic analysis reveals a significant change of free amino acids in soybean (*Glycine max* L. Merr) leaves under ethylene treatment

Yong Hyun Lee, Yeong Jun Ban, Ki Hun Park*

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

PNB-53

Human neutrophil elastase inhibitory dihydrobenzoxanthenes and alkylated favones from the *Artocarpus elasticus* root barks

Khan Abdul Majid, Yeong Jun Ban, Ki Hun Park*

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

PNB-54

Evaluation of metabolite profiles of ginseng berry pomace obtained after different pressure treatments and their correlation with the antioxidant activity

Se Rin Choi¹, Mee Youn Lee^{1,2}, Chagam Koteswara Reddy¹, Sang Jun Lee³, Choong Hwan Lee^{1,2*}

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PNB-55

Effectiveness of cyclohexyl functionality in ugonins from *Helminthostachys zeylanica* to PTP1B inhibitions

Abdul Bari Shah, Aizhamal Baiseitova, Ki Hun Park*

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

PNB-56

O-Alkylated quercetins from *Melicope glabra* leaves with antioxidant, acetylcholinesterase and β -secretase inhibitory activity

Aizhamal Baiseitova, Yeong Jun Ban, Ki Hun Park*

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PNB-57

Crop rhizosphere- or stress state-dependent disassembly of lignin-Fe-hydroxyapatite supramolecular structures

Ho Young Yoon¹, Eun-Nam Joe¹, Byung-Yeon Ha², Jong-Rok Jeon^{1*}

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PNB-58

Antioxidant and anti-inflammatory effects of *Abelmoschus manihot* L. extracts fermented with *Bacillus licheniformis* CP6 from Korea South Sea

Joo Young Yang¹, Yu Jeong Yeom¹, Hae Rang Lee¹, Ga Eul Jeong¹,
Seong-Bo Kim², Yong-Jik Lee³, Mi-Hwa Park^{4*}, Sang-Jae Lee^{1*}

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PNB-59

Functional evaluation of the fermented *Dahlia pinnata* extract using microorganisms derived from specific environment as cosmeceutical ingredient

Hae Rang Lee¹, Bo Gyoung Choi¹, YuJeong Yeom¹, Dariimaa Ganbat¹,
Joo Young Yang¹, Ga Eul Jeong¹, Mi Hwa Park², Sung Tae Kim^{3*},
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PNB-60

Antiviral effect of honeybee venom

Sang Mi Han^{*}, Seon-Mi Kim, Hong-Min Choi

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PNB-61

Comparison of 10-HDA Content in Royal Jelly according to Feeding of Sugar and Natural Honey

Hong-Min Choi, Se-Gun Kim, Hyo-Young Kim, Soon-Ok Woo, Seon-Mi Kim,
Hyo-Jung Moon, Sang-Mi Han^{*}

National Institute of Agricultural Science, Department of Agricultural Biology

PNB-62

Pitavastatin prevents ovariectomy-induced osteoporosis by regulating osteoclastic resorption and osteoblastic formation

Ju-Young Kim^{1*}, Yoon-Hee Cheon¹, Chang Hoon Lee^{1,2}, Soojin Kim¹,
Gyeong Do Park¹, Sung Chul Kwak¹, Hae Joong Cho^{1,3}, Myeung Su Lee^{1,2}

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PNB-63

Changes of secondary metabolites related to the harvest times from the seedlings of various Korean oat (*Avena sativa* L.) cultivars and their neuraminidase inhibitory effects

So-Yeun Woo, Ji Yeong Yang, HanGyeol Lee, Hyoung Jae Ahn, Kwang-Sik Lee, Mi-Ja Lee, Hyun Young Kim, Seung-Yeob Song, Woo Duck Seo*

Division of Crop Foundation, National Institute of Crop Science (NICS), Rural Development Administration (RDA)

PNB-64

Study on the optimum extraction process of antioxidant and anti-inflammatory activities of *Agastache rugosa*

Li Nan¹, Hyeon Hwa Nam², Byung Kil Choo^{3*}

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PNB-65

Study on the optimum extraction process of antioxidant and anti-inflammatory activities of *Leonurus japonicus*

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PNB-66

Nutrients analysis of bee pollen distributed in Korea

Hye Jin Lee, Sang Mi Han, Soon Ok Woo, Hyo Young Kim, Seon Mi Kim, Hong Min Choi, Hyo Jung Moon, Se Gun Kim*

Department of Agricultural Biology, National Institute of Agricultural Sciences

PNB-67

One of species of *Daphne* genus attenuates airway inflammation induced by cigarette smoke in mice

Rowoon Lee^{1,2}, Sung-Tae Hong^{3*}, Sei-Ryang Oh^{1*}

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PNB-68

Validation of analytical method of marker compounds in fermented *Achyranthes japonica* Nakai extract Complex

Sun Ho Chung*

Infrastructure Support Team, Gyeonggido Business & Science Accelerator



PNB-69

Antimicrobial Spectrum and Characterization of Purified Recombinant Micro Halocin HB384, Derived from Halophiles

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PNB-70

Glycosyl glycerides from the rhizomes of *Cnidium officinale* and the cytotoxicity

Hyoung-Geun Kim¹, Trong Nguyen Nguyen¹, Yeong-Geun Lee¹, Dahye Yoon², Dae Young Lee², Yeon-Ju Kim¹, Nam-In Baek^{1*}

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PNB-71

Nucleosides from the rhizomes of *Cnidium officinale*

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PNB-72

New phenylalkanoids from the rhizome of *Cnidium officinale*

Hyoung-Geun Kim¹, Trong Nguyen Nguyen¹, Yeong-Geun Lee¹, Dahye Yoon², Dae Young Lee², Youn-Hyung Lee³, Nam-In Baek^{1*}

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PNB-73

Three new phthalide glycosides from the rhizomes of *Cnidium officinale*

Hyoung-Geun Kim¹, Trong Nguyen Nguyen¹, Yeong-Geun Lee¹, Dahye Yoon², Dae Young Lee², Tong Ho Kang¹, Nam-In Baek^{1*}

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PNB-74

Flavonoids from the arial parts of *Artemisia argyi* and their radical scavenging activities

Hyoung-Geun Kim¹, Trong Nguyen Nguyen¹, Seon Min Oh¹, Bo-Ram Choi², Dahye Yoon², Myun Ho Bang³, Dae Young Lee², Nam-In Baek^{1*}

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PNB-75

New phenolics from the roots of *Codonopsis lanceolata* and their radical scavenging activities

Hyoung-Geun Kim¹, Trong Nguyen Nguyen¹, Seon Min Oh¹, Bo-Ram Choi², Dahye Yoon², Dae Young Lee², Nam-In Baek^{1*}

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PNB-76

Flavonol glycosides from the leaves of *Aganonerion polymorphum* and their antioxidant activities

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PNB-77

Steroids and flavonoids from the rhizomes of *Astragalus membranaceus*

Trong Nguyen Nguyen¹, Hyoung-Geun Kim¹, Seon Min Oh¹, Bo-Ram Choi², Dahye Yoon², Myun Ho Bang³, Dae Young Lee², Nam-In Baek^{1*}

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PNB-78

Evaluation of biocontrol efficacy of the Power Vaccine[®] formulation with *Bacillus amyloliquefaciens* and plant extract

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PNB-79

Comparison of yields and ingredients by planting density during one-year cultivation of *Phlomis umbrosa*

Jin-Tae Jeong^{1,2}, Jong Won Han³, Jeong Hoon Lee³, Myeong Won Oh³,
Yeong-Ho Yun³, Kyung Ho Ma^{3*}

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PNB-80

Gintonin-Enriched Fraction Suppresses Sarcopenia by Maintaining Immune Homeostasis in 20- to 24-Month-Old C57BL/6J Mice

Boo-Yong Lee^{*}, Hyun-Ji Oh, Heegu Jin

CHA university, Functional Food and Nutrigenomics

PNB-81

Ameliorative effects of low molecular weight digest from abalone intestine (*Haliotis discus hannai*) on *Dermatophagoides farina*-induced atopic dermatitis-like skin lesions in mice model

Tae-Hee Kim¹, Seong-Yeong Heo^{2,3}, Gun-Woo Oh^{2,3}, Won Sun Park⁴,
Il-Whan Choi⁵, Zhong-Ji Qian^{6,7}, Nam-Gyun Kim¹, Dong-Joo Park⁸,
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PNB-82

Production of Hydroxylated Flavonoid using Engineered Enzyme System

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PNB-83

In vitro and in silico anti-fibrotic activity of phlorofucofuroeckol A isolated from *Ecklonia cava* and its molecular mechanisms

Seong-Yeong Heo^{1,2}, Min-Seon Jeong³, Tae-Hee Kim⁴, Hyoung Shin Lee⁵, Sang-Hyug Park^{1,4}, Jinbok Jang⁶, Seung Hee Moon⁷, Pathum Chandika⁴, Won-Kyo Jung^{1,2,4*}

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PNB-84

Isoacteoside inhibited the differentiation of pre-adipocyte 3T3-L1 cells

Chang Geun Choi, Yong Hoon Joo, Hyeri Lee, Dong Gun Lee, Ga Hyun Lee, Seung Myun Hong, Chae Eun Lee, Deok Jae Lee, Namhyun Chung*

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PNB-85

The inhibitory effect of DMZ-109 extract on atopic dermatitis *in vitro* and *in vivo*

Jae Yeon Lee, Kitae Park, Min Hee Hwang, Young Nam Kim, Young-Rak Cho, Eun-Kyung Ahn*

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PNB-86

Antibacterial effect *Torilis japonica* extract against phytopathogen *Xanthomonas campestris* pv. *campestris*

Ji-Yeon Park^{1,2}, Young-Hee Kim^{1,2}, Eun-Jae Park^{1,2}, Hee-Ju Lim^{1,2}, Chan Sun Park¹, Bong-Sik Yun², Seung Woong Lee^{1*}

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PNB-87

Isolation and structure determination of bioactive constituents from *Lindera obtusiloba* Blume.

Hee-Ju Lim^{1,2}, Eun-Jae Park^{1,2}, Ji-Yeon Park^{1,2}, Young-Hee Kim^{1,2}, Chan Sun Park¹, Bong-Sik Yun², Seung Woong Lee^{1*}

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PNB-88

Injectable hydrogel platform promotes tissue regeneration by stem cell homing

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PNB-89

Bacterial Growth Inhibition Activities of Loess (Hwangtoh) Ball Manufactured Using Antimicrobial Copper and Tea Tree Extracts

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PNB-90

Evaluation of the antioxidant activity of essential oil extracted from *Citrus* cultivars peel

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Forest Industrial Materials Division, Forest Products and Industry Department,
National Institute of Forest Science

PNB-91

Protective effect of *Glycyrrhiza* New Variety on cerulein-induced Acute Pancreatitis

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Jung-Hyang Park¹, Ju-Ryoun Soh¹, Jong-Sik Jin^{1*}

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PNB-92

A 13-week sub-chronic toxicity study of the *Glycyrrhiza* New Variety Extract in Sprague-Dawley Rats

Dong-Gu Kim¹, Jeonghoon Lee², Wonnam Kim³, Hyo-Jin An⁴, Jong-Hyun Lee⁵,
Jaeki Chang⁶, Sa-Haeng Kang¹, Young-Jae Song⁷, Yong-Deok Jeon⁸,
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PNB-93

Assessment of the 4-week repeated oral dose toxicity of the *Glycyrrhiza* New Variety Extract in Rats

Dong-Gu Kim¹, Jeonghoon Lee², Wonnam Kim³, Hyo-Jin An⁴, Jong-Hyun Lee⁵, Jaeki Chang⁶, Sa-Haeng Kang¹, Young-Jae Song⁷, Yong-Deok Jeon^{8*}, Jong-Sik Jin^{1*}

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PNB-94

Anti-cytotoxicity and anti-inflammation effects of fermented Wongam on particulate matter 10 in human lung fibroblast MRC-5 cells

Young-Jae Song¹, Sa-Haeng Kang², Dong-Gu Kim², Dong-Keun Kim², Tae-Hyeon Kim², Se-Woong Ko², Je-Hun Myung², Jung-Hyang Park², Jae-Bin Seo², Ju-Ryoun Soh², Jong-Sik Jin^{2*}

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PNB-95

Screening on anti-inflammatory effect of halophyte ethanol extracts

Sa-Haeng Kang¹, Jae-Bin Seo¹, Young-Jae Song², Se-Woong Ko¹, Tae-Hyun Kim¹, Dong-Keun Kim¹, Dong-Gu Kim¹, Je-Hun Myung¹, Ju-Ryoun Soh¹, Jung-Hyang Park¹, Jong-Sik Jin^{1*}

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PNB-96

Design, synthesis, and biological evaluation of chalcones

Seunghyun Ahn¹, Vi Nguyen-Phuong Truong², Beomsoo Kim³, Miri Yoo¹, Somi Kim Cho², Dongsoo Koh¹, Yoongho Lim^{3*}

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PNB-97

Anti-inflammatory Effect of Lutonarin Isolated from Barley Seedlings in LPS-stimulated RAW 264.7 Macrophages

Ji Yeong Yang, So Yeon Woo, Han Gyeol Lee, Hyoung Jae Ahn, Kwang Sik Lee, Mi Ja Lee, Hyun Young Kim, Seung Yeob Song, Woo Duck Seo*

Division of Crop Foundation, National Institute of Crop Science



PNB-98

Change in fecal microbiota by ethanolic extract of *Citrus sunki* peel

Se-Woong Ko¹, Sa-Haeng Kang¹, Dong-Gu Kim¹, Young-Jae Song²,
Jeong-Hyang Park¹, Ju-Ryoun Soh¹, Dong-Keun Kim¹, Tae-Hyun Kim¹,
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PNB-99

Anti-neuroinflammatory and anti-inflammatory effects of compounds isolated from the flowers of *Rudbeckia bicolor* Nutt. and *Coreopsis lanceolata* L. in BV2 and RAW264.7 cells

Hwan Lee, Zhiming Liu, Linsha Dong, Wonmin Ko, Eun-Rhan Woo,
Dong-Sung Lee*

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PNB-100

Isolation and identification of chemical constituents from *Curcuma longa* L.

Hong-Guang Jin^{1,2}, Hwan Lee³, Dae Young Lee⁴, Dahye Yoon⁴, Ren-Bo An⁵,
Hyuncheol Oh¹, Dong-Sung Lee^{3*}, Youn-Chul Kim^{1*}

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Korea, ⁵Key Laboratory of Natural Resources of Changbai Mountain & Functional

Molecules (Yanbian University), Ministry of Education, Yanji, Jilin 133002, P.R. China

PNB-101

Human organoid model to study docking of SARS-CoV-2 S1 protein in the gastrointestinal tract

Karakoz Mukhambetiyar, Tae-Eun Park*

Biomedical engineering, UNIST

PNB-102

Tetraarsenic oxide affects non-coding RNA transcriptome through deregulating polycomb complexes in MCF7 cells

Muhammed Taofiq Hamza¹, Jaehyeon Jeong¹, Keunsoo Kang², Doo Sin Jo³,
Ill Ju Bae⁴, Deukyeong Kim⁵, Dong-Hyung Cho³, Heeyoun Bunch^{5*}

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College of Agriculture and Life Sciences, Kyungpook National University, Daegu 41566, Republic of Korea



PNB-103

Effect of Black Ginseng Extract on Benign Prostatic Hyperplasia in Vitro

Jeon Hwang-Bo¹, Dae Young Lee², Bo-Ram Choi², Youn-Hyung Lee³,
Young-Seob Lee^{2*}

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PNB-104

Screening of new secondary metabolites from mycelial cultures of Korean wild mushroom strains

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Jong-Pyung Kim^{1*}

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PNB-105

Inhibitory effect of *Momordica cochinchinensis* on melanogenesis via tyrosinase activity inhibition and p-PKC signaling in malan-A cell

Sung-Chul Hong¹, Juyong Kim^{1,2}, Hyung-Seok Yu^{1,3}, Eun-Ha Lee¹,
Jae-Wook Lee¹, Jin-Chul Kim^{1*}

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PNB-106

Screening of function enhancing single compound on periodontal ligament stem cell

Seong-Hee Moon^{*}, Ji-Myung Bae

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PNB-107

Anti-inflammatory effects of novel bi-linderone type and known components isolated from *Lindera erythrocarpa* in BV2 microglia and HaCaT keratinocyte

Chi-Su Yoon¹, Hwan Lee², Zhiming Liu², Linsha Dong², Wonmin Ko²,
Hyeong-Kyu Lee^{1*}, Dong-Sung Lee^{2*}

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PNB-108

Characterization of the volatile organic compounds in Hop using GC-MS

Yeong Rae Song^{*}, Sang Mi Jung, Moon Jin Ra, Bong Hwan Jung

Natural Products Chemistry R&D Dept, Hongcheon Institute of Medical Herb

PNB-109

Quatitative Analysis of several active compounds improving the merchantability of Hops using HPLC

Min-Hee Kwon^{*}, Sang Mi Jung, Hwa Young Song, Moon Jin Ra,
Bong Hwan Chung

Natural Products Chemistry R&D Dept, Hongcheon Institute of Chemical Herb

PNB-110

Power Control Scheme of Magnetic Hyperthermia for Applications to Breast Cancer

Jungwon Yoon^{*}, Cao Luu

School of Integrated Technology, Gwangju Institute of Science and Technology

PNB-111

Effects of human Kv1.4 channel activity by the antidepressant metergoline

Junho Lee^{*}

Department of Biotechnology, Chonnam National University

PNB-112

The control of DEAD-box RNA helicase DDX3 with DDX5

Junho Lee^{*}, Sanung Eom

Department of Biotechnology, Chonnam National University

PNB-113

Anti-inflammatory effects of grain and bran extracts of barley and oat in lipopolysaccharide-stimulated RAW264.7 cells

Hyun Jin Lee^{1,2}, Ji Yeong Yang¹, Hyun-Young Kim³, So-Yeon Woo³,
Seung-Yeop Song³, Woo-Duck Seo³, Mi-Ja Lee^{1*}

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PNB-114

Anti-hyperglycemic activity of *Flos puerariae* extracts

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Veterinary Medicine, Seoul National University



PNB-115 E-Cadherin Confers Drug Resistance via ESRP1/CD44 Axis in Colon Cancer

Yellammandayya Vadlamudi, Sun Chul Kang*

Department of Biotechnology, Daegu University

PNB-116 Therapeutic propensity of ginsenosides Rg1 and Rg3 in rhabdomyolysis induced ER stress and apoptosis in rat model of acute kidney injury

Sukkum Ngullie Chang, Sun Chul Kang*

Department of Biotechnology, Daegu University

PNB-117 Osmundacetone Derivatives Inhibit Osteoclast and Activate Osteoblast concurrently with A specific structure–activity relationship

Da Woon Song¹, Ji-Man Jung¹, Kil Hong Park², Jin-Mo Ku^{1*}

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²Korea Molecular Medicine and Nutrition Research Institute, Korea University

PNB-118 Prevention of obesity by phytochemical-induced energy expenditure in diet-induced obese mice

Ji-Man Jung¹, Seo-Hyuk Chang², Kye Won Park², Jin-Mo Ku^{1*}

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²Department of Food Science and Biotechnology, Sungkyunkwan University

PNB-119 Optimization and biological evaluation of butein derivatives for inflammatory response suppression in lymphedema

Jin-Mo Ku^{1*}, Da-Woon Song¹, Jiman Jung¹, Sukchan Lee^{2*}, Hee Kang³, Kye Won Park⁴

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PNB-120 Combination of extracts from *Coptis chinensis* and *Silybum marianum* improve lipid metabolism and anti-obesity efficacy in high-fat diet-induced obese mice

Young Geol Yoon*

Department of Biomedical Science, Jungwon University

PNB-121 Inhibition of macrophage foam cell formation by ark shell (*Scapharca subcrenata*) hydrolysates

M.p.c.k Marasinghe¹, Jae-Young Je^{2*}

¹Department of Food and Life Science, Pukyong National University,

²Department of Marine-Bio Convergence Science, Pukyong National University



PNB-122 Anti-inflammatory activity of ark shell (*Scapharca subcrenata*) hydrolysates in LPS-stimulated RAW264.7 macrophages

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²Department of Marine-Bio Convergence Science, Pukyong National University

PNB-123 The evaluation of the optimal fermentative condition of the ethanol extract of *Curcuma longa* L. and *Atractylodes japonica* Koidz

Kwan-Woo Kim, Young-Seob Lee*, Gihwan Lee, Soyeong Jeon,
Dahye Yoon, Dae Young Lee, Yunji Lee, Geum-Soog Kim

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

PNB-124 Appearance change and ginsenoside content analysis of black ginseng (*Panax ginseng* C.A. Meyer) by drying method

Da Eun Jeong¹, Ji Won Lee¹, Soo Chang Na¹, Jong Hee Yoo¹, Hyo Bin Oh^{1*},
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²Institute of Jinan Red Ginseng

PNB-125 Method Development and Validation of Simultaneous analysis of indicator components as the acetic acid alcohol fermentation *Schisandra chinensis*

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PNB-126 Inducing cell behavior through the surface topology modification

Eun Hae Jo¹, Hyung Joon Park², Kyu Back Lee^{1,2*}

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²Department of Biomicrosystem Technology, Korea University, Seoul, Republic of Korea

PNB-127 Development and Validation of Simultaneous analytical method for pesticides in *Cnidii Rhizoma* using LC-MS/MS

Da Eun Lee, Kyung Jin Lee, Seong Ye Hyeon, Chul Hyun Lee, Soo Yeul Cho*

Herbal Medicine Research Division, National Institute of Food and Drug Safety Evaluation



PNB-128

Anti-oxidant and Immune Enhancing Activities of Korean Rhamnaceae

Da Som Kim, Hyun Ji Eo, Gwang Hun Park*

Forest Medicinal Resources Research Center, National Institute of Forest Science

PNB-129

Analyze properties of the new domestic citrus cultivar 'Tamnaneunbong' by compound analysis using HPLC

Sang Suk Kim*, Yo Sup Park, Jae-Ho Joa, Mi Sun Kim, Seok Kyu Yun, Seung Gab Han, Su Hyun Yun

Citrus Research Institute, National Institute of Horticultural & Herbal Science, RDA, Jeju 63607, Korea

PNB-130

Process study for the preparation of bioactive fraction from *Scutellaria baicalensis* Georgi

Soobin Song¹, Hyung Won Ryu^{1*}, Il-Joo Kim¹, Hyun-Jae Jang¹, Doo-Young Kim¹, Dae Young Lee², Nam-In Baek³, Sei-Ryang Oh¹

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PNB-131

Determination of dicaffeoylquinic acids isolated from *Gnaphalium affine* D.Don

Su Jin Hong^{1,2}, Hyun Jae Jang¹, Young Min An¹, Doo Young Kim¹, Hyung Won Ryu¹, Chul Young Kim², Sei Ryang Oh^{1*}

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PNB-132

Phytochemical constituents from *Prunus padus* L

Il Joo Kim, Sei Ryang Oh*, Soobin Song, Hyun Jae Jang, Doo Young Kim, Jung Hee Kim, Hyung Won Ryu

Korea Research Institute of Bioscience and Biotechnology, Natural Medicine Research Center

PNB-133

Identification of major compounds from *Arthraxon hispidus*

Young Min An^{1,2}, Hyun Jae Jang¹, Su Jin Hong¹, Doo Young Kim¹, Hyung Won Ryu¹, Chul Young Kim², Sei Ryang Oh^{1*}

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PNB-134

Phytochemicals investigation of *Gnetum gnemon* Linn leaves using UPLC-QTOF/MS

Alfan Danny Arbiyanto¹, Thi Khaine Htay², Doo-Young Kim¹, Hyun-Jae Jang¹, Hyung Won Ryu¹, Sei-Ryang Oh^{1*}

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PNB-135

Fabrication of nano/microfibrous membranes with phycocyanin coated marine collagen for bone regeneration

Se-Chang Kim^{1,2}, Seong-Yeong Heo^{2,3*}, Gun-Woo Oh^{2,3*}, Jae-Young Je⁴, Do-Hung Kim⁵, Kyung-Hoi Kim⁶, Won-Kyo Jung^{1,2,3*}

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PNB-136

COS-salicylic acid conjugate-incorporated oxidized alginate/gelatin hydrogel for enhanced wound healing

Se-Chang Kim^{1,2}, Gun-Woo Oh^{2,3*}, Tae-Hee Kim^{2,3*}, Won-Kyo Jung^{1,2,3*}

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PNB-137

Hepatoprotective effects of extract and ginsenoside from black ginseng and quality control of Rh1

Dae Young Lee¹, Dahye Yoon¹, Woo Cheol Shin¹, Young-Seob Lee¹, Seon Min Oh¹, Bo-Ram Choi¹, Youn-Hyung Lee², Jeon Hwang-bo^{3*}

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PNB-138

Profiling of phenolic phytochemicals in root bark of *Broussonetia papyrifera* by UPLC-QTOF/MS

Mi Hyeon Park¹, Su Yeon Lee¹, Doo-Young Kim¹, Hyun-Jae Jang¹, Dae Young Lee², Nam-In Baek³, Sei-Ryang Oh¹, Hyung Won Ryu^{1*}

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PNB-139

Metabolomic analysis of altered metabolism by *Polygonum multiflorum* treatment in HCT-116 human colon cancer cells

Dahye Yoon¹, Young seob Lee¹, Kwan-Woo Kim¹, Yunji Lee¹,
Geum-Soog Kim¹, Jeon Hwang-bo², Dae Young Lee^{1*}

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PNB-140

Changes in the content of flavonoid glycosides in fermented spinach (*Spinacia oleracea* L.) by lactic acid bacteria (LAB)

Su Yeon Lee, Sei-Ryang Oh^{*}, Doo-Young Kim, Hyung Won Ryu
Natural Medicine Research Center, KRIBB

PNB-141

Qualitative Analysis of Aroma Compounds in 7 Compositae Plants using GC-MS

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

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

PNB-142

Protection effect of (-)-loliolide from *Sargassum horneri* on photoaging of the skin in UVB-irradiated HaCaT cells

Min Ju Kim¹, Eui Jeong Han^{1,2}, Ilekkutige Priyan Shanra Fernando³,
Hyeong Nam Jeon¹, Seo-Young Park¹,
Kirinde Gedara Isuru Sandanuwan Kirindage¹,
Arachchige Maheshika Kumari Jayasinghe¹, Hyun-Soo Kim⁴, You-Jin Jeon⁵,
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⁴Department of Applied Research, National Marine Biodiversity Institute,
⁵Department of Marine Life Science, Jeju National University, ⁶Department of Marine Production Management, Chonnam National University

PNB-143

Apo-9'-fucoxanthinone isolated from *Sargassum horneri* suppressed the polyethylene-induced oxidative stress in human keratinocytes

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PNB-144

5-Bromo-3,4-dihydroxybenzaldehyde Isolated from *Polysiphonia morrowii* Suppressed Inflammatory responses in TNF- α /IFN- γ -stimulated HaCaT keratinocytes and TPA-induced ear edema mice model

Arachchige Maheshika Kumari Jayasinghe¹, Eui Jeong Han^{2,3}, Soo-Jin Heo⁴, Seo-Yeong Park³, Ilekuttige Priyan Shanura Fernando⁵, Kirinde Gedara Isuru Sandanuwan Kirindage³, Min Ju Kim³, Hyeong Nam Jeon³, Ginnae Ahn^{3*}

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PNB-145

Anti-inflammatory effects of phlorofucofuroekol A in keratinocytes

Seo-Yeong Park¹, Eui Jeong Han^{1,2}, Ilekuttige Priyan Shanura Fernando¹, Min Ju Kim¹, Kirinde Gedara Isuru Sandanuwan Kirindage¹, Arachchige Maheshika Kumari Jayasinghe³, Hyun-Soo Kim⁴, Ginnae Ahn^{1,5*}

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PNB-146

Effect of low molecular weight fucoidan obtained from *Sargassum siliquastrum* on skin inflammation and dryness in UVB-exposed HaCaT cells

Hyeong Nam Jeon¹, Ilekuttige Priyan Shanura Fernando¹, Min Ju Kim¹, Kirinde Gedara Isuru Sandanuwan Kirindage¹, Arachchige Maheshika Kumari Jayasinghe¹, Seo-Yeong Park¹, Eui Jeong Han^{1,2*}, Ginnae Ahn^{1,3*}

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PNB-147

Key Roles of the Korea Gynecologic Cancer Bank

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PNB-148

Fine dust from beijing increase oxidative stress, inflammatory responses, and apoptosis in keratinocytes

Ilekuttige Priyan Shanura Fernando¹, Eui Jeong Han^{2,3}, Min Ju Kim³,
Kirinde Gedara Isuru Sandanuwan Kirindage³,
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PNB-149

Moringa oleifera* hot water extract (MOH) protects Vero cells from hydrogen peroxide-induced oxidative stress and sensory attributes of MOH marinated *Scomber japonicus

Kirinde Gedara Isuru Sandanuwan Kirindage¹, Hyeong Nam Jeon¹,
Eui Jeong Han^{1,2}, Arachchige Maheshika Kumari Jayasinghe¹, Seo-Young Park¹,
Min Ju Kim¹, Ginnae Ahn^{1,3*}, Ilekuttige Priyan Shanura Fernando^{4*}

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PNB-150

Anti-allergic Activity of *Rhamnus crenata* Branches Extract in RBL-2H3 Cells

Da Som Kim, Yeongyeong Kang, Hyun Ji Eo, Gwang Hun Park*

Forest Medicinal Resources Research Center, National Institute of Forest Science

PNB-151

Retraction

PNB-152

A study on cultured products of probiotics with anti-oxidant and anti-aging activities using Hs68 human fibroblast cells

Suryeon Choi, Hyung Seo Hwang*

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PNB-153

A study on the suppression of melanogenesis by egg white lysosome organelle extract(LOE) in B16F10 cell line

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PNB-154

Abalone protein hydrolysates incorporated 3D printed PCL/fish collagen scaffolds for bone tissue engineering application

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PNB-155

PVA/diphlorethohydroxycarmalol (DPHC)-based anti-bacterial hydrogel for wound healing : An *in vitro* and *in vivo* study

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PES

Environmental Sciences

PES-1

Theoretical exploration on sampling bag in direct comparison with calibration cylinder by gas chromatography for accurate measurement of greenhouse gas

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PES-2

Study on soil environment improvement for high valuable crop cultivation and field test at the reclaimed tideland

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Rural Research Institute, Korea Rural Community Corporation

PES-3

Evaluation of Biological Activity and Analysis of Functional Constituents from crops in the reclaimed farmland

Young-Jun Park^{*}

Rural Research Institute, Korea Rural Community Corporation



PES-4

Effect a Combination of Biochar and Barley Straw to Improve Rice Productivity, Soil Fertility, and Reduce Greenhouse Gas Emissions in Paddy Field

Han-Na Cho, Jin-Ju Yun, Jae-Hyuk Park, Seung-Gyu Lee, So-Hui Kim, Ju-Sik Cho, Se-Won Kang*

Department of Agricultural Life Sciences & Interdisciplinary Program in IT-Bio Convergence System, Sunchon National University

PES-5

Epigenetic Regulation of Heat Stress Response: Histone Deacetylase Gene Family and Long Non-Coding RNAs in Heat Treated Chinese Cabbage

Seung Hee Eom, Tae Kyung Hyun*

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PES-6

Initiative study to select well-adapted Eucalyptus species under field conditions

Hyun-Sug Choi, Ji-Sik Jung, Young-Hwa Park, Soo-Yeon Hyun*

Department of Horticulture, Daegu Catholic University

PES-7

The effect of nutrient application on kiwi yield in the Jeju plastic film house

Gil Won Kim^{1*}, Ji Su Ha¹, So Young Park¹, Ho Gyeong Chae¹, Taeyoung Kim², Seul Bi Lee³, Chang Hoon Lee⁴, Ouk-Kyu Han⁴, Ji Yeon Lim¹

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PES-8

Layers of Uranium Phosphate Nanorods and Nanoplates Encrusted on Fungus *Cladosporium* sp. Strain F1 Hyphae

Jisu Lee, Hor-Gil Hur*

School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology

PES-9

Microbial community and physiology of plant growth promoting bacteria for phytoremediation of heavy metal contaminated soil environments

Min-Kyu Park, Yeong-Jun Park, Tae-Hyung Park, Min-Chul Kim, Jerald Conrad Ibal, Min-Ji Kim, Do-Kyung Lee, Jae-Ho Shin*

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PES-10

Changes in Dominant Corn Field Weeds Caused by Different Mulching Types from Early to Late Summer

Hyung Hwa Park, Hee Kwon Kim, Byung Joon Jeong, Ok Gi Lee, Yong In Kuk*

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PES-11

Changes in the Occurrence of Summer Weeds in the Southern Coastal Region due to Climate Change

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PES-12

Effect of Furrow Mulching on Weed Occurrence, Soil Moisture, and Yield of Peanut in Paddy Field Cultivation

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PES-13

Nitrous Oxide Emission from Rice Paddy in Central Region of Korea during Fallow Season

Okjung Ju*, Hoseup Soh, Jaewon Jeong, Young-Soon Lee

Environmental Agriculture Research Division, Gyeonggi-do Agricultural Research and Extension Services

PES-14

Concentration Change of Antibiotic Residues in Raw Materials and Products of Solid and Liquid Manure in Korea

Oh-Kyung Kwon^{1*}, Song-Hee Ryu², Sung-Chul Kim³, Young-Kyu Hong³, Jin-Wook Kim³, Won-Il Kim⁴

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PES-15

Residual Characteristics of Insecticide(Pyriproxyfen) and Fungicide (Streptomycin) in Five Minor Crops

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PES-16

Effect of biochar application on CO₂ and N₂O emissions in the soil with different types of nitrogen fertilizer during corn cultivation

Sun Il Lee^{*}, Eun Jung Choi, Do Gyun Park, Hyo Suk Gwon, Joung Du Shin, Sung Soo Kang

Climate Change & Agroecology Division, National Institute of Agricultural Sciences

PES-17

Adsorption Characteristics of Heavy Metal Ions using Biochar derived from Rendering Animal Carcass Residue

Jin-Ju Yun, Se-Won Kang, Jae-Hyuk Park, Seung-Gyu Lee, So-Hui Kim, Han-Na Cho, Ju-Sik Cho^{*}

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PES-18

Correlation of bioaccumulation factor for endosulfan with plant growth effect

Deuk-Yeong Lee, Kyeong-Yeol Oh, Jin-Hyo Kim^{*}

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PES-19

Investigation of the correlation of soil factor for the uptake of organic contaminants and the importance of soil organic matter effect on the bioaccumulation in vegetable

Deuk-Yeong Lee, Kyeong-Yeol Oh, Jin-Hyo Kim^{*}

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PES-20

Absorption and Translocation of Pesticides from Soil by Oriental Melon under Greenhouse Condition

Kyung Sook Chong, Jang Eok Kim^{*}

School of Applied Biosciences, Kyungpook National University

PES-21

Absorption and Translocation of Pesticides from Soil by Oriental Melon under Greenhouse Condition

Kyung Sook Chong¹, Se Yeon Kwak¹, Chae Uk Lim², Sang Hyeob Lee¹, Dong Ju Lee¹, Ye Jin Heo¹, Jae Won Choi¹, Ji Eun Oh¹, Aniruddha Sarker¹, Rahik Nandi¹, Lawal Abdulkareem¹, Jang Eok Kim^{1*}

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PES-22

Evaluation of catalytic performance and stability of Fe-BC and Fe-AC for the methylene blue degradation

Jong-Hwan Park¹, Jae-Hoon Lee², Su-Lim Lee², Dong-Cheol Seo^{1*}

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PES-23

Effect of biochar discharged from biomass thermal power plant on livestock manure composting

Yu-Jin Park¹, Jong-Hwan Park¹, Su-Lim Lee², Jae-Hoon Lee², Dong-Cheol Seo^{1*}

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PES-24

Evaluation of the availability of biochar as a bulking agent for composting livestock manure

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PES-25

Selection of mixing ratio of peat moss and biochar to reduce odor emitted during livestock manure composting process

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PES-26

Enhancing the adsorption capacities of arsenic by Zn-decorated biochar

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PES-27

Evaluation of the acute toxicity of genetically modified rapeseed to *Cyprinus carpio*

Sung-Dug Oh^{*}, Younggeum Shin, Doh-Won Yun, Seong-Kon Lee

Department of Agricultural Biotechnology, National Institute of Agricultural Sciences



PES-28

Effect of dehydrated food waste powder mixed organic fertilizer on chinese cabbage growth and soil chemical properties

Seong Heon Kim, Jaehong Shim, Seong Jin Park, Yun Hae Lee, Soon Ik Kwon*

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PES-29

Effects of hybrid soybeans (*Glycine max* × *G. soja*) on soil bacterial community in the rhizosphere

Ye-Jin Jang, Doh-Won Yun, Seong-Kon Lee, Sung-Dug Oh*

Department of Agricultural Biotechnology, National Institute of Agricultural Sciences

PES-30

Transcriptomic landscape of type 2 diabetes in human stomach

Eun-A Ko*

Department of Physiology, College of Medicine, Jeju National University

PES-31

Effect of organic fertilizer application on lettuce growth and soil properties

Seong Heon Kim, Jaehong Shim, Seong Jin Park, Yun Hae Lee, Soon Ik Kwon*

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PES-32

Dissipation and Distribution of Dimethomorph Residues Sprayed with Agricultural Multicopter onto Tree Onion

Chang Jo Kim¹, RaeKeun Lee¹, Hee Jeong Shin¹, Byeong-Chul Moon², Heung Tae Kim³, Leesun Kim¹, Danbi Kim¹, Hee-Dong Lee¹, Kee Sung Kyoung⁴, Hyun Ho Noh^{1*}

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PES-33

Development of LC-MS/MS Analytical Methods for Metalaxyl in *Atractylodes rhizome* white and *Achyranthes* root

Seung-Hyun Yang¹, Myung-Sub Yun¹, Dong-Hyun Kang¹, Gyeong-Seok Oh¹, Jae-Young Kim², Gnu Nam², Hoon Choi^{1*}

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PES-34

Residual Pattern of Picarbutrazox Sprayed with Unmanned Aerial Vehicle (UAV) onto Chinese Cabbage (*Brassica campestris* var. *pekinensis*)

Raekeun Lee¹, Chang Jo Kim¹, Hee Jeong Shin¹, Byeong-Chul Moon²,
Heung Tae Kim³, Leesun Kim¹, Danbi Kim¹, Hee-Dong Lee¹,
Kee Sung Kyung⁴, Hyun Ho Noh^{1*}

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PES-35

Residual Characteristics of Fluopyram in Paprika Caused by Cultivars

Hee Jeong Shin¹, Danbi Kim^{1*}, Chang Jo Kim¹, Hyun Ho Noh¹, Taek-Kyum Kim¹,
Min-Seok Oh¹, Eun Young Lee¹, Kee Sung Kyung²

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PES-36

Evaluation of the effects of organic fertilizer on the growth of cabbage according to the mixing ratio of dried powder of food waste

Yosep Kang¹, Lee-Rang Kim¹, Ho-Jun Gam¹, Eun-Jung Park¹, Seong-Heon Kim²,
Sang-Mo Kang³, In-Jung Lee^{3*}

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PES-37

Evaluation of the effect of organic fertilizer on lettuce growth and yield according to the mixing ratio of dried powder of food wastes

Ho-Jun Gam¹, Lee-Rang Kim¹, Yosep Kang¹, Eun-Jung Park¹,
Seong-Heon Kim², Sang-Mo Kang³, In-Jung Lee^{3*}

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PES-38

Investigation of control method of *Rumex acetosella* using foliar herbicides

Lee-Rang Kim¹, Yosep Kang¹, Ho-Jun Gam¹, Eun-Jung Park¹, Bo-Ram Choi²,
Sang-Mo Kang³, In-Jung Lee^{3*}

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PES-39

A Study on Improvement of Enzymatic Activity of the Novel Thermoalkaliphilic Laccase (CtLac)

Youri Yang^{*}, Sunil Ghatge, Woo-Young Song, Tae-Young Kim, Hor-Gil Hur^{*}

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PES-40

Effect of mid-season drainage on greenhouse gas reduction efficiency in rice paddy

Hyo Suk Gwon^{*}, Eun Jung Choi, Sun Il Lee, Seong Soo Kang

Climate Change Assessment Division, National Institute of Agricultural Sciences

PES-41

Solid phase extraction method for stable isotope of pesticides from complex environmental and plant matrices

Hee Young Yun^{1*}, Eunji Won¹, Eusang Cho¹, Da Jung Lim², In Seon Kim², Kyung-Hoon Shin¹

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PES-42

Effect of Soil Amendments Derived from Agricultural Biomass to Improve Corn Growth and Soil Quality in an Upland Field

Han-Na Cho, Seung-Gyu Lee, So-Hui Kim, Jin-Ju Yun, Jae-Hyuk Park, Ju-Sik Cho, Se-Won Kang^{*}

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PES-43

Analysis of Soil Catena for Korean Agricultural Soils derived from Sedimentary Rock

Yeon Kyu Sonn^{*}, Woo Ri Go, Byung Hwan Seo

Soil & Fertilizer Division, National Institute of Agricultural Sciences

PES-44

The Fermented Coffee Grounds Reduce the Livestock Waste Odor by Altering the Microbial Composition in it

Min-Sueng Kim¹, Jae-Ho Shin^{1*}, Sang-Ho Kim², Hyunwoo Son¹, Ryeong-Hui Kim¹, Kyeongmo Lim¹

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PES-45

Thermodynamic Investigation into the Binding Properties of Polystyrene Microplastics and Human Serum Albumin

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PES-46

Properties of Biochar derived from Lignocellulosic Biomass depending on Chemical Composition

Se-Eun Ban^{1,2}, Da-Jung Lim³, Seon-Wook Kim³, Jae-Won Lee^{1,2}, In-Seon Kim^{3*}

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PES-47

Sorption behavior of copper on microplastic films

Yu Jin Seo, So Yun Park*, Eun Hea Jho*

Department of Agricultural and Biological Chemistry, Chonnam National University

PES-48

Eco-toxicity evaluation of tolpyralate and classification in GHS system

Jina Oh*, Kyoungmi Chon, Chang-Young Yoon, Seul Lee, Bo-Seon Kim, Juyeong Kim, Hong-Hyun Park

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PES-49

Comparison of Spatial Correlation Distance for Soil Chemistry according to Sampling Interval in Paddy Field

Woo Ri Go*, Yeon Kyu Sonn, Byung Hwan Seo

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PES-50

Effect of Microorganism Treatment on Ammonia Gas Emission in Chinese Cabbage Cultivation for Reducing Fine Dust

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PES-51

Acute contact toxicity of dimethoate to *Osmia pedicornis*

Kyongmi Chon^{1*}, Bo- Seon Kim¹, Juyeong Kim¹, Chang-Young Yoon¹, Jin- A Oh¹, Hong-Hyun Park¹, Hyung Joo Yoon²

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PES-52

Uptake of Hexaconazole by Burdock after Soil Application

Jun Hyuk Hwang, Eun Ok Kang*, Jeong A Kim, Kee Sung Kyung

Center for Environmental Resources and Analysis Chungbuk National University, Republic of Korea

PES-53

Transcriptome analysis of phosmet treated zebrafish (*Danio rerio*)

Bala Murali Krishna Vasamsetti, Kyongmi Chon*, Juyeong Kim, Jin- A Oh, Chang- Young Yoon, Hong- Hyun Park

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PES-54

Residue Patterns of the Insecticide Cyflumetofen and its Metabolite in Minor Crops

Dong-Ju Lee¹, Se-Yeon Kwak¹, Sang-Hyeob Lee¹, Ye-Jin Heo¹, Jae-Won Choi¹, Ji-Eun Oh¹, Kee-Sung Kyung², Tae-Hwa Kim³, Jang-Eok Kim^{1*}

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PES-55

Effect of green manuring and tillage practice on soil organic carbon storage and stability in upland soil

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PES-56

Nitrous Oxide Emission from Nitrogen Fertilized Rice paddy Field in Korea

Eun Jung Choi, Eun Jung Choi*

Climate Change Assessment Division, National Institute of Agricultural Sciences



PES-57 Arsenic and Lead Adsorption to Iron Phosphate and their Sorption Modeling

Han Na Kim, Jin Hee Park*

Chungbuk National University, Environmental and Biological Chemistry

PES-58 Monitoring of Soil EC under Different Soil Water Content for Prediction of Soil Nutrient Condition

Han Na Kim, Yeong Ju Seok, Gyung Min Park, Guen Sik Kim, Jeong Yeon Kim, Jin Hee Park*

Chungbuk National University, Environmental and Biological Chemistry

PES-59 Study of insect pheromone and receptors

Junho Lee*

Department of Biotechnology, Chonnam National University

PES-60 Study of enteric muscle contraction through excitatory GABA-gated channel in nematode

Junho Lee*

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PES-61 The effect of persistent organic pollutants on mitochondria in zebrafish organs after caloric restriction for the decomposition of the fat

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PES-62 Assessment of metal toxicity using multiple-endpoints in *Ulva pertusa* at physiological and biochemical levels

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PES-63 Sorption tendency of 3,5-dichloroaniline on microplastic film

Jiwon Yang, Eun Hea Jho*, Seon Hee Kim*

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PES-64

Methane production potential of cow manure

So Yun Park, Seon Hee Kim*, Eun Hea Jho*

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PES-65

Is Ammonium Sulfate Application An Alternative Way to Mitigate NH₃ Volatilization as Compared to Urea in Rice Paddy Soils?

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PES-66

Combined Application of Organic and Inorganic Fertilizers on Mitigating NH₃ and Greenhouse Gas Emissions in Cabbage Cultivated Soils

Yeomyeong Lee¹, Hyerin An², Juhee Lee¹, Seoungwoo Choi¹, Sang Yoon Kim^{1,2,3*}

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PES-67

Characteristics of SOM Distribution and Decomposition Rate in Soils Cultivated with Different Fruits and Vegetables

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PES-68

Assessment of advanced remediation methods for veterinary pharmaceuticals in laboratory-scale landfill

Hee Su Jeon, Van Hay Duong, Sung Min Seo, Ye Chan Moon, Jae Young Cho*

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PES-69

Photocatalysis of veterinary pharmaceuticals using UV Lamp (254 nm)

Hee Su Jeon, Van Hay Duong, Sung Min Seo, Ye Chan Moon, Jae Young Cho*

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PES-70

Effects of Combined Application of Organic Compost and Inorganic Fertilizer on Ammonia Volatilization and Greenhouse Gas Emissions in a Maize Field

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PES-71

Establishment of Optimum Inorganic Fertilization Level on Kenaf (*Hibiscus cannabinus* L.) Cultivation in a Reclaimed Paddy Soil in the Southern Korean Peninsula

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PES-72

Temperature Sensitivity of Soil Organic Carbon Decomposition in Orchard Soils

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PES-73

Comparison of Hydrolase Activity on Carbon and Nutrients in long-term fertilized paddy soil

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PES-74

Long-term Effect of lime treatment on yield and soil properties in rice paddy soil

Seong-Heon Kim, Jae-Hong Shim, Seong-Jin Park, Yun-Hae Lee, Soon Ik Kwon*
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PES-75

Effects of Labile carbon on Microbial Community Composition in Short term Corn cultivation

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PES-76 Inoculation of *Brevibacterium linens* RS16 enhances heat stress tolerance by regulating ethylene emission in rice (*Oryza sativa* L.)

Tongmin Sa^{*}, Joengyun Choi, Aritra Roy Choudhury, Denver Walitang
Environmental and Biological Chemistry, Chungbuk National University

PES-77 Enhancement of stress tolerance in rice (*Oryza sativa* L.) against UV-B radiation with inoculation of *Brevibacterium linens* RS16

Tongmin Sa^{*}, Jeongyun Choi, Aritra Roy Choudhury, Denver Walitang
Environmental and Biological Chemistry, Chungbuk National University

PES-78 Residual Characteristics of Fungicide Tebuconazole in *Schisandra Chinensis* Baillon Fruits

Dong Kyu Jeong, Won Min Jeong, Hyeon Hee Kim, Dong Yeol Lee^{*}
Anti-Aging Research Group, Gyeongnam Oriental Anti-Aging Institute

PES-79 Effect of Biochar Amendment on N₂O Emission in Reclaimed Soils of Two Types

So-Hui Kim^{1,2}, Se-Won Kang^{1,2}, Jin-Ju Yun^{1,2}, Han-Na Cho^{1,2}, Jae-Hyuk Park^{1,2},
Seung-Gyu Lee^{1,2}, Ju-Sik Cho^{1,2*}
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PES-80 Isoflavone contents changes according to soybean sowing times in soybean leaves

Seo Yeon Hong^{*}, Jong Soo Ryu, Ok Jae Won, Jin Ki Park, Eun Ji Suh,
Jae Sung Park, Hong Suk Lee, Kil Su Han, Won Young Han, Duk Young Song
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PES-81 Predicting and mapping soil organic carbon stock in Korea

Seong-Jin Park, Yun-Hae Lee^{*}
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PES-82 Residual characteristics of Carbendazim and Diethofencarb in Wild Chive (Late Variety)

Sang-Jeong Park, Jung-Hoon Sun, Seung-Jun Ka, Hyun-Ji Park,
Se-Hyeon Kim, So-Hyung Kim, Joon-Kwan Moon^{*}
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PES-83

Organic matter of various C:N ratios affects to the solubility of trace metals in soil

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PES-84

The effect of hexavalent and pentavalent chromium on lysozyme

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PES-85

Manufacturing Method of Amino Acid Liquid Fertilizer Using Rendering Residues through Enzymatic Treatment

Jae-Hyuk Park^{1,2}, Se-Won Kang^{1,2}, Jin-Ju Yun¹, Han-Na Cho^{1,2},
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PFS

Food Sciences

PFS-1

Development of allergenic food 'Perilla' protein detection and validation method with LC-MS

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PFS-2

Development of allergenic food 'Macadamia' protein detection and validation method with LC-MS

Ji Sun Byun, Kyung Do Kim, Zee Yong Park^{*}

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PFS-3

Development of allergenic food 'Kiwi' protein detection and validation method with LC-MS

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Department of School of Life Science, Gwangju Institute of Science and Technology



PFS-4

Oral administration of Berberine represses macrophage activation-associated benign prostatic hyperplasia: a pivotal involvement of the NF- κ B

Bo-Ram Jin, Yun-Mi Kang, Tae-Young Gil, Yea-Jin Park, Hyo-Jung Kim, Hye-Min Kim, Divina C. Cominguez, Seo-Ah Sim, Hee-Young Kim, Ju-Yeon Lee, Hye-Eun Jung, Hyo-Jin An*

Department of Pharmacology, College of Korean Medicine, Sangji University

PFS-5

Monitoring of Pesticide and Heavy Metal Residue in 10 Kinds of Agroforest Products in 2020

Junheon Kim*, Ji Yeon Oh

Forest Insect Pests and Diseases Division, National Institute of Forest Science

PFS-6

Residual Characteristics and Risk Assessment of Chromafenozide in Spinach and Shallot

Dong-Ju Kim¹, Young-Jin Ham¹, Jun-Young Kim¹, Jong-Won Hong¹, Jun-Woo Moon¹, Tae-Hwa Kim², Jang-Eok Kim³, Chan-Hyeok Kwon⁴, Kee-Sung Kyung^{1*}

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PFS-7

Multivariate analysis of FT-IR spectroscopy data from different country of Field crop

Seung Yeob Song*, Hyun Young Kim, So-Yeun Woo, Ji Yeong Yang, Mi Ja Lee, Woo Duck Seo

Crop Foundation Research Division, National institute of Crop Science, RDA

PFS-8

Monitoring and Risk Assessment of Pesticide Residues for Vegetables collected in the Southern Area of Seoul from 2018 to 2020

Tae Rang Kim*, Yeo-Joon Son, Mi-Sun Kim, Mi-Ok Song, Eun-Jung Han, Hee-Jeong Jeong, Min-Jung Kim, Yeo-Jae Shin, Eun-Sun Yun, In-Sook Hwang, Yong-Seung Shin

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PFS-9

Effect of Plasma Activated Water Treatment on Physicochemical Properties of Sprout Vegetables

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PFS-10

Dietary Exposure of Formaldehyde in Alcoholic Beverages

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Department of Food Science and Engineering, Ewha Womans University

PFS-11

Optimization of QuEChERS Sample Preparation Method for Determination of Beauvericin and Enniatins in Powdered Ginger

Mi-Jeong Lee, Jeomsoon Kim, Soobin Yim, Jung-Hye Choi, Theresa Lee, Ja Yeong Jang*

Microbial Safety Division, National Institute of Agricultural Sciences, Rural Development Administration, Wanju 55365, Republic of Korea

PFS-12

A Comparative Study on Genetic and Environmental Influence on Policosanols Profiles in Various Rice Seeds

Soo-Yun Park¹, So Ra Jin¹, Sung-Dug Oh¹, Seonwoo Oh², Sang-Gu Lee¹, Eun-Ha Kim¹, Hyoun-Min Park¹, Min Ho Lee¹, Yun-Young Kang¹, Oh Suk Yu¹, Tae-Hun Ryu¹*

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PFS-13

Effect of feeding Ginkgo leaves on growth in White-Spotted Flower Chafer, *Protaetia brevitarsis*

Yongsoon Kim, Eunsun Kim*, Sun Young Kim*, Kwanho Park*, Kyuwon Kwak*

Division of Industrial Insect, National Institute of Agricultural Sciences, Rural Development Association

PFS-14

Discrimination of Geographical Origin of *Lentinus edodes* using Energy Dispersive X-ray Fluorescence Spectrometer

Mi-Ra Jang*, Nam-Hoon Kim, Ju-Yeon Jo, Ju-Hyun Park, Ae-Kyung Kim, In-Sil Yu, Yong-Seung Shin

Seoul Metropolitan Government Research Institute of Public Health and Environment

PFS-15

A Survey on Triazole Pesticide Residues of Commercial Agricultural Products in Busan (2015~2019)

Han Nwi You, Kyeong A Kim, Hye Young Park, Dong Ju Park, Sun Mi Lee, Eun Ju Song, Woo Jeong Ok, Min Gi Jung, Byeong Jun Kim*

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PFS-16

The effect of physiological activation by fractionated extract of drone pupa

Seonmi Kim, Se Gun Kim, Hyo Young Kim, Hong Min Choi, Hyo-Jung Moon, Soon-Ok Woo, Sang Mi Han*

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PFS-17

Antioxidative activity of 40% ethanolic extract from *Robinia pseudoacacia* L. flower

Myeong Gyu Han, Jung Min Kim, Man Jin In, Dong Chung Kim*

Department of Chemical Engineering, Chungwoon University

PFS-18

Antioxidative activity of 80% ethanolic extract from *Loranthus yadoriki*

Mi Eun Lee, Yu Jin Park, In Young Song, Dong Chung Kim*

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PFS-19

Residual Characteristics of Agrochemical Pydiflumetofen in Minor Crops

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PFS-20

Effect of rice washing on etofenprox residue

Moohyeog Im*, Hyesu Lee, Mihyun Cho, Myungheon Kim, Subin Bae

Daegu University, Department of Food Engineering

PFS-21

Pesticide reduction rate of etofenprox during cooking of rice

Moohyeog Im*, Hyesu Lee, Mihyun Cho, Myungheon Kim, Subin Bae

Daegu University, Department of Food Engineering

PFS-22

Residue Characteristics of pesticides in pepper and chili pepper from international pesticide residue monitoring data

Moohyeog Im^{1*}, Hyesu Lee¹, Mihyun Cho¹, Myungheon Kim¹, Subin Bae¹, Minsoo Park¹, Hyeonjun Kim¹, Seohong Kim²

¹*Daegu University, Department of Food Engineering,* ²*ChungBuk National University, Department of Environmental and Biological Chemistry*



PFS-23

A Research on Heavy Metal Contents of Environmentally-Friendly Agricultural Products from Ulsan

Jae Sun Choi, Eun Young Jo, Eun Ji Won, Su Hee Kim, Seon Hwa Kim, Young Min Kim*

Agricultural & Aquatic products Research, Ulsan Institute of Health & Environment

PFS-24

Nutritional and Safety Study of drone pupa as food ingredient

Hyojung Moon, Se-Gun Kim, Hyo-Young Kim, Hong-Min Choi, Sang-Mi Han*

Department of Agricultural Biology, Rural Development Administration, National Institute of Agricultural Science

PFS-25

Growth characteristics and cluster analysis of *Glycyrrhiza korshinskyi* resources

Myeong Won Oh, Jintae Jeong, Jongwon Han, Kyungho Ma, Jeonghoon Lee*

National Institute Horticultural and Herbal Science, Rural Development Administration

PFS-26

Study on *G. korshinskyi* Grig. of Imported *Glycyrrhizae Radix et Rhizome*

Jeonghoon Lee*, Myeong Won Oh, Yongil Kim, Sungcheol Koo, Yunji Lee, Jintae Jeong, Jong Won Han, Kyungho Ma, Young-Ho Yoon

National Institute Horticultural and Herbal Science, Rural Development Administration

PFS-27

Monitoring and risk assessment of pesticide residues and heavy metals in Ginseng distributed in Busan Area

Ju-Hee Sim^{1*}, Chan-Hee Kim², Hye-Sun Hwang³, So-Yoon Park¹, Haeng-Ok Seo⁴, Yung-Ju Bang¹, Sang-Kee Min¹

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PFS-28

Metabolic profiling of seeds and leaves of β -carotene-enhanced (*Glycine max*), wild-type (*Glycine soja*) and hybrid (β -carotene-enhanced soybean \times wild soybean) soybeans

Jung Won Jung¹, Sung-Dug Oh², Soo-Yun Park², Yejin Jang², Soon Ki Park³, Jae Kwang Kim^{1*}

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PFS-29

Evaluation of the anti-inflammation effects of black ginseng extract in beagle dogs using serum metabolomics

Ye Jin Kim¹, Dae Young Lee², Ho- Eun Park³, Dahye Yoon², Bumkyu Lee⁴,
Jae Geun Kim¹, Kyung- Hoan Im¹, Young- Seob Lee², Wan- Kyu Lee³,
Jae Kwang Kim^{1*}

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PFS-30

Antioxidant Activities of Various Black Soybean Tissues (Glycine max L.) Harvested from Different Cultivation Regions

Hyun Young Kim^{*}, So-Yeun Woo, Ji Yeong Yang, Hangeol Lee,
Hyoung Jae Ahn, Kwang-Sik Lee, Mi-Ja Lee, Seung-Yeob Song,
Man-Soo Choi, Woo Duck Seo

Division of Crop Foundation, National Institute of Crop Science (NICS),
Rural Development Administration (RDA)

PFS-31

Specific sound waves improve flavonoid content and antioxidant properties in sprout vegetables

Joo Yeol Kim, Jin A Kim, Kijong Lee, Mi-Jeong Jeong^{*}

Department of Agricultural Biotechnology, National Institute of Agricultural Science,
Rural Development Administration

PFS-32

Selection and industrial application of γ -Aminobutyric acid bioconversion strain derived from Korea traditional food

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Republic of Korea

PFS-33

Efficacy evaluation of ethyl formate fumigation against *Bemisia tabaci*

Hwang-Ju Jeon¹, Yerin Cho², Donghyeon Kim², Woosung Kim²,
Tae-Hyung Kwon³, Dongbin Kim⁴, Byung-Ho Lee⁴, Sung-Eun Lee^{1*}

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PFS-34

Total polyphenol and flavonoid contents and antioxidant activity of common buckwheat(*Fagopyrum esculentum*) and tartary buckwheat(*Fagopyrum tataricum*) cultivated in Korea

Myung-Heon Lee^{1*}, Jung-Sun Lee², Jang-Heon Lee¹, Su-Bin Park¹,
Won-Ho Lee³, Hung-Wo Lee⁴, Seung-Tae Kim⁵, Chang-Hoe Heo⁵

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PFS-35

Integrated Metabolomic and Transcriptomic Comparison of Three Commercial Cucumbers with Metabolism and Functional Properties

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PFS-36

Activation of DDX3 on the Innate Immune Response by ginsenoside

Junho Lee^{*}, Shinhui Lee

Department of Biotechnology, Chonnam National University

PFS-37

Ultraviolet-B Irradiated Mushroom Effectively Reduced Oxidative Stress and Inflammatory Response in Vitamin D Deficient Rat

Debasish Kumar Dey¹, Sukkum Ngullie Chang¹, Muhammad Haroon¹,
Hyun Jin Kim², Sun Chul Kang^{1*}

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PFS-38

Quercetin augment vitamin D2 stability and diminish degradation influenced by elevated temperature and pH

Sukkum Ngullie Chang, Sun Chul Kang^{*}

Department of Biotechnology, Daegu University

PFS-39

Total polyphenol and flavonoid contents and antioxidant activity of the extracts from germinated common buckwheat(*Fagopyrum esculentum*)

Myung-Heon Lee^{1*}, Jung-Sun Lee², Jang-Heon Lee¹, Su-Bin Park¹,
Won-Ho Lee³, Hung-Wo Lee⁴

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PFS-40

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

Song Yi Koo¹, Ki Young Choi¹, Hee Ju Lee¹, Keum Taek Hwang², Sang Min Kim^{3,4*}

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Natural Products, ⁴Department of Bio-Medical Science & Technology, University of Science and Technology

PFS-41

Effects of polysaccharide (polycan) derived from black yeast in dexamethasone-induced muscle atrophy cell model

Young suk Kim^{1*}, Jong min Lim¹, Bon hwa Ku¹, Da mi Cheon¹, Yu Jin Jung², Tae Woo Oh³

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Chemicals, Korea Research Institute of Chemical Technology(KRICT), ³Korean Medicine (KM)-Application Center, Korea Institute of Oriental Medicine(KIOM)

PFS-42

Plant based protein products: Characterization and functionality of dried tofu noodles containing lotus root powder

Jeong Eun Kim, Soon Mi Shim*

Food Science and Biotechnology, Sejong University

PFS-43

Simultaneous determination of ephedrine alkaloids in Ephedra plants (Ma-huang) and ephedrine-contained products using ultra performance liquid chromatography combined with tandem mass spectrometry (UPLC-MS/MS)

Kyoung- Moon Han*, Jin- Woo Hwang, Sun Hee Lee, Bo Rem Park, Hyung-Il Kim, Sun- Young Baek

Center for Advanced Analysis, National Institute of Food and Drug Safety Evaluation, Ministry of Food and Drug Safety

PFS-44

The Prediction of Diverse Plant Metabolites by Hyperspectral Imaging in *Brassica juncea*

Jae-Hyeong Choi^{1,2}, Soo Hyun Park¹, Dae-Hyun Jung¹, Yun Ji Park¹, Sang Min Kim^{1,2*}

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PFS-45

Metabolomics reveals distinct modulation of complex metabolic networks in different rice (*Oryza sativa* L.) cultivars

Young Jin Park¹, Tae Jin Kim², So Yeon Kim¹, Sun-Hyung Lim³, Sun-Hwa Ha⁴, Sang Un Park⁵, Jae Kwang Kim^{1*}

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PFS-46

PCR based detection method for GM maize and canola

Min Ki Shin^{1,2}, Seon Min Jeon¹, Hyun Ah Kim¹, Jong Seok Park^{1*}

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PFS-47

Determination of Anthelmintic and Antiprotozoal Drug Residues in Fishery Products using Liquid Chromatography-Tandem Mass Spectrometry Analysis

Sihyun Park, Eunjung Kim*, Hyunjin Park, Sujeong Park, Jangduck Choi, Gui-Im Moon

Pesticide and Veterinary Drug Residues Division, Ministry of Food and Drug Safety

PFS-48

Determination of 87 Pesticides in Fishery Products using Liquid Chromatography-Tandem Mass Spectrometry

Hyunjin Park, Eunjung Kim*, Sihyun Park, Sujeong Park, Jangduck Choi, Gui-Im Moon

Pesticide and Veterinary Drug Residues Division, Ministry of Food and Drug Safety

PFS-49

Development of method to discriminate the geographical origin of Burdock using XRF with multivariate data analysis

Yong-Sik Youn, Jae-Min An*, Dong-Jin Kang, Ji-Hye Lee, Da-Hye Jin, Seong-Hee Lee, Ji-Yeon Eom, Seong-Hun Lee

Origin Identification Div, Experiment Research Institute, National Agricultural Products Quality Management Service



PFS-50

Change in nutrient constituents and metabolites and antioxidant activity during food processing of isoflavone-enriched soybean leaves by mycelia of *Tricholoma matsutake*

Du Yong Cho, Min Ju Kim, Hee Yul Lee, Eun Hye Jeong, Joo Young Lee, Kye Man Cho*

Department of Food Science, Gyeongsang National University, Jinju 52828, Republic of Korea

PFS-51

Change in nutrient and ginsenoside constituents and antioxidant activity during the solid fermentation of mountain-cultivated ginseng by mycelia of *Tricholoma matsutake*

Jea Gack Jung¹, Du Yong Cho¹, Hee Yul Lee¹, Min Ju Kim¹, Eun Hye Jeong¹, Mu Yeun Jang¹, Jin Hwan Lee², Kye Man Cho^{1*}

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PFS-52

Comparison of nutritional constituents and antioxidant activities of ginseng sprout according to different cultivation systems in a plant factory

Eun Hye Jeong¹, Ae Ryeon Lee¹, Su Cheol Kim¹, Du Yong Cho¹, Hee Yul Lee¹, Jea Gack Jung¹, Seong-Nam Jang², Ki-Ho Son², Kye Man Cho^{1*}

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PFS-53

Comparison of ginsenoside content and antioxidant activity of sprout ginseng sprout by the treatment with plant growth regulators in vertical farm

Jea Gack Jung¹, Ae Ryeon Lee¹, Eun Hye Jeong¹, Du Yong Cho¹, Hee Yul Lee¹, Seong-Nam Jang², Ki-Ho Son², Kye Man Cho^{2*}

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PFS-54

Simultaneous Analysis of 235 Pesticides in Brown Rice using QuEChERS Extraction and Liquid Chromatography Tandem Mass Spectrometry

Ji-Yeon Bae, Da-Young Yun, Ha Na Song, Won Jo Choe*, Yong Hyun Jeong, Guiim Moon

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PFS-55

Validation of Glyphosate and N-acetyl glyphosate in Livestock Products Using LC-MS/MS

Ha Na Song, Ji-Yeon Bae, Da-Young Yun, Won Jo Choe*, Yong Hyun Jeong, Guiim Moon

Pesticide and Veterinary Drug Residues Division, National Institute of Food and Drug Safety Evaluation, Ministry of Food and Drug Safety, Osong, Cheongju 28159, Republic of Korea

PFS-56

Multiresidue Method for Determination of 273 Pesticides in Brown Rice Using Quick and Easy Method (QuEChERS) and GC-MS/MS

Da-Young Yun, Ji-Yeon Bae, Ha Na Song, Won Jo Choe*, Yong Hyun Jeong, Guiim Moon

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PFS-57

Simultaneous bioconversion of CLA, GABA, and isoflavone-aglycones in soy powder yogurt by the treatment with kiwifruit juice and cocktail lactic acid bacteria and their enhanced biological activity

Hee Yul Lee, Chung Eun Hwang, Du Yong Cho, Min Ju Kim, Kye Man Cho*

Department of Food Science, Gyeongsang National University

PFS-58

Comparison of ginsenoside contents on three different mountain-cultivated ginseng sprout (dry, age, and fermentation) and anti-wrinkle effects

Hee Yul Lee¹, Du Yong Cho¹, Min Ju Kim¹, Jea Gack Jung¹, Jin Hwan Lee², Kye Man Cho^{1*}

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PFS-59

Comprehensive study on bacterial communities, nutrient components, metabolites, and antioxidant activities of traditional *cheonggukjang*

Eun Hye Jeong, Jin A Seong, Hee Yul Lee, Du Yong Cho, Min Ju Kim, Kye Man Cho*

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PFS-60

Comparison of nutrient components and phytochemicals in *Cheonggukjang* with mountain-cultivated ginseng by the mixture starters with *Bacillus subtilis* IDCK40 and *Bacillus licheniformis* IDCK30

Mu Yeun Jang, Eun Hye Jeong, Jin A Seong, Hee Yul Lee, Du Yong Cho, Min Ju Kim, Jea Gack Jung, Joo Young Lee, Kye Man Cho*

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PFS-61

Change in γ -aminobutyric acid and phytoestrogen contents and biological activity during the solid fermentation of isoflavone-enriched soybean leaves by single and mixture of starters with lactic acid bacteria

Min Ju Kim, Hee Yul Lee, Du Yong Cho, Eun Hye Jeong, Kye Man Cho*

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PAM

Applied Microbiology

PAM-1

Synbiotic Supplementation in Diet Enhances Canine Sperm Motility

Feriel Yasmine Mahiddine, Inhwon You, Heekee Park, Min Jung Kim*

Department of Research and Development, Mjbiogen corp.

PAM-2

Immune response induced by Adenovirus expressing receptor binding motif domain of SARS-CoV2

Yea Jin Lee¹, Shin Hyun-jin^{2*}

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PAM-3

Selective Inhibition of *Staphylococcus aureus* Biofilm Growth by Essential Oils from Lauraceae

Youngseok Ham¹, Mi-Jin Park^{1*}, Jiyeon Yang^{1,2}, Su-Yeon Lee¹, Byoung-Jun Ahn¹

¹*Division of Forest Industrial Materials, Department of Forest Products and Industry, National Institute of Forest Science,* ²*Division of Life Sciences, School of Life Sciences, Korea University*



PAM-4

Pinaceae Essential Oils Inhibiting Biofilm Formation of *Staphylococcus aureus* without Antibiotic Activity

Youngseok Ham¹, Mi-Jin Park^{1*}, Jiyeon Yang^{1,2}, Su-Yeon Lee¹, Byoung-Jun Ahn¹

¹Division of Forest Industrial Materials, Department of Forest Products and Industry, National Institute of Forest Science, ²Division of Life Sciences, School of Life Sciences, Korea University

PAM-5

Gut microbiome of Korean horn beetle, *Allomyrina dichotoma*, on insect disease symptoms

Eunsun Kim, Kyuwon Kwak^{*}, Sun Young Kim^{*}, Kwanho Park^{*}, Yongsoon Kim^{*}

Division of Industrial Insect, National Institute of Agricultural Sciences, Rural Development Association

PAM-6

The effect of feed combined with *Paecilomyces tenuipes* for rearing *Protaetia brevitarsis*

Kyu-Won Kwak, Eunsun Kim, Sun Young Kim, Ji Yeong Park, Kwanho Park, Sung-Hee Nam, Yong-Soon Kim^{*}

Department of Agricultural Biology, National Institute of Agricultural Sciences

PAM-7

Chitinase activity of *Peanibacillus lautus* JS-1 in three different media

Jun Seok Choi, Woo Jin Jung^{*}

Department of Agricultural Chemistry, Chonnam National University

PAM-8

Chitinase activity and antifungal activity of *Bacillus cereus* SHM-2

Hye Min Shin, Woo Jin Jung^{*}

Department of Agricultural Chemistry, Chonnam National University

PAM-9

Isolation and characterization of bacteriophages effective to *Erwinia amylovora* and *Erwinia pyrifoliae*

Jungkum Park, Byeori Kim, Sujin Song, Yong Whan Lee, Eunjung Roh^{*}

Crop Protection Division, National Institute of Agricultural Sciences

PAM-10

Characterization of Halophilic Microorganisms Isolated from the Fermented Seafood

Jae Seung Im¹, Dariimaa Ganbat¹, Bo Gyoung Choi¹, Ga Eul Jeong¹, YuJeong Yeom¹, Yong-Jik Lee², Mi-Hwa Park³, Han-Seung Lee¹, Sang-Jae Lee^{1*}

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PAM-11

Multifunctional biocontrol of fengycin-type lipopeptides produced by *Bacillus amyloliquefaciens*

Beom Ryong Kang^{1*}, Seungpyo Jeon², Woo-Jin Jung³

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PAM-12

Effects of anti-apoptotic activity of DDX3 against sanguinarine-induced cell death

Junho Lee^{*}, Youngseo Park

Department of Biotechnology, Chonnam National University

PAM-13

Characterization of Carbohydrate Esterase, for Ester Bond Degradation, from *Microbulbifer thermotolerans* DAU221

Yong-Suk Lee¹, Hyejin Kim², Aram Kim², Yong-Lark Choi³, Yu-Sin Jang^{1,2*}

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PAM-14

Characterization of The Cold-adapted Lipolytic Esterase from *Microbulbifer thermotolerans* DAU221

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PAM-15

Evaluation of vegetation effect of biopolymer-treated soil on field application using wet-spraying method

Seunghwan Seo, Moonkyung Chung^{*}

Department of Geotechnical Engineering Research, Korea Institute of Civil Engineering and Building Technology

PAM-16

Introduction of Wood-Ljungdahl Pathway into *Clostridium acetobutylicum* ATCC 824

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PAM-17 Economical production of D-psicose and D-mannitol through the sequential whole-cell conversion process in *C. glutamicum*

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PAM-18 Enhancement of retinoids production through addition of glyoxylic acid in recombinant *E. coli*

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PAM-19 Development of carotenoid producing platform by metabolic engineering of *Methylobacterium organophilum* DSM-760

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PAM-20 Comparison of changes in the content of red ginseng ginsenosides prepared by fermentation of lactic acid bacteria

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PAM-21 Optimization of Paired-End Sequencing (2x150 bp) using Illumina iSeq 100 for V4 Region of Bacterial 16S rRNA Gene

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PAM-22 New Microbial Resources having citrus waste-degrading capacity

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PDD

Drug Development

PDD-1

Rapid Assessment of Functional Roles of Genes in Regulation of Leaf Senescence in Arabidopsis Protoplasts

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PDD-2

Comparative Transcriptome Analysis among Age, Dark, and Salt-induced Senescence in *Zoysia*

Lanshuo Wang¹, Phan Phuong Thao Doan¹, Sooyeon Kim², Hyo-Yeon Lee^{2,3}, Jin Hee Kim³, Jeongsik Kim^{1,3,4*}

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PDD-3

p-Coumaric Supplementation Prevents High Fat and High Sucrose-Mediated Hepatic Inflammation and Fibrosis

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PDD-4

Pharmacological Inhibition of PARP Ameliorates Cisplatin Nephrotoxicity in Zebrafish and Mice

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PDD-5

2-Mercaptoethanol Protects Kidneys against Inflammation and Oxidative Stress during Unilateral Ureteral Obstruction

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PDD-6

A combination adjuvant of monophosphoryl lipid A and Poly I:C enhanced vaccine efficacy by functional natural killer cell activation and DC maturation

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PDD-7

Antioxidant Efficacy and Anticancer Activity in Breast Cancer Stem Cells of Various Solvent Fractions of Broccoli Sprouts

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PDD-8

Exploration of Antioxidant, Anti-inflammatory and Anticancer Effects of Banana Pulp Extract

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PDD-9

Dihydroconiferyl ferulate purified from *Dendropanax morbiferus* suppresses breast cancer stem cells via nEGFR/Stat3/c-Myc signaling

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PDD-10

Physalin A, 13,14-seco-16, 24-cyclo-steroid, Inhibits Stemness of Breast Cancer Cells by Regulation of Hedgehog Signaling Pathway and Yes-associated Protein 1 (YAP1)

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PDD-11

Effects of Heating and Drying Methods on Phenolic Contents and Antioxidant and Anti-Proliferative Activities of Broccoli Florets

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PDD-12

Suppression of Stem Cell Properties Accompanied by Attenuation of Oxidative Phosphorylation by Ampelopsin in Chemo- and Radio-resistant MDA-MB-231 Breast Cancer Cells

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PDD-13

Effect of elevated pH on the by-product of ammonia oxidation of Comammox bacteria, *Nitrospira inopinata*

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PDD-14

The Distribution of Medicinal Plant Resources on Jeju's Inhabited and Uninhabited Islands

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PDD-15

Daily Activity Patterns of Mammals with Light Reactions in Hallasan National Park of Jeju Island, South Korea

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PDD-16

Assessment of eDNA persistence: A case study of captive *Pseudemys peninsularis* in laboratory setting

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PDD-17

SirT1 and NOX cross-talk mediated by bleomycin-induced pulmonary pathogenesis – an in vitro analysis

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PDD-18

Effects of β -glucan and Probiotics on Obesity-Associated Colitis and Hepatic Manifestations

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PDD-19

Effects of Carotenoid and Anthocyanin extracts from Color-fleshed sweet potatoes on Gastric Ulcer

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PDD-20

Carbonic anhydrases regulate anabolic and catabolic factors through increasing mitochondria metabolism in OA pathogenesis

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PDD-21

Role of Adipokines in Pathogenesis of Osteoarthritis-an *in-vitro* Approach

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PDD-22

The effects of hexavalent chromium on cartilage degeneration

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PDD-23

Comparative Study on Structural and Physiochemical Characteristics of Five Seaweed-derived Polysaccharides

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PDD-24

Sargassum horneri containing phenolics attenuates PM-induced apoptosis through suppressing oxidative stress in allergic asthma mice

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Kalahe Hewage Iresha Nadeeka Madushani Herath³, Areum Kim²,
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PDD-25

Oral administration of *Sargassum horneri* improves atopic dermatitis-like skin lesions in NC/Nga mice by suppressing Th-2 mediated cytokine IL-13

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PDD-26

Supercritical CO₂ extracts of *Achyranthes japonica* Nakai root inhibits arthritis pathogenesis in mice in vitro and in vivo

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PDD-27

Pro-inflammatory influence of High Sucrose consumption on Experimental Autoimmune Encephalomyelitis mouse immunized with MOG₃₅₋₅₅

Duong Thi Thuy Dinh¹, Anil Poudel¹, Hyo Jin Kim², Kalahe Hewage Iresha Nadeeka Madushani Herath¹, Jiwon Yang³, Feng Fang⁴, Inhae Kang⁴, Young-Ok Son^{1,3}, Youngheun Jee^{1,5*}

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PDD-28

Multi-probiotic *Lactobacillus* supplementation improves liver function and reduces cholesterol levels in Jeju native pigs

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PDD-29

5-Hydroxymaltol Derived from Beetroot Juice through *Lactobacillus* Fermentation Suppresses Inflammatory Effect and Oxidant Stress via Regulating NF- κ B, MAPKs pathway and NRF2/HO-1 Expression

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