2022 International Symposium *and* Annual Meeting of the KSABC

June 27-29, 2022

Bareumi Hotel Inter-Burgo Daegu, Korea

2022년도 (사)한국응용생명화학회 국제학술대회

최종 안내서

발표논문일람

한국응용생명화학회
The Korean Society for Applied Biological Chemistry

2022 International Symposium *and* Annual Meeting of the KSABC

Hosted by

한국응용생명화학회
The Korean Society for Applied Biological Chemistry

Co-organized by

식품의약품안전처
Ministry of Food and Drug Safety

FOUR JEJU NATIONAL UNIVERSITY BK21 제주대학교

제주대학교
바이오헬스소재개발연구지원센터
Bio-Health Materials Core-Facility

한국과학기술연구원 강릉
천 연 물 연 구 소

경북대학교
농산물품질·안전성평가연구소

KNU 강원대학교 FOUR BK21
바이오헬스 신산업 혁신을 위한
프런티어 인재양성 사업팀

Sponsored by

KOFST Korean Federation of Science & Technology Societies

dcvb 대구컨벤션뷰로
Daegu Convention & Visitors Bureau

KAAFLS (사)한국농식품생명과학협회
The Korean Association of Scienties for Agriculture, Food, and Life Sciences

Cell care for Health care HAN BIO

COSMAX
THE SCIENCE OF KOREAN BEAUTY

G.O.research

전진바이오팜[주]
JEONJINBIO CO.,LTD.

biodot

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

2022 International Symposium and Annual Meeting of the KSABC

Contents

Ⅰ. 2022 (사)한국응용생명화학회 국제학술대회 일정

행사 개요

행사명	2022 International Symposium and Annual Meeting of the KSABC 2022년도 (사)한국응용생명화학회 국제학술대회 및 제111차 정기총회
일자	2022. 6. 27(월) - 29(수)
장소	바르미 호텔인터불고 대구 (만촌동)
주최	한국응용생명화학회 The Korean Society for Applied Biological Chemistry
초록접수	2022. 4. 1(금) - 6. 6(월)
등록	2022. 4. 1(금) - 6. 10(금)
참석대상	국내외 대학교수, 대학(원)생, 국공립연구소 연구원, 기업체 연구원 등

프로그램

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

Program at a Glance

June 27 Mon.

Time \ Venue	Room 1~3	Room 4	Room 5	Lobby (2F)
13:00-	Registration			Bio-exhibition
13:40-14:00	Opening & Award Ceremony	S11 국내 잔류농약 안전관리 현황	S12 Bio-health/ innovative drug development using subtropical bio-resources	
14:00-14:40	PL			
14:40-15:10	SL			
15:20-17:00	KL			
17:00-18:00	Poster Presentation Ⅰ (Room 6, 1F)			
18:00-19:00	Reception			

PL	Plenary Lecture
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YS	Young Scientist Presentation
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P	Poster Presentation

Program at a Glance

June 28 Tue.

Venue / Time	Room 1	Room 2	Room 3	Room 4	Room 5	Lobby (2F)
09:30-10:30	**YS1** Biochemistry Molecular Biology	**YS2** Natural Products Bioactive Materials Biomedical Sciences 09:30-10:50	**YS3** Environmental Sciences 09:30-10:50	**YS4** Food Sciences	**YS5** Applied Microbiology	Bio-exhibition
10:40-11:40	**Poster Presentation** II (Room 6, 1F)					
11:40-13:00	Lunch					
13:00-14:40	**S1** Biochemistry Molecular Biology	**S2** Natural Products Bioactive Materials Biomedical Sciences	**S3** Environmental Sciences	**S4** Food Sciences	**S5** Applied Microbiology	
14:50-16:30	**S6** Agro-Bio Genome Editing	**S7** Beyond Research	**S8** KIST Session (Trends in Natural Product Science and Technology)	**S9** 어쩌다 상담소	**S10** 당신의 취업에 참견해드립니다!	
16:40-17:40		**AL**				
17:40-18:00	**General Assembly Meeting** (Room 2)					

June 29 Wed.

Venue / Time	Room 6
09:30-09:40	**AL**
09:40-11:30	**GS**
11:40-12:00	**Closing Remarks**

Plenary Lecture

June 27 (Mon), Room 1~3

Chair: **Hoon Kim** (Sunchon National University)

PL-1 **14:00-14:40**

Antibacterial drug discovery targeting bacterial RNA polymerase: myxopyronin (Myx)

Richard H. Ebright*

Board of Governors Professor of Chemistry and Chemical Biology at Rutgers University and Laboratory Director at the Waksman Institute of Microbiology, NJ, USA

Myxopyronin (Myx) is a microbially produced antibiotic that inhibits bacterial RNA polymerase through a novel binding site and novel mechanism.

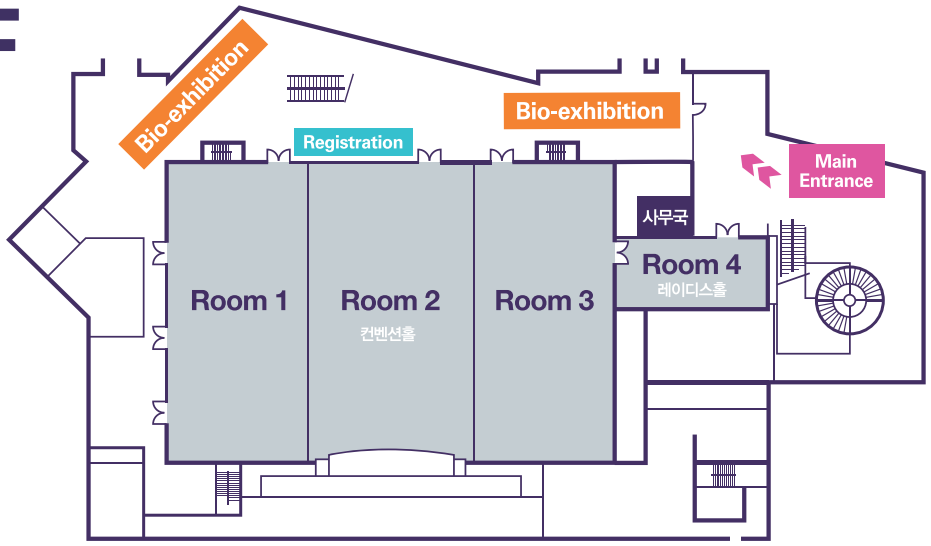
In basic research we have determined the binding site, mechanism, and structural basis of inhibition of bacterial RNA polymerase by Myx.

In translational research, we have performed structure-based design of novel Myx analogs, synthesized and evaluated >700 novel Myx analogs comprising four related chemical scaffold families, and we have identified compounds having improved *in vitro* and *in vivo* antibacterial activities, improved in vitro and *in vivo* pharmacological properties, and scalable syntheses.

Current top Myx analogs exhibit potent in vitro activity against Gram-positive bacteria and some Gram-negative bacteria--including drug-resistant, multi-drug-resistant, and extensively-drug-resistant strains--exhibit potent *in vivo* activity in mouse infection models, are orally available, and are non-toxic.

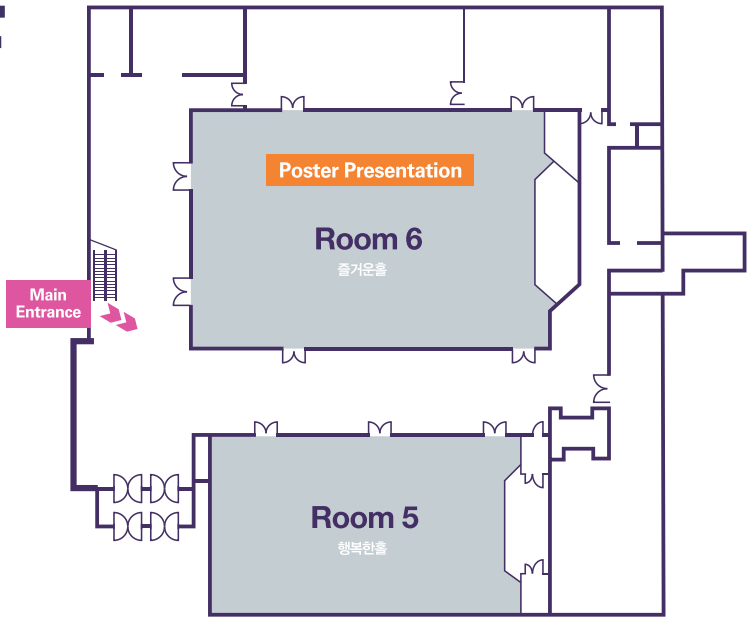
Floor Plan

2F



Room 1~3	Opening & Award Ceremony PL, SL, KL
Room 1	YS1, S1, S6
Room 2	YS2, S2, S7, AL
Room 3	YS3, S3, S8
Room 4	YS4, S4, S9, S11
Lobby	Bio-exhibition

1F



Room 5	YS5, S5, S10, S12
Room 6	Poster Presentation, AL, GS

II. 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. 모든 Poster는 지정된 시간동안 지정된 Board에 부착합니다.

3. Poster board의 크기는 **90cm (가로) × 150cm (세로)**이므로, 포스터의 전체 넓이가 상기 면적을 초과하지 않도록 준비합니다.

4. Poster board의 맨 위쪽에 발표논문의 제목 (전치사, 관사, 접속사를 제외한 단어의 첫머리는 대문자로 표기), 발표자의 성명 및 소속을 작성하되 가로길이는 90cm를 넘지 않도록 합니다.

5. Poster의 내용은 Abstract, Objectives, Materials & Methods, Results (Figures 및 Tables), Conclusion, References (대표적인 것 5개 정도)의 순으로 구성합니다**(영문 작성)**.

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

Poster Presentation

Poster Category

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

Poster Presentation

Date \ Category			PBM	PNB	PES	PFS	PAM	PBD
June 27 (Mon)	I	17:00~1800	1-48	1-61	1-37	1-15	1-18	1-18
June 28 (Tue)	II	10:40-11:40	49-96	62-122	38-75	16-29	19-36	19-37
Place			Room 6 (1F)					

III. 공지사항

1. 2022년도 학회상 수상자 명단

구분	성명 (소속)
제14회 공로상	백남인 교수 (경희대학교)
제40회 학술상	김장억 교수 (경북대학교)
제12회 기창(基倉)과학상	왕명현 교수 (강원대학교)
제24회 젊은과학자상	강영민 박사 (한국한의학연구원) 운노타쯔야 교수 (제주대학교)
제1회 HAN BIO Award (한바이오 그룹 후원)	이지훈 교수 (전북대학교)
제1회 Biodot Award ((주)바이오닷 후원)	김인환 (중앙대학교) 박미현 (한국생명공학연구원)
제10회 ABCH 최우수논문상	서동철 교수 (경상국립대학교)
ABCH 우수논문상	장유신 교수 (경상국립대학교)
ABCH 우수논문상	정남현 교수 (고려대학교)
ABCH 우수편집위원상	김상민 박사 (한국과학기술연구원 강릉분원)
ABCH 최우수심사위원상	이지현 교수 (중앙대학교)
ABCH 우수심사위원상	김 훈 교수 (순천대학교) 정성근 교수 (경북대학교)
제17회 JABC 우수논문상	판철호 박사 (KIST 강릉분원)
JABC 우수심사위원상	김승영 교수 (선문대학교)
제32회 과학기술 우수논문상 (한국과총 시상) 추천	김재광 교수 (인천대학교)

구분		성명 (소속)
감사패	2021년도 회장	임융호 교수 (건국대학교)
	2021년도 운영위원장	판철호 박사 (KIST 강릉분원)

2. 등록비 안내

구분		회원		비회원	
		일반	학생	일반	학생
Early Bird (선등록 할인)	2022. 4. 1 - 4. 30	170,000	110,000	230,000	130,000
일반등록	2022. 5. 1 - 6. 10	190,000	130,000	250,000	150,000

※ 등록자만 발표장에 입장하실 수 있습니다.

IV. 공지사항

3. 현지 교통 및 숙소 안내

바르미 호텔인터불고 대구

대구광역시 수성구 팔현길 212(만촌동)

T. 053-602-7114

* 행사장내 주차비 무료

교통정보 바로가기 →

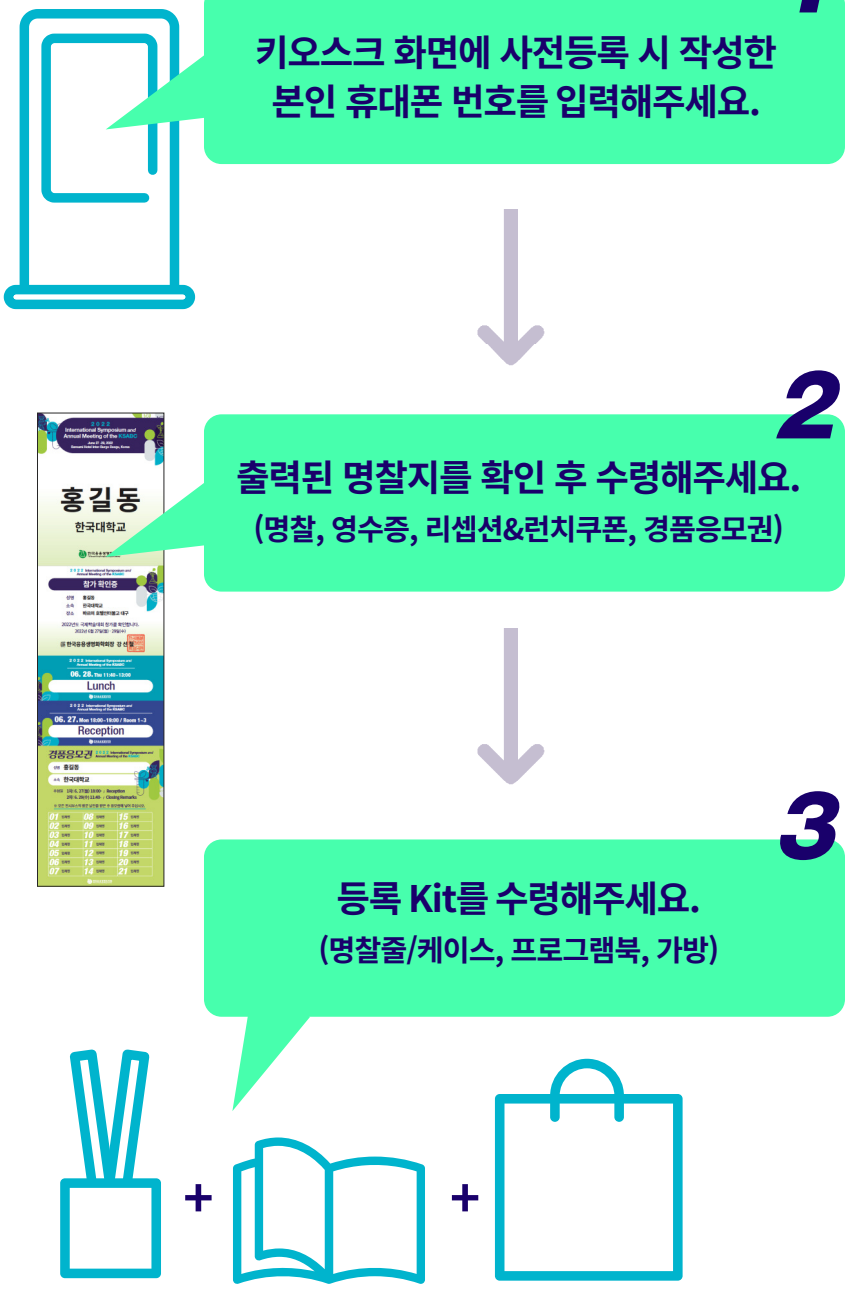
숙소정보 바로가기 →

대구관광 바로가기 →

행사장 주변 맛집수첩 →

4. 경품이벤트

5. 행사장 입장 안내


1
키오스크 화면에 사전등록 시 작성한
본인 휴대폰 번호를 입력해주세요.
2
출력된 명찰지를 확인 후 수령해주세요.
(명찰, 영수증, 리셉션&런치쿠폰, 경품응모권)
홍길동
한국대학교
Lunch
Reception
3
등록 Kit를 수령해주세요.
(명찰줄/케이스, 프로그램북, 가방)

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Ⅳ. 발표논문일람

2022 International Symposium *and* Annual Meeting of the KSABC

Contents

2022
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Plenary Lecture

Plenary Lecture

June 27 (Mon), Room 1~3

Chair: **Hoon Kim** (Sunchon National University)

PL-1 **14:00-14:40**

Antibacterial drug discovery targeting bacterial RNA polymerase: myxopyronin (Myx)

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Special Lecture

Special Lecture

June 27 (Mon), Room 1~3

Chair: Joon-Kwan Moon (Hankyong National University)

SL-1 **14:40-15:10**

존중의 시대가 온다

김찬배*

C-TECH연구소, 『존중의 힘』 저자

산업 간 경계가 사라져가는 빅블러(Big Blur) 시대에 기업들은 혁신을 통해 새로운 성장동력을 확보하고 생존을 모색해야 한다. 이를 위해 직원 몰입도 제고, 협업 강화, 소통 활성화, 창의성이 폭발하는 조직을 만드는 일에 힘써야 한다. 이런 과제들은 사람의 마음을 움직여야만 가능한 일이다. 사람의 마음을 움직이려면 강한 힘 즉, 위력(威力)이 있어야 한다. 돈, 인사 및 평가권, 위협적인 말과 행동과 상대를 압도하는 힘이 이에 해당한다. 한때 위력에 의존하는 리더들이 탁월한 성과를 내는 것으로 보여 CEO의 모델로 추앙받기도 했다. 하지만 위력에 의존하는 리더십은 부작용이 속출하며 기업의 경쟁력을 훼손하는 결과를 초래했다. 이들을 따른 이유는 두려움 때문이었다. 이제 글로벌 일류 기업들과 HR전문가들은 사람을 움직이는 진짜 강한 힘은 존중(尊重)이라는 것에 일치된 견해를 보인다. 존중은 자발적 추종을 가능하게 하고 상처를 치유하고 통합하는 힘의 원천이다. 피도 눈물도 없이 구성원들을 극단으로 내몰던 차가운 리더들이 이제는 따뜻한 리더로 대체되고 있다. 과거의 인재들은 더 이상 인재가 아닌 것이다. 세계적인 기업들이 '직원이 먼저(Employees First!)'인 경영을 표방하고 경쟁하듯 직원 존중을 실천하는 이유다. 존중은 존경받는 리더가 되고 행복한 가정을 만들며 잃어버린 교육을 되살리는 힘이기도 하다. 존중은 부드럽게 세상을 변화시키는 마법이다. 이제 모든 부문에서 무례함이 초래한 부작용을 치유하고 행복하고 혁신적인 국가로 나아가기 위해 존중의 회복에 관심을 가져야 할 때다. 존중의 시대가 오고 있다.

Keynote Lectures

Keynote Lectures

June 27 (Mon), Room 1~3

Chair: Eun Hea Jho (Chonnam National University)

KL-1 **15:20-15:50**

Current Situation and Strategy of Agro-food Quality and Safety in China

Xuehua An[1,2,3], Xiaoping Zhao[1,2,3], Qiang Wang[1,2,3*]

[1]Institute of Agro-product Safety and Nutrition, Zhejiang Academy of Agricultural Sciences, China, [2]Hangzhou Center of Inspection and Testing for Quality and Safety of Agricultural and Processed Products, Ministry of Agriculture and Rural Affairs, China, [3]State Key Laboratory of Hazard Factors and Risk Control for Agro-product Quality and Safety, Jointly Built by Zhejiang Provincial Government and Ministry of Science and Technology, China

KL-2 **15:50-16:20**

Regulation of Transcriptional Responses to DNA Damage by the ISWI Chromatin Remodeling Factors

Sun-Woo Min[1], Yun-Gyeong Heo[1], Jae-Hoon Ji[2], Ho-Soo Lee[1], Young-Soo Lee[3], Hye-Seong Cho[1*]

[1]Department of Biochemistry, Ajou University School of Medicine, Suwon 16499, Republic of Korea, [2]Department of Biochemistry and Structural Biology, The University of Texas Health San Antonio, TX 78229-3000, USA, [3]Institute of Medical Science, Ajou University School of Medicine, Suwon 16499, Republic of Korea

KL-3 **16:20-16:50**

New insight to the use of calcium-rich organic waste for removing phosphorus from aqueous solutions and fertilizing rice growth

Seong-Jik Park[1,2*], Jae-In Lee[2], Soo-Cheul Yoo[3], Chang-Gu Lee[4], Eun Hea Jho[5]

[1]Department of Bioresources and Rural System Engineering, Hankyong National University, Anseong 17579, Republic of Korea, [2]Department of Integrated System Engineering, Hankyong National University, Anseong 17579, Republic of Korea, [3]Department of Plant Life & Environmental Science, Hankyong National University, Anseong 17579, Republic of Korea, [4]Department of Environmental and Safety Engineering, Ajou University, Suwon 16499, Republic of Korea, [5]Department of Agricultural and Biological Chemistry, Chonnam National University, Gwangju 61186, Republic of Korea

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Award Lectures

Award Lectures

June 28 (Tue), Room 2

Chair: Euiyoung Bae (Seoul National University)

AL-1 **16:40-17:00** 학술상

Studies for Detoxification and Safety Mechanisms of Pesticides through Environmental Fate Tracking

Jang-Eok Kim*

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

AL-2 **17:00-17:20** 기창(基倉)과학상

Biogenic nanomaterials for eradication of microbial biofilms and remediation of environmental pollution

Myoeng-hyeon Wang*

Department of Bio Health Convergence, Kangwon National University, Chuncheon, 200-701, Republic of Korea

AL-3 **17:20-17:40** HAN BIO Award

Occurrences of Tetracycline Resistance in Agricultural and Cattle Shed Soils from Three Jeollabuk-do Areas

Kathyleen Nograd[1,2], Ji-Hoon Lee[1,3*]

[1]Department of Bioenvironmental Chemistry, Jeonbuk National University, Jeonju 54896, Republic of Korea, [2]Department of Molecular Tropical Medicine and Genetics, Mahidol University, Bangkok, 10400, Thailand, [3]Department of Agricultural Convergence Technology, Jeonbuk National University, Jeonju 54896, Republic of Korea

June 29 (Wed), Room 6

Chair: **Moonsung Choi** (Seoul National University of Science & Technology)

AL-4 **09:30-09:35** Biodot Award

Metabolomics from Food to Human Body for Human Health

Inhwan Kim, Jihyun Lee*

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

AL-5 **09:35-09:40** Biodot Award

Isolated flavonoids from *Broussonetia papyrifera* root bark and their bioactivity

Mi Hyeon Park[1], Sunin Jung[1,2], Doo-Young Kim[1], Jae Min Lee[3], Sun Sil Choi[3], Hyunduk Jang[4], Yo Han Lee[3], Keon Woo Khim[3], Jiyoung Park[3], Ok-Kyoung Kwon[1], Jung-Yeon Hwang[1], Heung Joo Yuk[5], GyuTae Lim[6], Jinhyuk Lee[6], Su Ui Lee[1], Jang Hyun Choi[3], Hyung Won Ryu[1], Sei-Ryang Oh[1*]

[1]Natural Medicine Research Center, KRIBB, 30-Yeongudanji-ro, Ochang-eup, Cheongwon-gu, Cheongju-si, Chungbuk, 28116, Republic of Korea, [2]Department of CBRN Medicine Research, Center for Special Military Medicine, Armed Forces Medical Research Institute, Daejeon 34059, Republic of Korea, [3]Department of Biological Sciences, Ulsan National Institute of Science and Technology (UNIST), Ulsan 689-798, Republic of Korea, [4]Department of Internal Medicine, Seoul National University, Seoul 110-744, Republic of Korea, [5]Herbal Medicine Research Division, Korea Institute of Oriental Medicine (KIOM), Daejeon 34054, Republic of Korea, [6]Genome Editing Research Center, Korea Research Institute of Bioscience and Biotechnology (KRIBB), Gwahak-ro, Yuseong-gu, Daejeon 34141, Republic of Korea

2022
International Symposium
and Annual Meeting
of the KSABC

Symposia

S1	Biochemistry · Molecular Biology
S2	Natural Products · Bioactive Materials · Biomedical Sciences
S3	Environmental Sciences
S4	Food Sciences
S5	Applied Microbiology
S6	Agro-Bio Genome Editing
S7	Beyond Research
S8	KIST Session (*Trends in Natural Product Science and Technology*)
S9	어쩌다 상담소
S10	당신의 취업에 참견해드립니다!
S11	국내 잔류농약 안전관리 현황
S12	Bio-health/innovative drug development using subtropical bio-resources

Symposia

S1 Biochemistry · Molecular Biology

June 28 (Tue), Room 1

Chair: **Heeyoun Bunch** (Kyungpook National University)

S1-1 **13:00-13:25**

Molecular Basis of Allosteric Regulation and Isoform Specificity of Protein Kinase Cβ

Anh T. Q. Cong[1*], Taylor L. Witter[1*], Elizabeth S. Bruinsma[2*], Swaathi Jayaraman[2], Maria Dugan[1], Mary J. Kuffel[2], John R. Hawse[1], Matthew P. Goetz[2], Matthew J. Schellenberg[1]

[1]Department of Biochemistry and Molecular Biology, Mayo Clinic, Rochester, MN, USA, [2]Department of Medical Oncology, Mayo Clinic, Rochester, MN, USA

S1-2 **13:25-13:50**

C. elegans small structured ncRNAs

Chisato Ushida*

Department of Biochemistry and Molecular Biology, Faculty of Agriculture and Life Science, Hirosaki University, Japan

S1-3 **13:50-14:15**

Aleurone property management for high nutritional maize breeding

Jae-Hong Kim, Ji Hyeon Kang, Minji Lee, Hyungyeong Seong, Gibum Yi*

Department of Bio-Environmental Chemistry, College of Agriculture and Life Sciences, Chungnam National University, Daejeon, Republic of Korea

S1-4 **14:15-14:40**

Biofortified Rice Varieties with Diverse Colors and Functionalities by Pathway Engineering for Chloroplast-dependent Metabolites

Ye Sol Jeong, Sun-Hwa Ha*

Department of Genetics and Biotechnology, Kyung Hee University, Yongin 17104, Republic of Korea

S2 Natural Products · Bioactive Materials · Biomedical Sciences

June 28 (Tue), Room 2

Chair: Jae Kwang Kim (Incheon National University)

S2-1 **13:00-13:25**

Plant-based anticancer drugs - from discovery to final product

Thu Thuy Dang*

Department of Chemistry, The University of British Columbia, 3247 University Way, Kelowna, Canada

S2-2 **13:25-13:50**

Olive Oil Phenolic Compounds-Modern Methods of Analysis and Recent Clinical Data

Eleni Melliou*

University of Athens, Greece

S2-3 **13:50-14:15**

Application of MS-based metabolomics for natural product research

Jongmin Ahn*

Natural Medicine Research Center, Korea Research Institute of Bioscience & Biotechnology, Cheonju 28116, Republic of Korea

S2-4 **14:15-14:40**

Decoding Cryptic Secondary Metabolism in *Photorhabdus* Bacteria

Hyun Bong Park*

Department of Biology, College of Natural Sciences, Gangneung-Wonju National University, Republic of Korea

S3 Environmental Sciences

June 28 (Tue), Room 3

Chair: Sung-Eun Lee (Kyungpook National University)

S3-1 **13:00-13:25**

AntRCA operon, a novel antimonite detoxification system in *C. testosteroni* JL40

Lijin An, Xiong Luo, Mingshun Li*

State Key Laboratory of Agricultural Microbiology (SKLAM), College of Life Science and Technology, Huazhong Agricultural University, Wuhan City, Hubei Province, P. R. China

S3-2 **13:25-13:50**

Study on the Removal of Neonicotinoid Insecticides Using Advanced Oxidation Process

Chang-Gu Lee[1*], Youn-Jun Lee[1], Seong-Jik Park[2], Joon-Kwan Moon[3]

[1]Department of Environmental and Safety Engineering, Ajou University, Suwon 16499, Republic of Korea, [2]Department of Bioresources and Rural System Engineering, Hankyong National University, Anseong, Republic of Korea, [3]Department of Plant Life and Environmental Sciences, Hankyong National University, Anseong, Republic of Korea

S3-3 **13:50-14:15**

Food Forensic Study for Eco-friendly Agrofoods using Isotopic-Chemometric Model

Seung-Hyun Kim*

Department of Crop Science, Konkuk University, Seoul 05029, Republic of Korea

S3-4 **14:15-14:40**

A modelling approach to estimate the effects of long-term hairy vetch cultivation on cotton production

Hyun-Hwoi Ku[1,2*]

[1]School of Applied Science in Natural Resource & Environment, Hankyong National University, Anseong 17579, Republic of Korea, [2]Climate Change Research Center, Hankyong National University, Anseong 17579, Republic of Korea

S4 Food Sciences

June 28 (Tue), Room 4

Chair: Moo-Hyeog Im (Daegu University)

S4-1 **13:00-13:25**

Algae as an innovative raw material for the production of functional food and nutraceuticals

Cristian Rogel*

Department of Food Science and Technology, School of Pharmacy, University of Concepción, Chile

S4-2 **13:25-13:50**

Development of health functional food materials by using convergence sciences

Min Jeong Kim, Sung Keun Jung*

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

June 28 (Tue), Room 4

Chair: Man-Jin In (Chungwoon University)

S4-3 **13:50-14:15**

Food material as a potential candidate for sport nutrition and prevention of sarcopenia

Jisong Ahn[1], Young Jin Jang[2*]

[1]Natural Materials and Metabolism Research Group, Korea Food Research Institute, Wanju 55365, Republic of Korea, [2]Major of Food Science & Technology, Seoul Women's University, Seoul 01797, Republic of Korea

S4-4 **14:15-14:40**

Production of fucoidan-containing *Undaria pinnatifida* sporophyll extract by ultrasound extraction method

Su Jin Eom, Nam Hyouck Lee, Young Eon Kim, Joon Park, Kyung-Mo Song*

Korea Food Research Institute, 245 Nongsaengmyeong-ro Wanju-gun, Jeollabuk-do 55365, Republic of Korea

S5 Applied Microbiology

This section was co-organized with KNU NGS Core Facility.

June 28 (Tue), Room 5

Chair: **Tatsuya Unno** (Jeju National University)

S5-1 **13:00-13:25**

Bioremediation of Nitrate in Agricultural Subsurface Drainage

Satoshi Ishii[1,2*]

[1]Department of Soil, Water, and Climate, University of Minnesota, St. Paul, MN, USA, [2]BioTechnology Institute, University of Minnesota, St. Paul, MN, USA

S5-2 **13:25-13:50**

Symbiotic incompatibility between soybean and *Bradyrhizobium* via effector-triggered immunity

Masayuki Sugawara[*]

Department of Life and Food Sciences, Obihiro University of Agriculture and Veterinary Medicine, Japan

S5-3 **13:50-14:15**

Dissolution and surface modification of soil minerals by microbial volatile organic compounds (VOCs): an indirect route for VOC-based plant-microbe communication

Jong-Rok Jeon[*]

Division of Applied Life Science (BK21Plus), Department of Agricultural Chemistry and Food Science & Technology & IALS, Gyeongsang National University, Jinju 52727, Republic of Korea

S5-4 **14:15-14:40**

Identification of novel polyethylene-oxidizing enzymes in plastisphere metagenomes

Sang-Gyu Kim[1], Jae-Hyung Ahn[2], Joon-Hui Chung[2], Dae-Wi Kim[1*]

[1]Division of Life Sciences, Jeonbuk National University, Jeonju 54896, Republic of Korea, [2]Bioremediation Team, National Institute of Agricultural Sciences, Wanju-gun 55365, Republic of Korea

S6 Agro-Bio Genome Editing

June 28 (Tue), Room 1

Chair: Jae Sung Shim (Chonnam National University)

S6-1 14:50-15:15

Self-sufficient minimalism in CRISPR technology: Target with TaRGET

Do Yon Kim[1], Jeong Mi Lee[2], Yong-Sam Kim[1,2*]

[1]GenKOre, Daejeon 34141, Republic of Korea, [2]Genome Editing Research Center, KRIBB, Daejeon 34141, Republic of Korea

S6-2 15:15-15:40

Targeted Crop Improvement via a Precise Gene Editing

Hyeran Kim*

Department of Biological Sciences, Kangwon National University, Chuncheon 24341, Republic of Korea

S6-3 15:40-16:05

Identification and characterization of null mutants with stress tolerances through CRISPR/Cas9-targeted knockout of *OsPUB* genes

Me-Sun Kim[1], Seo-Rin Ko[1], Kwon-Kyoo Kang[2], Yong-Gu Cho[1*]

[1]Department of Crop Science, Chungbuk National University, Cheongju 28644, Republic of Korea, [2]Department of Horticulture, Hankyong National University, Ansung 17579, Republic of Korea

S6-4 16:05-16:30

Narrow *lpa1* metaxylems enhance drought tolerance and optimize water use for grain filling in semi-dwarf rice

Ryza A. Priatama[1,7†], Jung Heo[2†], Sunghoon Kim[1], Sujeevan Rajendran[2], Seoa Yoon[3], Dong-Hoon Jeong[4], Young-Kug Choo[1], Jong Hyang Bae[3], Chul Min Kim[3], Youn Hee Lee[5], Taku Demura[6], Young Koung Lee[7], Eunyoung Choi[8], Chang-deok Han[1*], Soon Ju Park[2*]

[1]Division of Applied Life Science (BK21 Program), Plant Molecular Biology and Biotechnology Research Center (PMBBRC), Gyeongsang National University, Jinju 52828, Republic of Korea, [2]Division of Biological Sciences and Research Institute for Basic Science, Wonkwang University, Iksan 54538, Republic of Korea, [3]Division of Horticulture Industry, Wonkwang University, Iksan 54538, Republic of Korea, [4]Department of Life Science, Hallym University, Chuncheon 24252, Republic of Korea, [5]National Institute of Agricultural Biotechnology, Jeonju 54875, Republic of Korea, [6]Graduate School of Science and Technology, Division of Biological Science, Nara Institute of Science and Technology, Ikoma, Nara 630-0192, Japan, [7]Institute of Plasma Technology, Korea Institute of Fusion Energy, Gunsan 54004, Republic of Korea, [8]Department of Agricultural Science, Korea National Open University, Seoul 03087, Republic of Korea

S7 Beyond Research

June 28 (Tue), Room 2

Chair: Moonhyuk Kwon (Gyeongsang National University)

S7-1 14:50-15:10

제노포커스: 맞춤효소 및 바이오헬스케어 소재 전문 기업

양택호*

㈜제노포커스 부설연구소

S7-2 15:10-15:30

Integrated Platform for Predicting 2nd Metabolites from Plant Whole Genomes

박종선*

㈜인포보스

S7-3 15:30-15:50

한국화학융합시험연구원 소개

신혜철*

한국화학융합시험연구원

S7-4 15:50-16:10

블록체인 개념과 관련 산업 동향

이동주*

앰프랩스

S7-5 16:10-16:30

기능성 식물 유래 천연물질의 대량 생산을 위한 캐나다와 한국의 국제 협력 연구사례

노대균*

캘거리대학교 생물학과

S8 KIST Session

June 28 (Tue), Room 3

Chair: **Dae-Geun Song** (Natural Product Informatics Research Center, KIST)

S8-1 **14:50-15:15**

Roots of *Lithorspermum erythrorhizon* have protective effects against retinal degenerative diseases and allergic rhinitis

Tae Kyeom Kang[1], Tam Thi Le[1,2], Kyung-A Kim[3], Young-Joo Kim[1], Wook-Bin Lee[1*], Sang Hoon Jung[1,2*]

[1]Natural Product Research Center, Korea Institute of Science & Technology, Gangneung 25451, Republic of Korea, [2]Division of Bio-Medical Science & Technology, KIST School, Korea University of Science and Technology, Gangneung 25451, Republic of Korea, [3]Division of Medical Oncology, Yonsei Cancer Center, Department of Internal Medicine, Yonsei University, Republic of korea

S8-2 **15:15-15:40**

Synthetic gut microbiome: Advances and challenges

Kwang Hyun Cha[1*], Humphrey A. Mabwi[2], Emmanuel Hitayezu[1], Intan Rizki Mauliasari[1], Cheol-Ho Pan[1]

[1]Natural Product Informatics Research Center, Korea Institute of Science and Technology, Gangneung 25451, Republic of Korea, [2]Department of Microbiology, Parasitology, and Biotechnology, College of Veterinary Medicine and Biomedical Sciences, Sokoine University of Agriculture, Morogoro 25523, Tanzania

S8-3 **15:40-16:05**

Integrated approach to better understand and treat diseases

Eunjung Kim[1*], Jae-Young Kim[2]

[1]Natural Product Informatics Research Center, Korea Institute of Science and Technology, Gangneung 25451, Republic of Korea, [2]Graduate School of Analytical Science and Technology, Chungnam National University, Daejeon 660-701, Republic of Korea

S8-4 **16:05-16:30**

Introducing Phyto-Foundry as a Strategic Framework to Facilitate Smart Farming and Commercialization of Plant-Derived Natural Products

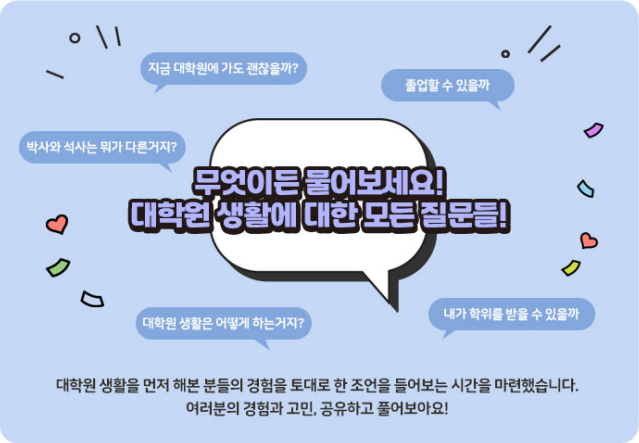
Je Hyeong Jung[*]

Smart Farm Research Center, Natural Product Institute, Korea Institute of Science and Technology (KIST), Gangneung 25451, Republic of Korea

S9 어쩌다 상담소

June 28 (Tue), Room 4

Chair: 최문성 (서울과학기술대학교)



14:50-16:30

김찬배 *C-TECH연구소*
엄민영 *한국식품연구원*
조은혜 *전남대학교*
문준관 *한경국립대학교*

S10 당신의 취업에 참견해드립니다!

June 28 (Tue), Room 5

Chair: 조계만 (경상국립대학교)

S10-1 **14:50-15:05**
윤정인 대표 *한모바이오㈜*

S10-2 **15:05-15:20**
정상규 이사 *㈜바이오닷*

S10-3 **15:20-15:35**
지봉구 선임부장 *전진바이오팜㈜*

S10-4 **15:35-15:50**
이은영 부장 *㈜지오리서치*

S10-5 **15:50-16:15**
이동걸 팀장 *COSMAX BTI*

S11 국내 잔류농약 안전관리 현황

June 27 (Mon), Room 4

Chair: 신영민 (식품의약품안전처)

S11-1 14:05-14:45

식품의약품안전처 2022년 소면적 재배 농산물의 농약 잔류허용기준 설정 연구

김장억[1*], 경기성[2], 김태화[3], 금영수[4], 곽세연[1], 김동주[2], 채석[3], 김유진[4]

[1]경북대학교 농업생명과학대학 응용생명과학부 환경생명화학전공, [2]㈜분석기술과미래,
[3]충북대학교 농업생명환경대학 환경생명화학과, [4]건국대학교 생명환경과학대학 식량자원과학과

S11-2 14:45-15:25

농·축·수산물의 농약 잔류허용기준 통합

박세종*

식품의약품안전처 유해물질기준과

S11-3 15:40-16:20

잔류허용기준 설정이 제한되는 농약 관리방안 연구

정상희*

호서대학교 임상병리학과

S11-4 16:20-17:00

농업환경 변화에 따른 디지털 농업 솔루션 상용화 사례

권희준*

㈜팜한농 신사업팀장

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

June 27 (Mon), Room 5

Chair: Young-Ok Son (Jeju National University)

S12-1 **13:40-14:00**

Peanut sprout extract attenuates dexamethasone-induced skeletal muscle atrophy

Sang-Mi Jo[1], Dohyun Ahn[1], Thi My Tien Truong[2], Seok Hee Seo[1], Inhae Kang[1,2*]

[1]Department of Food Science and Nutrition, Jeju National University, Jeju 63243, Republic of Korea, [2]Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju 63243, Republic of Korea

S12-2 **14:00-14:20**

Effect of high-sucrose diet on rheumatoid arthritis

Yunji Heo[1], Yunhui Min[2], Dahye Kim[1], Mangeun Kim[1], Jiwon Yang[1], Young-Ok Son[1,2,3,4*]

[1]Department of Animal Biotechnology, Faculty of Biotechnology, College of Applied Life Sciences, Jeju National University, Jeju Special Self-Governing Province 63243, Republic of Korea, [2]Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju Special Self-Governing Province 63243, Republic of Korea, [3]Bio-Health Materials Core-Facility Center, Jeju National University, Jeju Special Self-Governing Province 63243, Republic of Korea, [4]Practical Translational Research Center, Jeju National University, Jeju Special Self-Governing Province 63243, Republic of Korea

S12-3 **14:20-14:40**

Carbonic anhydrases in OA pathogenesis

Yunhui Min[1], Dinesh Suminda Godagama Gamaarachchige[1], Jiwon Yang[2], Yunji Heo[2], Mangeun Kim[2], Young-Ok Son[1,2*]

[1]Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju Special Self Governing Province 63243, Republic of Korea, [2]Department of Animal Biotechnology, Faculty of Biotechnology, College of Applied Life Sciences, Jeju National University, Jeju Special Self-Governing Province 63243, Republic of Korea

S12-4 **14:40-15:00**

Hexavalent Chromium Induces Cartilage Degeneration and Osteoarthritis Pathogenesis

Godagama Gamaarachchige Dinesh Suminda[1], Young-Ok Son[1,2,3,4*]

[1]Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju-si 63243, Republic of Korea, [2]Department of Animal Biotechnology, Faculty of Biotechnology, College of Applied Life Sciences Jeju National University, Jeju-si 63243, Republic of Korea, [3]Bio-Health Materials Core-Facility Center, Jeju National University, Jeju-si 63243, Republic of Korea, [4]Practical Translational Research Center, Jeju National University, Jeju-si 63243, Republic of Korea

S12-5 **15:20-15:40**

Anti-inflammatory Effects of (9Z,11E)-13-Oxooctadeca-9,11-Dienoic Acid (13-KODE) Derived from *Salicornia herbacea* L. on Lipopolysaccharide-Stimulated Murine Macrophage via NF-kB and MAPK Inhibition and Nrf2/HO-1 Signaling Activation

Yu-Chan Ko[1], Hack Sun Choi[1,2,3,4], Su-Lim Kim[1,2,3,4], Dong-Sun Lee[1,2,3,4,5*]

[1]Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju 63243, Republic of Korea, [2]Subtropical/tropical Organism Gene Bank, Jeju National University, Jeju 63243, Republic of Korea, [3]Bio-Health Materials Core-Facility Center, Jeju National University, Jeju 63243, Republic of Korea, [4]Practical Translational Research Center, Jeju National University, Jeju 63243, Republic of Korea, [5]Faculty of Biotechnology, College of Applied Life Sciences, Jeju National University, SARI, Jeju 63243, Republic of Korea

S12-6 **15:40-16:00**

Oleic acid, a major component of the chloroform solvent fraction of broccoli (Brassica oleracea L.) sprouts, inhibits stemness in breast cancer stem cell MCF-7/SCs

Ji Soo Kim[1], Somi Kim Cho[1,2*]

[1]Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju 63243, Republic of Korea, [2]Subtropical/Tropical Organism Gene Bank, Jeju National University, Jeju 63243, Republic of Korea

S12-7 **16:00-16:20**

2-Mercaptoethanol protects against DNA double-strand breaks after kidney ischemia and reperfusion injury through GPX4 upregulation

Daeun Moon[1], Weilong Li[1], Jia Bin[1], Babu J. Padanilam[2], Jinu Kim[1,3*]

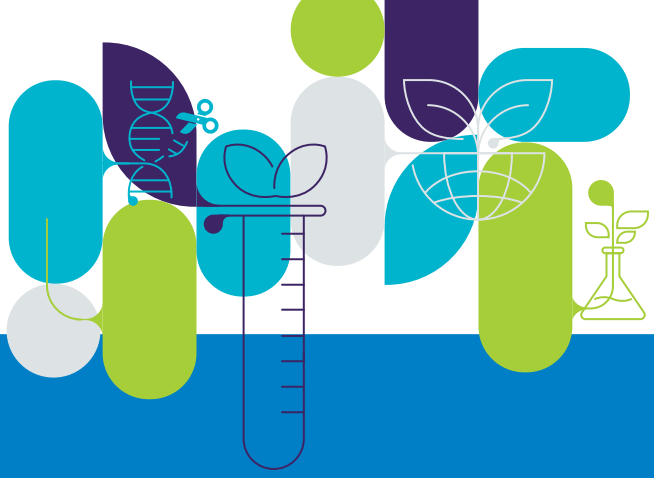
[1]Interdisciplinary Graduate Program in Advanced Convergence Technology & Science, Jeju National University, Republic of Korea, [2]Department of Urology, Tisch Cancer Institute, Icahn School of Medicine at Mount Sinai, New York, USA, [3]Department of Anatomy, Jeju National University College of Medicine, Republic of Korea

S12-8 16:20-16:40

Repeated Administration of Cisplatin Induces Fibroblast to Myofibroblast Transformation through Cell Cycle Arrest at G2/M

Jia-Bin Yu[1], Daeun Moon[1], Wei-Long Li[1], Babu J. Padanilam[2], Jinu Kim[1,3*]

[1]Interdisciplinary Graduate Program in Advanced Convergence Technology & Science, Jeju National University, Republic of Korea, [2]Department of Urology, Tisch Cancer Institute, Icahn School of Medicine at Mount Sinai, New York, USA, [3]Division of Anatomy, Jeju National University College of Medicine, Republic of Korea



2022
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Young Scientist Presentation

YS1	Biochemistry · Molecular Biology
YS2	Natural Products · Bioactive Materials · Biomedical Sciences
YS3	Environmental Sciences
YS4	Food Sciences
YS5	Applied Microbiology

Young Scientist Presentation

YS1 Biochemistry · Molecular Biology

June 28 (Tue), Room 1

Chair: Sun Tae Kim (Pusan National University)

YS1-1 **09:30-09:50**

Tumour-derived Dilp8/INSL3 induces cancer anorexia by regulating feeding neuropeptides via Lgr3/8 in the brain

Eunbyul Yeom*

School of Life Sciences, Kyungpook National University, Daegu 41566, Republic of Korea

YS1-2 **09:50-10:10**

mRNA Bridge Mimetics Technology for Disease-Specific Genome Regulation

Cheol-Hee Shin[1], Su Chan Park[2], Juyong Lee[3*], Ji Min Lee[2*], Seung Ja Oh[1,4*]

[1]Center for Biomaterials, Biomedical Research Institute, Korea Institute of Science and Technology (KIST), Seoul 02792, Republic of Korea, [2]Graduate School of Medical Science & Engineering, Korea Advanced Institute of Science and Technology, 291 Daehak-ro, Yuseong-gu, Daejeon 34141, Republic of Korea, [3]Department of Chemistry, College of Natural Science, Kangwon National University, Chuncheon 24341, Republic of Korea, [4]Division of Bio-Medical Science & Technology, Korea University of Science and Technology (UST), Republic of Korea

YS1-3 **10:10-10:30**

OsMTD2-Peptide Regulates Reactive Oxygen Species (ROS) Balance for Intact Pollen Tube Elongation in Rice

Yu-Jin Kim[1], Eui-Jung Kim[2], Jihyun Kim[1], Myung-Hee Kim[3], Woo-Jong Hong[2], Sunok Moon[2], Sun Tae Kim[1], Soon Ki Park[3], Ki-Hong Jung[2*]

[1]Department of Life Science and Environmental Biochemistry, and Life and Industry Convergence Research Institute, Pusan National University, Miryang 50463, Republic of Korea, [2]Graduate School of Biotechnology & Crop Biotech Institute, Kyung Hee University, Yongin 17104, Republic of Korea, [3]School of Applied Biosciences, Kyungpook National University, Daegu 41566, Republic of Korea

YS2 Natural Products · Bioactive Materials · Biomedical Sciences

June 28 (Tue), Room 2

Chair: Hyun-Jae Jang (KRIBB)

YS2-1 09:30-09:50

Covalent Protein Painting Reveals Conformational Changes of the Proteome in Alzheimer's Disease

Hyunsoo Kim[1,2], Ahrum Sohn[1], Casimir Bamberger[1], Jolene Diedrich[1], John R. Yates III[1*]

[1]Department of Molecular Medicine, The Scripps Research Institute, La Jolla, California 92037, United State, [2]Department of Convergent Bioscience and Informatics, Chungnam National University, Yuseong-gu, Daejeon 34134, Republic of Korea

YS2-2 09:50-10:10

Sanguisorbae Radix Suppresses Colorectal Tumor Growth through PD-1/PD-L1 Blockade and Synergistic Effect with Pembrolizumab in a Humanized PD-L1-Expressing Colorectal Cancer Mouse Model

Eun-Ji Lee, Ji Hye Kim, Tae In Kim, Yeon-Ji Kim, Malk Eun Pak, Chang Hyun Jeon, Yeo Jin Park, Wei Li, Young Soo Kim, Jang-Gi Choi*, Hwan-Suck Chung*

Korean Medicine Application Center, Korea Institute of Oriental Medicine, Daegu, Republic of Korea

YS2-3 10:10-10:30

Multiple Analytical Platforms on Metabolite Profiling of *Scrophularia* spp. and Metabolomic Approach to Improvement of Hepatic Function in Alcohol-Induced Mouse Model

Seon Min Oh[1], Hyoung-Geun Kim[2], Dahye Yoon[3], Bo-Ram Choi[3], Hyeon Seon Na[2], Woo Cheol Shin[2,3], Hyung Won Ryu[1], Nam-In Baek[2], Dae Young Lee[3*]

[1]Natural Medicine Research Center, KRIBB, 30-Yeongudanji-ro, Ochangeup, Cheongwon-gu, Cheongju-si, Chungbuk 28116, Republic of Korea, [2]Natural Graduate School of Biotechnology, Kyung Hee University, Yongin 17104, Republic of Korea, [3]Department of Medicinal Crop Research, National Institute of Horticultural and Herbal Science, RDA, Eumseong 27709, Republic of Korea

YS2-4 **10:30-10:50**

3,4,5-Trimethoxycinnamate thymol ester inhibits melanogenesis in normal human melanocytes and 3D human epidermal equivalents via the PGC-1α-independent PPARγ partial agonism

Hye-Jin Ko[1,3], Hyun-Jung Choi[2], Yu-Jia Han[1], Seung-Chan An[1], Dae-Jin Min[2], Won-Seok Park[2], Sun Hee Jin[1], Sang Hoon Jung[3], Hyoung-June Kim[2*], Minsoo Noh[1*]

[1]Natural Products Research Institute, College of Pharmacy, Seoul National University, 1 Gwanak-ro, Gwanak-gu, Seoul 08826, Republic of Korea, [2]AmorePacific Corporation R&D Center, Yongin, Gyeonggi-do 17074, Republic of Korea, [3]Natural Products Research Center, Korea Institute of Science and Technology (KIST), Gangneung 25451, Republic of Korea

YS3 Environmental Sciences

June 28 (Tue), Room 3

Chair: Yongho Shin (Dong-A University)

YS3-1 **09:30-09:50**

In vivo toxicometabolomics in adult zebrafish (*Danio rerio*) model exposed to mesaconitine

Eunyoung Park[1], Jihyun Lee[1*], Jeong-Han Kim[2]

[1]Department of Food Science and Technology, Chung-Ang University, Anseong 17546, Republic of Korea, [2]Department of Agricultural Biotechnology and Research Institute of Agriculture and Life Sciences, Seoul National University, Seoul 08826, Republic of Korea

YS3-2 **09:50-10:10**

Behavior of arsenic in vadose zone under alternate wet-dry condition

Sang Hyun Kim[1], Tho Huu Huynh Tran[2], Jaeshik Chung[1,2*], Seunghak Lee[1,2,3*]

[1]Water Cycle Research Center, Korea Institute of Science and Technology (KIST), Seoul 02792, Republic of Korea, [2]Division of Energy and Environment Technology, KIST School, Korea University of Science and Technology, Seoul 02792, Republic of Korea, [3]Graduate School of Energy and Environment (KU-KIST Green School), Korea University, Seoul 02841, Republic of Korea

YS3-3 **10:10-10:30**

Mathematical Models on Phytotoxicity and Accumulation of Heavy Metal in Phytoremediation

Xin Zhao*

Department of Civil and Environmental Engineering, College of Engineering, Seoul National University, 1 Gwanak-ro, Gwanakgu, Seoul 08826, Republic of Korea

YS3-4 **10:30-10:50**

Omics based toxicological aspects of phosphine fumigant: Resistance and phytotoxic mechanisms

Kyeongnam Kim[1], Chaeeun Kim[1], Donghyeon Kim[2], Jiyoung Lee[3], Jinsung Yoo[4], Jun-Ran Kim[4], Jeong-Oh Yang[4], Dong-Woo Lee[3], Sung-Eun Lee[1,2*]

[1]Department of Applied Biosciences, Kyunpook National University, Daegu 41566, Republic of Korea, [2]Department of Integrative Biology, Kyunpook National University, Daegu 41566, Republic of Korea, [3]Department of Biotechnology, Yonsei University, Seoul 03722, Republic of Korea, [4]Plant Quarantine Technology Center, Animal and Plant Quarantine Agency, Gimcheon 39660, Republic of Korea

YS4 Food Sciences

June 28 (Tue), Room 4

Chair: Sanghyun Lee (Chung-Ang University)

YS4-1 **09:30-09:50**

Determination of a polymeric food additive, a polyethylene glycol, in food using HPLC-ELSD and LC-MS/MS

Juhee Park[1], Chan Lee[2*]

[1]Food Analysis Research Center, Food Industry Research Division, Korea Food Research Institute, Wanju 55365, Republic of Korea, [2]Department of Food Science and Biotechnology, Chung-Ang University, Anseong 17546, Republic of Korea

YS4-2 **09:50-10:10**

Improvement of andropause symptoms through in vitro and in vivo use of *Sasa borealis* 30% ethanol extract

Jeong Yoon Lee, Yoo-Hyun Lee*

Department of food & Nutrition, Suwon University, 17, Wauan-gil, Bongdam-eup, Hwaseong-si, Gyeonggi-do, Republic of Korea

YS4-3 **10:10-10:30**

Antihypertensive effect of flounder fish hydrolysates for developing a health functional food

Hyo-Geun Lee, Bomi Ryu, You-Jin Jeon*

Department of Marine Life Science, Jeju National University, Jeju 63243, Republic of Korea

YS5 Applied Microbiology

June 28 (Tue), Room 5

Chair: Jae-Ho Shin (Kyungpook National University)

YS5-1 **09:30-09:50**

An investigation of the effects of antibiotics on gut dysbiosis-induced mice fed with a high-fat diet

Jung-Man Kim[1,2], Min-Woo Kim[2], Tatsuya Unno[1,2*]

[1]Subtropical/tropical Organism Gene Bank (SOGB), Jeju National University, Jeju 63243, Republic of Korea, [2]Faculty of Biotechnology, College of Applied Life Sciences, SARI, Jeju National University, Jeju 63243, Republic of Korea

YS5-2 **09:50-10:10**

Exploring a specific mycoparasite *Sphaerodes mycoparasitica* for controlling phytopathogenic and mycotoxigenic *Fusarium* species

Seon Hwa Kim[1,2*]

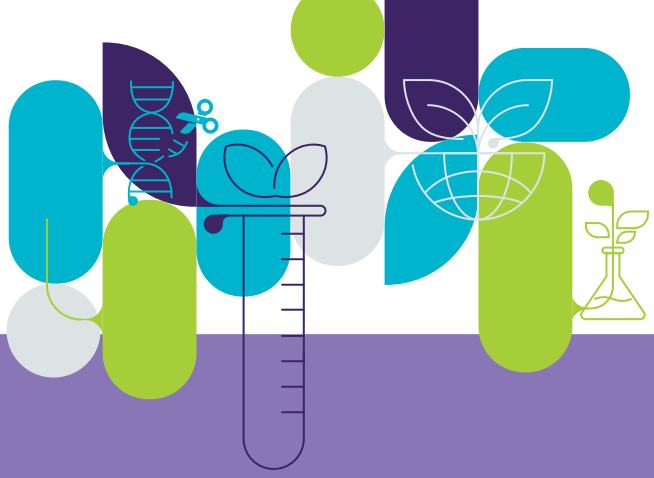
[1]Department of Food and Bioproduct Sciences, University of Saskatchewan, 51 Campus Drive, Saskatoon, SK S7N 5A8, Canada, [2]JAN153BIOTECH, Institute of Environmentally friendly Agriculture, Chonnam National University, Gwangju 61186, South Korea

YS5-3 **10:10-10:30**

An *in vitro* gastrointestinal digestion and fecal fermentation reveals divergent response of human gut microbiome to eight different prebiotics: further implementation of machine learning algorithms

Hokyung Song[1], Dabin Jeon[2], Tatsuya Unno[1,2*]

[1]Subtropical/tropical Organism Gene Bank, Jeju National University, Jeju 63243, Republic of Korea, [2]Faculty of Biotechnology, School of life sciences, SARI, Jeju National University, Jeju 63243, Republic of Korea



2022
International Symposium
and Annual Meeting
of the KSABC

Graduate Student Presentation

Graduate Student Presentation

June 29 (Wed), Room 6

Chair: **Moonsung Choi** (Seoul National University of Science & Technology)

GS-1 09:40-09:45

Mechanism of fucoxanthin biosynthesis through FCP complex in *Phaeodactylum tricornutum* under different light intensity

To Quyen Truong[1,2], Yun Ji Park[2], Song Yi Koo[3], Jae-Hyung Choi[1,2], Altai Enkhbayar[3], Dae-Geun Song[3], Sang Min Kim[1,2*]

[1]Department of Bio-medical Science & Technology, Korea Institute of Science and Technology (KIST), University of Science and Technology, Daejeon 34113, Republic of Korea, [2]Smart Farm Reasearch Center, KIST Gangneung Institute of Natural products, Gangwon-do 25451, Republic of Korea, [3]Natural Product Informatics Research Research Center, KIST Gangneung Institute of Natural products, Gangwon-do 25451, Republic of Korea

GS-2 09:45-09:50

Identification of Salt and Drought-Responsive Proteins in Ginseng (*Panax ginseng* C.A meyer) Using Integrated Gel-based and Gel-free Proteomic Approaches

Ju-Young Jung[1], Cheol Woo Min[1], Jeong Woo Jang[1], Ki Hyun Lee[1], Ick-Hyun Jo[2], Yu-Jin Kim[3], Sun Tae Kim[1*]

[1]Department of Plant Bioscience, Pusan National University, Miryang 50463, Republic of Korea, [2]Department of Herbal Crop Research, Rural Development Administration, Eumseong 27709, Republic of Korea, [3]Department of Life Science and Environmental Biochemistry, Pusan National University, Miryang 50463, Republic of Korea

GS-3 09:50-09:55

Differential Regulation of an OsIspH1 for Photosynthetic Pigment Biosynthesis in Rice Leaves and Seeds

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

Graduate School of Green-Bio Science, Kyung Hee University, Yongin 17104, Republic of Korea

GS-4 09:55-10:00

Ecotype-specific differential methylation via 24-nt siRNA-mediated RdDM pathway in *Arabidopsis* seed

Sang-Yoon Shin[1,2], Jaehoon Lee[1,3], Yeonhee Choi[1,3*], Chanseok Shin[1,2,4,5*]

[1]Research Center for Plant Plasticity, Seoul National University, Seoul, Republic of Korea, [2]Interdisciplinary Program in Agricultural Genomics, Seoul National University, Seoul, Republic of Korea, [3]Department of Biological Sciences, Seoul National University, Seoul 08826, Republic of Korea, [4]Department of Agricultural Biotechnology, Seoul National University, Seoul 08826, Republic of Korea, [5]Research Institute of Agriculture and Life Sciences, Seoul National University, Seoul 08826, Republic of Korea

GS-5 10:00-10:05

Quantitative analysis of metabolites of *Pseudolysimachion rotundum* var. *subintegrum* depending on growth stage

Soobin Song[1,2], Doo-Young Kim[1], So-Yeun Woo[1], Jongmin Ahn[1], Hyung Won Ryu[1], Bang Yeon Hwang[2*], Sei-Ryang Oh[1*]

[1]Natural Medicine Research Center, KRIBB, 30-Yeongudanji-ro, Ochang-eup, Cheongwon-gu, Cheongju-si, Chungcheongbuk-do 28116, Republic of Korea, [2]College of Pharmacy, Chungbuk National University, 194-21, Osongsaengmyeong 1-ro, Osong-eup, Heungdeok-gu, Cheongju-si, Chungcheongbuk-do 28160, Republic of Korea

GS-6 10:05-10:10

In vitro propagation using apical shoot explants and phytochemical assessment of *Codonopsis pilosula* (Franch.) Nannf.: an important medicinal plant

Roggers Gang[1,2,3], Youngmin Kang[1,2*]

[1]Korean Convergence Medical Science Major, University of Science and Technology (UST), Daejeon, Republic of Korea, [2]Herbal Medicine Resources Research Center, Korea Institute of Oriental Medicine (KIOM), 111 Geonjae-ro, Naju-si, Republic of Korea, [3]National Semi-Arid Resources Research Institute (NaSARRI), Soroti, Uganda

GS-7 10:10-10:15

The protective effect of Schisandra C on intestinal permeability dysfunction in the model animal *Caenorhabditis elegans*, cultured human intestinal cells, and intestinal organoids

Uyen Tran Tu Nguyen[1], Mi Ri Kim[1,4], Su-Yeon Cho[2,3], Hee Ju Lee[1], Joo Yeon Kim[1], Ngoc Minh Ha[1,3], Ki Young Choi[1,3], Kwang Hyun Cha[1], Jeong-Ho Kim[4], Won Kyu Kim[2*], Kyungsu Kang[1,3*]

[1]Natural Product Informatics Research Center, Korea Institute of Science and Technology, Gangneung, Gangwon-do 25451, Republic of Korea, [2]Natural Product Research Center, Korea Institute of Science and Technology, Gangneung, Gangwon-do 25451, Republic of Korea, [3]Division of Bio-Medical Science & Technology, KIST School, University of Science and Technology (UST), Gangneung, Gangwon-do 25451, Republic of Korea, [4]Department of Marine Bioscience, Gangneung-Wonju National University, Gangneung, Gangwon-do 25457, Republic of Korea

GS-8 10:15-10:20

Epigallocatechin gallate alleviates ROS-mediated ER stress and concomitant apoptosis induction in rat model of rhabdomyolysis-induced acute kidney injury

Muhammad Haroon, Sukkum Ngullie Chang, Sun Chul Kang*

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

June 29 (Wed), Room 6

Chair: **Yeon Jong Koo** (Chonnam National University)

GS-9 10:30-10:35

Hexane fraction of BPRL suppresses bone loss via induction of osteoblast differentiation

Soyeon Hong[1,2], Da Seul Jung[1], Erdenebileg Saruul[1], Jung-Hye Choi[2], Chu Won Nho[1], Gyhye Yoo[1*]

[1]Smart Farm Research Center, Gangneung Institute of Natural Products Korea Institute of Science and Technology (KIST), Gangneung, Gangwon-do 25451, Republic of Korea, [2]KHU-KIST Department of Converging Science and Technology, Kyung Hee University, Seoul 130-701, Republic of Korea

GS-10 10:35-10:40

Phytochemical study of *Daphne kiusianausing* UPLC-QTOF/MS and evaluation of anti-inflammatory effects

Il-Joo Kim[1,2], Hyung Won Ryu[1], Doo-Young Kim[1], Hyun-Jae Jang[1], Seon Min Oh[1], Bang Yeon Hwang[2*], Sei-Ryang Oh[1*]

[1]Natural Medicine Research Center, KRIBB, 30-Yeongudanji-ro, Ochang-eup, Cheongwon-gu, Cheongju-si, Chungcheongbuk-do 28116, Republic of Korea, [2]College of Pharmacy, Chungbuk National University, 194-21, Osongsaengmyeong 1-ro, Osong-eup, Heungdeok-gu, Cheongju-si, Chungcheongbuk-do 28160, Republic of Korea

GS-11 10:40-10:45

Green tea polyphenol EGCG treatment interferes human coronavirus replication in vitro

Yea-In Park, Rackhyun Park, Yeonjeong Park, Si-Yun Lee, Jaeyeon So, Chansoo Kim, Junsoo Park*

Division of Biological Science and Technology, Yonsei University, Wonju, Republic of Korea

GS-12 10:45-10:50

Effects of low-density polyethylene (LDPE) and imidacloprid on lettuce growth

Md Mehedee Hasan, Eun Hea Jho*

Department of Agricultural and Biological Chemistry, Chonnam National University, Gwangju 61186, Republic of Korea

GS-13 10:50-10:55

Adsorption of Mn in the presence of Cr^{3+} and Cr^{6+} using biochar to reduce manganese toxicity

Hyo-Kyung Jee, Jin Hee Park*

Department of Agricultural Chemistry, Chungbuk National University, Cheongju 28644, Republic of Korea

GS-14 10:55-11:00

Toxicological evaluation of strobilurin fungicides, azoxystrobin and pyraclostrobin, in zebrafish (*Danio rerio*) embryos and a human hepatocarcinoma cell line HepG2

Chaeeun Kim, Sung-Eun Lee*

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

GS-15 11:00-11:05

Impact of polyethylene microplastics on growth and reproduction of earthworms

Tanusree Mondal, Eun Hea Jho*

Department of Agricultural and Biological Chemistry, Chonnam National University, Gwangju 61186, Republic of Korea

GS-16 11:05-11:10

Development of Reduction Technology for Agricultural Ammonia Emission Using Microorganisms in Chinese Cabbage Cultivation

Su-Lim Lee[1], Jea-Hoon Lee[1], Jun-Suk Rho[1], Ah-Young Choi[1], Sin-Sil Kim[1], Seul-Rin Lee[1], Yu-Jin Park[2], Jong-Hwan Park[3], Dong-Cheol Seo[2*]

[1]Division of Applied Life Science, Gyeongsang National University, Jinju 52828, Republic of Korea, [2]Department of Applied Life Chemistry, Gyeongsang National University, Jinju 52828, Republic of Korea, [3]Department of Life Resources Industry, Dong-A University, Busan 49315, Republic of Korea

GS-17 11:10-11:15

The potential role of *Caulerpa okamurae* in bleomycin-mediated pulmonary fibrosis via NLRP3 inflammasome

Seok Hee Seo[1], Feng Fang[1], Inhae Kang[1,2*]

[1]Department of Food Science and Nutrition, Jeju National University, Jeju 63243, Republic of Korea, [2]Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju 63243, Republic of Korea

GS-18 11:15-11:20

Anti-diabetic effects of *Mori Ramulus*: potential mechanisms underlying its effects on pancreatic β-cell apoptosis and insulin resistance

Minji Kim[1,2], Taewon Han[1,3], Eun Ko[4], Moonsung Choi[5], Sooim Shin[4], Min Young Um[1,2*]

[1]Division of Functional Food Research, Korea Food Research Institute, Wanju 55365, Republic of Korea, [2]Division of Food Biotechnology, University of Science and Technology, Daejeon 34113, Republic of Korea, [3]Department of Food and Biotechnology, Korea University, 30019, Republic of Korea, [4]Department of Biotechnology & Bioengineering, College of Engineering, Chonnam National University, Gwangju 61186, Republic of Korea, [5]Convergence Institute of Biomaterials and Bioengineering and, Department of Optometry, College of Energy and Biotechnology, Seoul National University, Republic of Korea

GS-19 11:20-11:25

Biofumigation has positive effect on soil microbial diversity, beneficial soil microbes and cucumber (*Cucumis sativus*) growth performance

Dokyung Lee[1], Setu Bazie Tegele[2], Tino BASHIZI FLORY[2], Raoul Colince Kuate[2], Yeon-Kyeong Lee[1], Jae-Ho Shin[1*]

[1]Department of Integrative Biology, Kyungpook National University, Daegu 41566, Republic of Korea, [2]Department of Applied biosciences, Kyungpook National University, Daegu 41566, Republic of Korea

GS-20 11:25-11:30

Protective effects of *Taraxacum coreanum* on intestinal inflammation and tight junction injury in lipopolysaccharide-stimulated Caco-2 cells

Seok-Hee Han[1], Hyun Young Kim[1], Eun Ju Cho[2], Sanghyun Lee[3], Ah Young Lee[1*]

[1]Department of Food Science, Gyeongsang National University, Republic of Korea, [2]Department of Food Science and Nutrition, Pusan National University, Republic of Korea, [3]Department of Plant Science and Technology, Chung-Ang University, Republic of Korea

2022
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Poster Presentation

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

Poster Presentation

Poster Category

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Poster Presentation

Date \ Category			PBM	PNB	PES	PFS	PAM	PBD
June 27 (Mon)	I	17:00~1800	1-48	1-61	1-37	1-15	1-18	1-18
June 28 (Tue)	II	10:40-11:40	49-96	62-122	38-75	16-29	19-36	19-37
Place			**Room 6 (1F)**					

PBM Biochemistry · Molecular Biology

PBM-1 Analysis of Epigenetic Regulatory RNAome Related to Seed Dormancy During Seed Development in Rice

Minsu Park[1,2], Sang-Yoon Shin[1], Hongman Moon[1], Woochang Choi[1], Chanseok Shin[1,2,3*]

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

PBM-2 Pepper mottle virus control with the application of dsRNAs in *Nicotiana benthamiana*

Yujin Kweon[1], Dowhan Lee[1], Chanseok Shin[1,2,3*]

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

PBM-3 *Phytophthora infestans* and *Phytophthora capsici* control through RNAi induced gene silencing with application of dsRNA

Yujin Kweon[1], Dowhan Lee[1], Chanseok Shin[1,2,3*]

[1]Department of Agricultural Biotechnology, Seoul National University, [2]Research Institute of Agricultural and Life Sciences, Seoul National University, [3]Research Center for Plant Plasicity, Seoul National University

PBM-4 Genome-wide Identification of MicroRNAs Across Different Development Stages and Organs of *Apis cerana*

Igojo Kang[1], Woojin Kim[2], Jae-Yun Lim[1], Yun Lee[1], Yujin Kweon[1], Chanseok Shin[1,3*]

[1]Department of Agricultural Biotechnology, Seoul National University, [2]Department of Agricultural Biology, Jeonbuk National University, [3]Research Center for Plant Plasticity, Seoul National University

PBM-5 Tri-cyclic ergot alkaloid moderate serotonin receptor channel current

Jiwon Lee, Junho Lee*

Biotechnology, Chonnam National University

PBM-6 The regulatory effects of Kaempferol on neuronal cation receptor channel activity

Junho Lee*

Biotechnology, Chonnam National University

PBM-7

One amino acid variation makes the nitrate tranceptor NRT1.1's nitrate uptake ability much better under low nitrate conditions in Arabidopsis

Seokjin Lee, Yeji Lee, Quang Tri Le, Hai An Truong, Hojoung Lee*

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

PBM-8

Methane generation from pig manure

Ga Eun Kim, Jin Hwang Kim, Eun Hea Jho*

Department of Agricultural and Biological Chemistry, Chonnam National University

PBM-9

RNAi-Mediated Silencing of the *DFR* gene and Its Effect on Flavonoid Biosynthesis in Chrysanthemum Ray Florets

Sun-Hyung Lim[1,2*], Da-Hye Kim[1,2], Jae-A Jung[3], Nam-In Hyung[4], Yeojin Youn[4], Jong-Yeol Lee[5]

[1]Division of Horticultural Biotechnology, School of Biotechnology, Hankyong National University, [2]Research Institute of International Technology and Information, Hankyong National University, [3]Floriculture Research Division, National Institute of Horticultural & Herbal Science, Rural Development Administration, [4]Department of Plant and Food Sciences, Sangmyung University, [5]National Academy of Agricultural Science, Rural Development Administration

PBM-10

Development of a method for increasing saccharification efficiency through conversion of lignocellulosic feedstock composition by CRISPR/Cas9-mediated genetic modification

Kihwan Kim[1], Juhyung Shin[2], Byeonggyu Kim[2], Tae-An Kang[1], Won-Chan Kim[1,2*]

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

PBM-11

Identification of SG4 R2R3-MYB Repressor Involved in Anthocyanin Biosynthesis in Chinese Cabbages Leaves

Ji Yeon Kim[1,2], Da Hye Kim[1,2], Sun Hyung Lim[1*]

[1]Division of Horticultural Biotechnology, School of Biotechnology, Hankyong National University, [2]Research Institute of International Technology and Information, Hankyong National University

PBM-12

Identification of interaction between nucleocapsid protein and spike protein in human coronavirus-OC43-infected cells

Jinsoo Kim[1], Minyoung Kim[1], Dongbum Kim[2], Sangkyu Park[3], Mijeong Kang[1], Kyeongbin Baek[1], Jun-Kyu Choi[3], Sony Maharjan[2], Younghee Lee[3], Hyung-Joo Kwon[1,2*]

[1]Department of Microbiology, College of Medicine, Hallym University, [2]Institute of Medical Science, College of Medicine, Hallym University, [3]Department of Biochemistry, Chungbuk National University

PBM-13

Molecular characterization of an isoamylase 1-type starch debranching enzyme (DBEI) in grain amaranth

Young-Jun Park*

Rural Research Institute, Korea Rural Community Corporation

PBM-14

A rapid and reliable PCR-restriction fragment length polymorphism (RFLP) marker for the identification of *Amaranthus cruentus* species

Young-Jun Park*

Rural Research Institute, Korea Rural Community Corporation

PBM-15

RsTTG1 Regulates the Flavonoid Biosynthesis via Forming MBW complex

Da-Hye Kim[1,2], Ji-Yeon Kim[1,2], Sun-Hyung Lim[1,2*]

[1]Division of Horticultural Biotechnology, School of Biotechnology, Hankyong National University, [2]Research Institute of International Technology and Information, Hankyong National University

PBM-16

Characterization of *RsPORs* on Taproots Color Development in Radish

Da-Hye Kim[1,2], Ji-Yeon Kim[1,2], Sun-Hyung Lim[1,2*]

[1]Division of Horticultural Biotechnology, School of Biotechnology, Hankyong National University, [2]Research Institute of International Technology and Information, Hankyong National University

PBM-17

An OsC1, R2R3 MYB TF, Confers the Tolerance on Abiotic Stress in Rice

Da-Hye Kim[1,2], Ji-Yeon Kim[1,2], Sun-Hyung Lim[1,2*]

[1]Division of Horticultural Biotechnology, School of Biotechnology, Hankyong National University, [2]Research Institute of International Technology and Information, Hankyong National University

PBM-18 **Cis-Natural Antisense Transcript *DofNAT* activates the expression of the *OsDof* transcription factor in rice**

Nuri Oh[1], Hee Soon Choi[2], Choonkyun Jung[3*]

[1]Department of Agriculture, Forestry, and Bioresources, College of Agriculture and Life Sciences, Seoul National University, [2]Institutes of Green Bio Science and Technology, Seoul National University, [3]Graduate School of International Agricultural Technology, Institutes of Green Bio Science and Technology, Seoul National University

PBM-19 ***PEP-associated protein 3* controls chloroplast development in rice**

Deok Hyun Seo, Dongryeol Park, Geupil Jang*

School of Biological Sciences and Technology, Chonnam National University

PBM-20 **Identification of *OsPAP9* in Rice Chloroplast Development**

Jinwoo Jang, Geupil Jang*

School of Biological Sciences and Technology, Chonnam National University

PBM-21 **OsJAZ9 and OsSLR1-mediated modulation of JA and GA response in rice**

Subhin Seomun, Geupil Jang*

School of Biological Sciences and Technology, Chonnam National University

PBM-22 **Endodermal cell is regulated by auxin in Arabidopsis roots**

Haewon Jeong, Geupil Jang*

School of Biological Sciences and Technology, Chonnam National University

PBM-23 ***Platycodon grandiflorus* R2R3-MYB Transcription Factor PlgMYB39 acts as a Negative Regulator for Anthocyanin Biosynthesis**

Eunhui Kim, Tae Kyung Hyun*

Department of Industrial Plant Science and Technology, College of Agricultural, Life and Environmental Sciences, Chungbuk National University, Cheongju 28644, Korea

PBM-24 **Different Responses of Two Poplar Species to High Concentration of CO_2**

Tae-Lim Kim, Hwansu Hwang, Il Hwan Lee, Hyemin Lim*

Forest Bioresources Department, National Institute of Forest Science

PBM-25 **Evaluation of Genetic Diversity and Selection Makers in Cypress under Drought Stress**

Tae-Lim Kim, Hwansu Hwang, Kyungmi Lee, Hyemin Lim*

Forest Bioresources Department, National Institute of Forest Science

PBM-26

Changes in Physiological Parameters of Two Poplar Species under Drought Stress

Tae-Lim Kim, Hwansu Hwang, Changyoung Oh, Hyemin Lim*

Forest Bioresources Department, National Institute of Forest Science

PBM-27

PAMP-induced long noncoding RNAs, *ELENA11* and *ELENA12* regulate the innate immune responses in Arabidopsis

Jimin Lee[1], Mungyeong Song[2], Choonkyu Jung[1,3*]

[1]Graduate School of International Agricultural Technology, Seoul National University, [2]Department of Bioscience, University of Suwon, [3]Crop Biotechnology Institute, Seoul National University

PBM-28

Epitope mapping of SFTSV NP protein specific monoclonal antibodies for optimal diagnosis

Min-Ji Choi[1], Kyungha Lee[2], Seong-Hee Bhoo[3*]

[1]Graduate School of Genetics and Biotechnology, Kyung Hee University, [2]Graduate School of Biotechnology, Kyung Hee University, [3]Graduate School of Green-bio Science, Kyung Hee University

PBM-29

Cleavage of Glycosidic C-C Bond: Theoretical Study on the Metabolism of Puerarin

Jongkeun Choi[1], Jaehong Han[2*]

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PBM-30

Establishment of Efficient *Agrobacterium*-Mediated Genetic Transformation in Maize

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PBM-31

Growth Performance Can Be Increased Under High Nitrate and High Salt Stress Through Enhanced Nitrate Reductase Activity in *Arabidopsis* Anthocyanin Over-Producing Mutant Plants

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PBM-32

Circadian Clock Gene GIGANTEA Editing can improve Tolerance to Heat Stress in Chinese cabbage

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PBM-33

A new sight for early diagnosis of soybean flooding stress with a biochemical approach

Juhyung Shin[1], Byeonggyu Kim[1], Kihwan Kim[2], Tae-An Kang[2], Jiwon Jeon[3], Won-Chan Kim[1,2,3*]

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PBM-34

Rice Transcription factor, OsWOX13, is involved in early flowering in rice

Yeon-Ki Kim*, Jaehwan Kim

Department of Bioscience and Bioinformatics, Myongji University

PBM-35

Analysis of lignan quantity, identification of lignan biosynthesis enzyme function in oilseed crops, and research on development of antioxidant lignan-producing plants

Juho Lee*, Woo-Hyun Jeong, Kyeong-Ryeol Lee, Jong-Sug Park

Department of Agricultural Biotechnology, National Institute of Agricultural Sciences

PBM-36

Plastidial PITP7 is essential for membrane trafficking of plastoquinone-9 for thylakoid function in Arabidopsis

Roshan Sharma Poudyal[1], Eun-Ha Kim[1], Hami Yu[1], Eunji Gi[1], Hyun Uk Kim[2], Kyeong-Ryeol Lee[1*]

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PBM-37

Nano-scaled layer-by-layer assembly enhanced the catalytic activity of enzymes

Man Jin In, Dong Chung Kim*

Department of Chemical Engineering, Chungwoon University

PBM-38

Geminivirus-based vector construction for the production of recombinant protein

Kyeong-Ryeol Lee[1*], Jihyea Lee[1], Juho Lee[1], Seon-Kyeong Lee[1], Eui-Joon Kil[2]

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PBM-39

The effect of different light intensities on fucoxanthin production in *Phaeodactylum tricornutum* via FCP complex formation

To Quyen Truong[1,2], Yun Ji Park[2], Altai Enkhbayar[3], Dae-Geun Song[3], Sang Min Kim[1,2*]

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PBM-40

A study on the plant-based vaccine of porcine circovirus 2 (PCV2)

Seon-Kyeong Lee*, Jiseon Kim, Ju Ho Lee, Kyeong-Ryeol Lee, Jong-Sug Park

Metabolic Engineering Division, Department of Agricultural Biotechnology, National Institute of Agricultural Sciences, Rural Development Administration

PBM-41

Butyrylcholinesterase and monoamine oxidase B inhibitions by 4-substituted benzyl-2-triazole-linked-tryptamine-paeonol derivatives

Jong Min Oh[1], Yujung Kang[2], Ji Hyun Hwang[2], Jeong-Ho Park[2*], Woong-Hee Shin[3,4], Seul-Ki Mun[1], Jong Uk Lee[5], Sung-Tae Yee[1], Hoon Kim[1*]

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PBM-42

Bathochromic Mutants of *Avena sativa* Phytochrome A Developed for Enhancing Responses to Light in Plants

Yun-Jeong Han[1], Jeong-Il Kim[1,2*]

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PBM-43

Circadian Clock Gene *GIGANTEA* Regulates the Primary and Secondary Metabolites Contents in *Brassica rapa L.*

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

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PBM-44

The Role of *PSEUDO-RESPONSE REGULATOR* (*PRR*) *1a* and *1b* Genes by CRISPR/Cas9-Targeted Mutagenesis in *Brassica rapa* L.

Nan-Sun Kim[1], Eun Young Lee[1], Hyang Suk Kim[1], Chan Ju Lim[2], So Young Park[1], Ki Jong Lee[1], Jin A Kim[1*]

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PBM-45

Nitrogen-responsive *SIDOF* transcription factors act as a transcriptional repressor in tomato

Jae Sung Shim*, Su Jeong Choi, Eui Jeong, Zion Lee

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PBM-46

Fungal Elicitor and Acibenzolar-S-methyl Synergistically Enhance Avenanthramide Biosynthesis in Oat

Ji Hye Song[1], Hak Young Oh[1], Gi Gyeong Park[1], Dae-Wook Kim[2], Jong-Tak Yoon[2], Kwang-Yeol Yang[1*]

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PBM-47

Enhancement of Antioxidant and Anti-inflammatory Effects of Jeju Beet (*Beta vulgaris*) Root by Steaming Time

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PBM-48

Neuroprotective Effects of *Salacca Wallichiana* Extracts against Glutamate Induced Oxidative Stress in Mouse Hippocampal HT22 Cells

Ji Hun Byeon[1], Ye Yeong Hong[1], Song-I Han[2], Jung Whoi Lee[2], Jae Hoon Kim[1,2*]

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PBM-49

Regulation of Carbon Source Consumption by The Engineering of Central Metabolic Pathway in *Escherichia coli*

Hyeon Jeong Seong, Yu-Sin Jang*

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PBM-50

Investigating Aleurone Properties in Maize (*Zea mays* L.) Landraces

Jae-Hong Kim, Ji Hyeon Kang, Minji Lee, Hyungyeong Seong, Gibum Yi*

Chungnam National University, Department of Bio-Environmental Chemistry

PBM-51

Butyrate Production with a High with Productivity Using *Clostridium acetobutylicum* Strain M5

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PBM-52

Integrated membrane proteomic and phosphoproteomic analyses for uncovering the salt-tolerance mechanisms in rice (*Oryza sativa* L.)

Cheol Woo Min[1], Ju-Young Jung[1], Ravi Gupta[2], Ji-Yoon Lee[3], Ju-Won Kang[3], Jun-Hyeon Cho[3], Sun Tae Kim[1*]

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PBM-53

Increased Extracellular pH was Observed in The Cultures Using *Clostridium acetobutylicum atp*G-Knockdown Mutants

Yu-Sin Jang[1*], Hyeon Jeong Seong[1], Seong Woo Kwon[1], Yong-Suk Lee[1], Jung Ae Im[2], Haeng Lim Lee[1], Ye Rin Yoon[1], Sang Yup Lee[2*]

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PBM-54

Understanding the Mechanism of ERK-mediated Transcriptional Regulation at Human *EGR1* Gene

Deukyeong Kim[1], Shun-Ichi Sekine[2], Reiko Nakagawa[3], Anh Cong[4], Hongha Bu[5], Jeongho Jang[5], Matthew J. Schellenberg[4], Heeyoun Bunch[1,6*]

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PBM-55

Topoisomerase II regulates transcription of hypoxia-inducible genes

Min-Seok Seu[1], Deukyeong Kim[2], Jaehyeon Jeong[2], Changyun Rhee[2], Je-Yong Choi[3], Heeyoun Bunch[2,4*]

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PBM-56

Biosynthesis of Phloretin and Its *C*-Glycosides in *Escherichia coli*

Joong-Hoon Ahn*, Shin-Won Lee

Department of Integrative Bioscience and Biotechnology, Konkuk University

PBM-57

Identification of the unique venom proteins from the three Korean venom snakes

Yeonjong Koo*, Hyosun Park

Department of Agricultural Chemistry, Chonnam National University

PBM-58

The vector optimization for tomato genome edition using CRISPR/Cas9 and high efficient gRNA selection for editing PDS, ALS and EPSPS gene to produce the herbicide-resistant tomatoes

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

Department of Agricultural Chemistry, Chonnam National University

PBM-59

Genetic Modification of Plants to Elucidate Ginsenoside Biosynthesis Pathway

Young-Hun Kim, Chan-Woo Park, Yu-Jin Kim*

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PBM-60

Pulmonary Inflammatory Markers after 4-Weeks Repeated Inhalation Study of Crystalline Silica

Jae Hoon Shin[1*], Jin Kwon Kim[2], Mi Seong Jo[2], Jin Ee Baek[1], Jong Seong Lee[1], Seung Min Oh[3]

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PBM-61

Multiplexed RNA Knockdown System by RfxCas13d and crRNA Arrays Encoded in a Single RNA Pol II-derived Transcript

Heungsop Shin*, Jisun Lee*

Department of Chemical Engineering and Biotechnology, Tech University of Korea

PBM-62

Overexpression of the Ginseng GH18 Gene Confers Salinity Tolerance in Arabidopsis

Gayoung Noh[1], Jihyun Kim[1], Sung Won Cho[2,3], Younghun Kim[1], Ju Young Jung[4], Gyulim Park[1], Hong-Joo Son[1], Ick Hyun Jo[5], Young Hun Song[6], Sun Tae Kim[4*], Yu-Jin Kim[1*]

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PBM-63

Nucleoredoxin Functions As If It Were A Safety Pin in The *Arabidopsis* Defense Response

Chang Ho Kang*, Jae Heok Lee, Usol Choe, Juwan Baek, Joon Woo Lee, Sang Yeol Lee, Jong Chan Hong, Chae Oh Lim*

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PBM-64

Structural and Functional Switching of AtNRX1 Triggers Defense Responses in *Arabidopsis*

Chang Ho Kang*, Jae Heok Lee, Usol Choe, Juwan Baek, Joon Woo Lee, Sang Yeol Lee, Jong Chan Hong, Chae Oh Lim*

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PBM-65

Transcriptome Profiling of Pre-Harvest Sprouting related Genes in Developing Seeds of *Oryza sativa* cv. Nipponbare

Woo-Chang Choi[1], Minsu Park[1,2], Chanseok Shin[1,2,3*]

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PBM-66

Heritable Genome Editing System Using Plant Viral Vector in *Nicotiana attenuata*

Hyeonjin Kim, Eunae Park, Yuri Choi, Youngbin Oh, Sang-Gyu Kim*

Department of Biological Sciences, Korea Advanced Institute for Science and Technology (KAIST)

PBM-67

Selection and Characterization of Wheat Lines Missing Omega-5 Gliadin Encoded by 1D Chromosome

Sewon Kim, Jae-Ryeong Sim, Yu-Jeong Yang, Eun Ji Park, Jong-Yeol Lee*

National Institute of Agricultural Science, RDA

PBM-68

CRISPR/Cas9 Gene Editing to Reduce Omega-1, 2 Gliadin Content in a Korean Wheat Variety

Jae-Ryeong Sim, Sewon Kim, Yu-Jeong Yang, Eun Ji Park, Jong-Yeol Lee*

National Institute of Agricultural Science, RDA

PBM-69

Gold nanoparticle-fisetin complex induces apoptosis in uterine leiomyoma in cell line

Seung Myun Hong, Young Hoon Joo, Hy Eri Lee, Dong Gun Lee, Young Eun Ha, Chan Eun Lee, Jae Ho Yeom, Deok Jae Lee, Nam Hyun Chung*

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PBM-70

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

Chae Eun Lee, Young Hoon Joo, Hy Eri Lee, Dong Gun Lee, Young Eun Ha, Seung Myun Hong, Jae Ho Yeom, Deok Jae Lee, Nam Hyun Chung*

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PBM-71

Analysis for anti-obesity effect of *Magnolia denudata* extract

Jae Ho Yeom, Young Hoon Joo, Hy Eri Lee, Dong Gun Lee, Young Eun Ha, Seung Myun Hong, Chae Eun Lee, Deok Jae Lee, Nam Hyun Chung*

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PBM-72

ZmFCP1 peptide signaling is involved in maize leaf development

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

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PBM-73

Protein-protein Interactions Among Geranylgeranyl Diphosphate Synthases Homologs Affecting Terpenoid Metabolism in Rice

Soo Yeon Lim[1], Min Kyoung You[1], Lae Hyeon Cho[2], Yeo Jin Lee[1], Ji Su Yu[1], Sun Hwa Ha[1*]

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PBM-74

Lactiplantibacillus plantarum K8 modulates HIF1a and hypoxia-inducible gene expression in cultured human cell

Jaehyeon Jeong[1], Deukyeong Kim[2], Chang-Yun Rhee[2], Min-Seok Seu[3], Hangeun Kim[4], Dae Kyun Chung[5], Heeyoun Bunch[1,2*]

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PBM-75

Distinct Spatial Expression and Enzymatic Activity among Three 1-Deoxy-D-Xylulose 5-Phosphate Synthases for Terpenoid Metabolism in Rice

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PBM-76

Effect of mutations on Tyrosine 88 and 90 of amicyanin

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PBM-77

Age-related Changes in Metabolic Profiles of Mice Hypothalamus and Serum

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PBM-78

Biosynthesis of neoclerodane diterpenoids by cytochrome P450 in *Salvia divinorum*

Moonhyuk Kwon[1], Joseph C Utomo[2], Keunwan Park[3], Cameron A Pascoe[4], Sorina Chiorean[4], Iris Ngo[2], Kyle A Pelot[5], Cheol-Ho Pan[3,6], Seon-Won Kim[1], Philipp Zerbe[5], John C Vederas[4], Dae-Kyun Ro[2*]

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PBM-79

Characterization of germacrene A synthase promoter in lettuce (*Lactuca sativa*)

Moonhyuk Kwon[1], Connor L Hodgins[2], Tegan M Haslam[2], Susan A Roth[2], Trinh-Don Nguyen[2], Edward Yeung[2], Yang Qu[3], Seon-Won Kim[1], Dae-Kyun Ro[2*]

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PBM-80

Identification of triterpenes and functional characterization of triterpene synthase genes isolated by transcriptome analysis of *Codonopsis lanceolata*

Han Bin Choi[1], Yong Eui Choi[2], Myeong Hyeon Wang[1*]

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PBM-81

Glycosyl Hydrolase 17 Protein Function As a Key Regulator of Salt Stress Responses in Ginseng Reveled by a d-Free Quantitative Proteome Analysis

Ju-Young Jung[1], Cheol Woo Min[1], Ravi Gupta[2], Ick-Hyun Jo[3], Jihyun Kim[4], Younghun Kim[4], Yu-Jin Kim[4*], Sun Tae Kim[1*]

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PBM-82

Sap Proteomic Analysis of Salt-Responsive Proteins in Ginseng (*Panax ginseng* C. A. Meyer)

Ju-Young Jung[1], Cheol Woo Min[2], Ravi Gupta[3], Ick-Hyun Jo[4], Yu Jin Kim[5*], Sun Tae Kim[1*]

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PBM-83

Identification of the protein accumulation mechanisms underlying high-lysine content in weedy rice using mass-spectrometry based proteomic approach

Cheol Woo Min[1], Ravi Gupta[2], Ju-Young Jung[1], Ji-Yoon Lee[3], Ju-Won Kang[3], Jun-Hyeon Cho[3], Sun Tae Kim[1*]

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PBM-84

Study of plant development with rice mutants of targeting *OsER* homologous genes via CRISPR/Cas9 genome editing system

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

Department of Horticultural Bioscience, Pusan National University

PBM-85

2-methoxy-4-vinyl phenol induced cell death by regulation of heme oxygenase-1 in pancreatic cancer cells

Soo-Beom Jin[1], Song-I Han[2], Jungwhoi Lee[2], Jae-Hoon Kim[1,2*]

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PBM-86

Guard cell/pollen grain size and ploidy level of polyploid *Hibiscus syriacus* L. open-pollinated progenies

You Lim Jang, Soon-Ho Kwon, Hanna Shin, Hae-Yun Kwon*

Forest Bioresources Department, National Institute of Forest Science

PBM-87

The analysis and comparison of complete chloroplast genomes of four *Hibiscus syriacus* collected from different regions

Soon-Ho Kwon, You Lim Jang, Hanna Shin, Hae-Yun Kwon*

Forest Bioresources Department, National Institute of Forest Science

PBM-88

The complete chloroplast genome sequence and its variations of *Hibiscus sinosyriacus* L.

Soon-Ho Kwon, You Lim Jang, Hanna Shin, Hae-Yun Kwon*

Forest Bioresources Department, National Institute of Forest Science

PBM-89

Identification of Genetic Variants of 16 Korean Mungbean Cultivars by Whole Genome Resequencing

Yu-Na Kim*, Sang-Beom Lee, Soo-Kwon Park, Dool-Yi Kim, Mi-Suk Seo, Gyu-Tae Park, Jung-Kyung Moon

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

PBM-90

The Rice Receptor Kinase MBR Binds *Magnaporthe oryzae* snodprot1 homolog (MSP1) and Overexpression of MBR Enhances Rice Blast Disease

Jeong Woo Jang[1], Jinmi Yoon[1], Gi Hyun Lee[1], Cheol Woo Min[1], Ju Soon Yoo[1], Ravi Gupta[2], Sun Tae Kim[1*]

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PBM-91

Predicting catechin contents using FT-IR spectroscopy and PLS regression in tea leaves

So Jin Lee*, Yong Hee Kwon, Eunyoung Song, Doo Gyung Moon

Research Institute of Climate Change and Agriculture, National Institute of Horticulture and Herbal Science

PBM-92

Predicting major amino acids contents using FT-IR spectroscopy and PLS regression in tea leaves

So Jin Lee*, Yong Hee Kwon, Eunyoung Song, Doo Gyung Moon

Research Institute of Climate Change and Agriculture, National Institute of Horticulture and Herbal Science

PBM-93

Thermodynamic analysis of bovine serum albumin and sulfacetamide interaction; comparison of van't Hoff equation and isothermal titration calorimetry

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PBM-94

Isoquercitrin Production using *Bacillus* sp. CQS 10 Isolated from Forest Soil

Ju-Yeong Kang[1], Won-Jung Park[1], Youngdae Yoon[2], Bong-Gyu Kim[1*]

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PBM-95

Effect of Cetirizine on lysozyme general property in drug delivery process

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PBM-96

The bibliometric analysis of *Applied Biological Chemistry* and *Chemical and Biological Technologies in Agriculture* articles using VOS viewer

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PNB Natural Products · Bioactive Materials · Biomedical Sciences

PNB-1

Extracellular polysaccharides purified (Polycan) from *Aureobasidium pullulans* SM 2001 Improves Pathophysiology of Dystrophin-Deficient mdx Mic

Su-Jin Hwang[1], Min-Kyeong Park[1], Young-Suk Kim[2], Tae Woo Oh[1*]

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PNB-2

Effect of Exposure to Essential Oil of Korean Fragrant Plant Bae-cho-hyang (*Agastache rugosa*) on Human Brain Psychophysiology

Minji Hong[1], Minju Kim[1], Hyejeong Jang[1], Sela Bo[1], Ponnuvel Deepa[1], Ji Yea Park[2], Kandhasamy Sowndhararajan[3], Songmun Kim[1*]

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PNB-3

Polymerization of Phytotoxic Coffee Phenolics Driven by The Maillard Reaction and Its Effect on Hydroponic Crop Cultivation

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PNB-4

Triterpenoid of Ziziphus inhibits neuronal acetylcholine receptor channel current activity

Shinhui Lee, Junho Lee*

Biotechnology, Chonnam National University

PNB-5

Pain reliever and antioxidant effect on transient receptor potential vanilloid member 1 by Naringin

Junho Lee*

Biotechnology, Chonnam National University

PNB-6

Future Insight of Optimization on the Ginseng Species about Seed Germination and Morphology Studies

Yueun Min[1,2], Endang Rahmat[1], Roggers Gang[1,2], Yuseong Chung[2], Youngmin Kang[1,2*]

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PNB-7

Bioreactors production of *Rehmannia glutinosa* adventitious root biomass and enhancement of its acteoside biosynthesis by elicitation

Endang Rahmat[1,2], Roggers Gang[1,2], Yuseong Chung[2], Yueun Min[1,2], Youngmin Kang[1,2*]

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PNB-8

Sebum-Refinery Mycobiome (S-Cell HELIX™): Potential for Novel Symbiotic Mechanisms Contributing to the Function and Homeostasis of Epidermal Surface Lipids

Young Mok Heo*, Dong-Geol Lee

R&I Center, COSMAX BTI

PNB-9

Reactive Oxygen Species Formation by LED Lights Differentially Regulates FAK Activity in the Viability of HaCaT Cell

Hyang-Yeol Lee, Jun-Sub Kim*

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PNB-10

Effects of Cyanidin 3-O-glucoside and Cyanidin 3-O-rutinoside on Blue Light induced Cytotoxicity in HaCaT Cell

Hyang-Yeol Lee, Jun-Sub Kim*

Department of Biotechnology, Korea National University of Transportation

PNB-11

Effect of electron beam irradiation on survival of pine wood nematode

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PNB-12

Comparison of Feed Value for Each Part of Silage Corn by Planting Dates and Cultivars at Paddy Field

Mihyang Kim[1*], Yo-Han Yoo[2], Dae-Woo Lee[3], Seuk Ki Lee[3], Moon Seok Kang[1], Yu-Young Lee[4], Jin Young Lee[1], Narae Han[1]

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PNB-13

Mechanism of protein tyrosine phosphatase 1B inhibition by theaflavanoside IV isolated from methanolic extract of tea (*Camellia sinensis*) seed shells

Hyun Sim Woo, Min-Sung Lee, Yu Jin Oh, Jae Woo Kim, Ji Won Park, Dae Wook Kim*

Wild Plant Industrialization Research Division, Baekdudaegan National Arboretum

PNB-14

Centella asiatica flower extract effects on human skin: *in vitro* evaluation for skin moisturization, skin recovery and anti-inflammation

Hye-Been Kim, Hyungwoo Jo, Sol Kim, Dong-Geol Lee*

R&I Center, COSMAXBTI

PNB-15

Artificial intelligence aided discovery of target based novel anticancer molecules from natural sources

Sayan Dutta Gupta*, Dae-Geun Song, Keunwan Park, Cheol-Ho Pan

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

PNB-16

Protective effects of Moschus on traumatic brain injury mice model

Jinhyun Bae[1], Hyejin Joo[1,2], Seogyeong Lee[1], Jae-Woo Park[3], Beom-Joon Lee[3], Youngmin Bu[1*]

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PNB-17

Biosynthetic method to produce a ginseng saponin, compound K

Jun-Sub Kim, Hyang-Yeol Lee*

Department of Biotechnology, Korea National University of Transportation

PNB-18

Anti-inflammatory activity and toxicity of the bio-converted compound K

Jun-Sub Kim, Hyang-Yeol Lee*

Department of Biotechnology, Korea National University of Transportation

PNB-19

Secondary Metabolite Profiling of Soybean Roots by UPLC-ESI-Q-TOF/MS and Anti-LDL Oxidation Effects of the Roots Extract

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

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PNB-20

Inhibitory effect of human tracheal fibroblasts proliferation via p21 mediated G0/G1 cell cycle arrest by dieckol isolated from *Ecklonia cava*

Seong-Yeong Heo, Junseong Kim, Soo-Jin Heo*

Jeju Marine Research Center, Korea Institute of Ocean Science & Technology

PNB-21

Comparison of Isoflavone Content and Growth Characteristics in 20 Varieties of Soy-paste and Tofu and Soybean-sprout

Hyeong-Hwan Lee[1,2], Dong-Yeol Lee[1], Gyeong Hwan Lee[1], Won Min Jeong[1], Dong Gyu Jeong[1], Sang Gon Kim[1*]

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PNB-22

Wheat Seedling Extract and Its Eight Components Attenuates RANKL-induced Differentiation and Fusion of Osteoclasts and Bone Resorption

Ji Yeong Yang, Hangyeol Lee, Hyoung Jae Ahn, June-Yeol Choi, Mi Ja Lee, Hyun Young Kim, Seung-Yeob Song, Woo Duck Woo*

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PNB-23

Analysis of Fragrance Composition of Korean Medicinal Crops using GC-MS Headspace

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

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PNB-24

Antioxidant Effect from the Viscera peptides of Turbo cornutus (chicoreus asianus)

Junseong Kim, Seong-Yeong Heo, Nalae Kang, Soo-Jin Heo*

Jeju Marine Research Center, Korea Institute of Ocean Science & Technology

PNB-25

Elucidation of phenolic phytochemicals in wheat seedlings (*Triticum aestivum* L.) by NMR and HPLC-Q-Orbitrap-MS/MS and variations of their contents and antioxidant effects at different growth times

Woo Duck Seo*, Ji Yeong Yang, Ji Eun Ra, Mi Ja Lee, Hyun Young Kim, Seung-Yeob Song, June-Yeol Choi

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PNB-26

Effect of Flower Bud Removal on Yield and Biological Activities of *Platycodon grandiflorus* Roots

Gayeon Kim, Tae Kyung Hyun*

Department of Industrial Plant Science and Technology, College of Agricultural, Life and Environmental Sciences, Chungbuk National University, Cheongju 28644, Korea

PNB-27

MeJA improved the anti-inflammatory effect of *Abeliophyllum distichum* adventitious roots

Seoung Gun Bang, Tae Kyung Hyun*

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PNB-28

Anti-Inflammatory Effects of *Rosa rugosa* extracts in RAW264.7 Cells Exposed to Particulate Matter PM10

Min- A Ahn, Tae Kyung Hyun*

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PNB-29

Effect of Waterlogging Stress on the Biological Activities of *Platycodon grandiflorus* Roots

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PNB-30

Antioxidant and anti-inflammatory effects of *Plantago asiatica* on LPS-induced RAW 264.7 cells

Yu Kyung Choi, Byung Kil Choo*

Department of Crop Science & Biotechnology, Jeonbuk National University

PNB-31

Antioxidant and anti-inflammatory effects of *Plantago lanceolata* on LPS-induced RAW 264.7 cells

Yu Kyung Choi, Byung Kil Choo*

Department of Crop Science & Biotechnology, Jeonbuk National University

PNB-32

Effects of Anemarrhenae Rhizoma extract on DNCB-induced atopic dermatitis in vivo

Yumi Jang[1,2], Jung-Hee Jang[3], Purumea Jun[3,4], Sungyu Yang[1], Yong-Ung Kim[5], Mi Ryeo Kim[2], Byeong-Cheol Moon[1], Hye-Sun Lim[1*], Gunhyuk Park[1*]

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PNB-33

Green tea polyphenol EGCG treatment inhibits human coronavirus replication in vitro

Yea-In Park, Rackhyun Park, Yeonjeong Park, Si-Yun Lee, Jaeyeon So, Chansoo Kim, Junsoo Park*

Division of Biological Science and Technology, Yonsei University

PNB-34

Green tea extract, Epigallocatechin Gallate (EGCG), Reduces Coronavirus Replication in a Mouse Model

Rackhyun Park, Yea-In Park, Yeonjeong Park, Siyun Lee, Jaeyeon So, Junsoo Park*

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PNB-35

Mass Production of Embryogenic Callus : Chrysoeriol-7-o-Glucoside Functional Materials Using *Ixeridium dentatum*

Seon Hwa Lee, Ju Ho Lee, Seon Kyeong Lee, Kyeong Ryeol Lee, Mi Kyoung Kim, Jong Sug Park*

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PNB-36

Identification of conduritol F and metabolic profiling of *Cynanchum wilfordii* adventitious roots induced from field cultivated and heap cultivated explants

Hyejin Hyeon[1], Eun Bi Jang[1], Jong-Du Lee[1], Ho Bong Hyun[1], Weon-Jong Yoon[1], Yong-Hwan Jung[1], Jung Min[2], Young-Min Ham[1*]

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PNB-37

Chemical constituents of the culture broth of *Dentipellis fragilis*

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

Division of Biotechnology, Jeonbuk National University

PNB-38

UV-mutagenesis of *Bacillus* sp. BS061

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

Division of Biotechnology, Jeonbuk National University

PNB-39

Biotransformation of ferulic acid by the culture broth of *Phellinus linteus*

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

Division of Biotechnology, Jeonbuk National University

PNB-40

CP47, an autophagy inhibitor, reduces the replication of feline coronavirus

Yeonjeong Park, Rackhyun Park, Yea-In Park, Siyun Lee, Jaeyeon So, Junsoo Park*

Division of Biological Science and Technology, Yonsei University

PNB-41

Oat Seedling Extract inhibit RANKL-induced c-Fos/NFATc1 Molecules in the Early Stages of Osteoclast Differentiation

Han Gyeol Lee[1,2], Ji Yeong Yang[1], Seung-Yeob Song[1], Mi Ja Lee[1], Hyun Young Kim[1], Woo Duck Seo[1*]

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PNB-42

Changes in Morphological Characteristics and Fatty Acid Composition of F_1 Hybrids by Artificial Crossing between Rapeseed and Three Cruciferae Crops

Kwang Soo Kim*, Young Lok Cha, Ji Eun Lee, Da Hee An, Dong Chil Chang

National Institute of Crop Science, Bioenergy Crop Research Institute

PNB-43

Black Ginseng Extract Suppresses Airway Inflammation Induced by Cigarette Smoke and Lipopolysaccharides *In Vivo*

Yu Na Song[1,2], Mun-Ock Kim[1], Jae-Won Lee[1], Jae Kyoung Lee[3], Eun Sol Oh[1,2], Hyunju Ro[2], Dahye Yoon[4], Yun-Hwa Jeong[1,5], Ji-Yoon Park[1,5], Jung Hae Kim[5], Sung-Tae Hong[5], Hyung Won Ryu[1*], Su Ui Lee[1*], Dae Young Lee[4*]

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PNB-44

Study on Extraction Method for Purifying Porphyra 334 from Laver (*Porphyra yezoensis*)

Sung Joo Jang, Hyo Hyun Seo, Soo-Yun Kim, Dong Sun Shin, Seung Taek Oh, Ji Hyeok Song, Sak Lee, Choong Hwan Lee, Seung Hye Paek, Sang Jun Lee, Sang Hyun Moh*

Plant Cell Research Institute, BIO-FD&C Co., Ltd.

PNB-45

Generation of virus free callus for the three vegetatively propagated crops and cryopreservation of virus free callus

Gi-Seok Kwon[1], Soo-Yun Kim[1], Seung Hye Paek[1], Yeon Hwa Jo[2], Won Kyong Cho[2], Myeong Hoo Lee[1], Jeong Hun Lee[1*]

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PNB-46

Effect of anti-aging material in embryonic callus derived the domestic rose roots

Soo-Yun Kim[1], Seung Hye Paek[1], Su Young Lee[2], Hyo Hyun Seo[1], Song Ji Hyeok[1], Ji-Yeon Kim[1], Jeong-Hun Lee[1*]

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PNB-47

Alterations and prediction of functional profiles of gut microbiota after fecal microbiota transplantation for Iranian recurrent *Clostridioides difficile* infection with underlying inflammatory bowel disease: A pilot study

Youngjae Jo[1], Azimirad Masoumeh[2], Minsoo Jeong[1], Wanro Kim[3], Jae-Ho Shin[1*]

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PNB-48

Synthesis and Evaluation of Novel Histone Deacetylase Inhibitors containing N-(2-Aminophenyl)benzamide Moiety and Fluorine

Hee-Kwon Kim*, Minh Thanh La

Department of Nuclear Medicine, Jeonbuk National University

PNB-49

Synthesis of Novel Translocator Protein Ligand containing Pyrazolo[1,5-a]pyrimidin-3-yl)acetamide and Fluorine as Promising PET Tracers

Hee-Kwon Kim*, Van Hieu Tran

Department of Nuclear Medicine, Jeonbuk National University

PNB-50

Synthesis of Novel Methylcarbapenem Derivatives bearing Imidazoline and Evaluation of Antibacterial Activities

Hee-Kwon Kim*

Department of Nuclear Medicine, Jeonbuk National University

PNB-51

Discovery and Characterization of SARS-Cov-2 Main Protease Inhibitor

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PNB-52

New lignans from the roots of *Codonopsis lanceolata*

Hyoung-Geun Kim[1], Woo Cheol Shin[2], Bo-Ram Choi[2], Dahye Yoon[2], Dae Young Lee[2*], Nam-In Baek[3*]

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PNB-53

Effects of drying methods on the phytochemical content and antioxidant and anti-proliferative potential of leaf layers of cabbage (*Brassica oleracea* var. *Capitata*)

Do Manh Cuong[1], Hee Young Kim[1], Meran Keshawa Ediriweera[2], Somi Kim Cho[3*]

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PNB-54

Green synthesis, characterization, cytotoxicity of dual antibiotic loaded ZrO_2 nanoparticles for enhanced antibacterial activity

Xin Zhang, Myeong Hyeon Wang*

Kangwon National University, Bio-Health Convergence

PNB-55

New phenylethanoid glycosides from the roots of *Scutellaria baicalensis* georgi

Hyoung-Geun Kim[1], Hyeon Seon Na[2], Bo-Ram Choi[3], Dahye Yoon[3], Dae Young Lee[3*], Nam-In Baek[1*]

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PNB-56

New benzo(h)cinnoline derivatives from the rhizomes of *Astragalus membranaceus*

Hyoung-Geun Kim[1], Trong Nguyen Nguyen[1], Woo Cheol Shin[2], Dahye Yoon[2], Dae Young Lee[2*], Nam-In Baek[1*]

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PNB-57

Plant metabolic engineering to enhance monoterpenoid production through transient expression

Soyoung Park*, Beom-Gi Kim, Saet Byul Lee, Jaeeun Song, Jun Oh, Ji-Su Kim, Soo In Lee, Jin A Kim, Vimalraj Mani, Kijong Lee

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

PNB-58

Anti-infective and therapeutic effects of photodynamic therapy with *Ligularia fischeri* extract against skin pathogens *in vitro* and in *Caenorhabditis elegans*

Ngoc Minh Ha[1,2], Seemi Tasnim Alam[1,2], Uyen Tran Tu Nguyen[1,2], Hoseong Hwang[1], Soon Kwang Lee[1], Jin-Chul Kim[3], Jin-Soo Park[1], Hak Cheol Kwon[1], Jaeyoung Kwon[1,2], Kyungsu Kang[1,2*]

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PNB-59

Metabolic engineering and transient expression system to enhance sesquiterpenoid production in plants

Vimalraj Mani, Soyoung Park, Jin A Kim, Soo In Lee, Kijong Lee*

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

PNB-60

Characterization of Pepper Esterases (PepESTs) as Anti-fungal Agents to Confer Disease Resistance in Plants

Yun-Jeong Han[1], Jeong-Il Kim[1,2*]

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PNB-61

Oleic acid, a major component of the chloroform solvent fraction of broccoli (Brassica oleracea L.) sprouts, inhibits stemness in breast cancer stem cell MCF-7/SCs

Ji Soo Kim[1], So Mi Kim Cho[2*]

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PNB-62

Compound X derived from hexane extract of banana flesh suppresses stemness and enhances radio-sensitivity of human breast cancer MDA-MB-231 cells

Dae Kyeong Kim[1], Jeong Yong Moon[2], Somi Kim Cho[1,2*]

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PNB-63

Two new flavonoids isolated from the leaves of *Potentila chinensis*

So-Young Lee, So-Ri Son, Ji-Young Kim, Dae Sik Jang*

Department of Biomedical and Pharmaceutical Sciences, Graduate School, Kyung Hee University

PNB-64

Anticancer Effects of *Patrinia scabiosaefolia* Ethanol Extract and its Derivatives on Hepatocellular Carcinoma Cells

Kyoung Jin Nho[1*], A Young Lee[2], Jin Mi Chun[2]

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PNB-65

Cholesterol and visceral fat lowering effects of the fermented extracts from *Momordica charanatia* and *Withania somnifera* in high-fat diet-fed obese mice

Young Geol Yoon*

Department of Biomedical Science, Jungwon University

PNB-66

Effect of decursin as a pharmaceutical candidate for treatment of chemotherapy-induced neuropathic pain

Chiwon Choi[1], Dang Bao Son[1], Dabeen Jeong[1], Hanki Lee[2*]

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PNB-67

The effect of silkworm powder on naturally aged *Caenorhabditis elegans* as a sarcopenia *in vivo* model

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PNB-68

EGCG, a green tea polyphenol, inhibits the 3CL-protease of SARS-CoV-2 Omicron *in vitro*

Siyun Lee, Junsoo Park*, Rackhyun Park, Yea-In Park, Yeonjung Park, Jaeyeon So, Chansoo Kim

Division of Biological Science and Technology, Yonsei University, Wonju, Republic of Korea

PNB-69

Isolation secondary metabolites from rice (*Oryza sativa L.*) seedling and their effect of osteoblast activity

Hyoung Jae Ahn[1,2], Mi-Ja Lee[1], Hyun Young Kim[1], Seung-Yeob Song[1], Ji Yeong Yang[1], Woo Duck Seo[1*]

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PNB-70

Changes in free amino acid content from Growth time by *Oryza Sativa L.*

Hyoung Jae Ahn[1,2], Hyun Young Kim[1], Ji Yeong Yang[1], Mi-Ja Lee[1], June-Yeol Choi[1], Woo Duck Seo[1], Seung Yeob Song[1*]

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PNB-71

Characterization of Caffeoylquinic Acids from *Lepisorus thunbergianus* and Their Anti-Atopic Dermatitis Activity

Jae Kwon Kim, Hee-Young Heo, Ju-Eun Kim, Se-Hui Jung, Kooyeon Lee*

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PNB-72

The Effect of Cold Stress on Flavone Biosynthesis in *Scutellaria baicalensis*

Hyeon Ji Yeo[1], Chang Ha Park[2], Jae Cheol Jeong[1], Cha Young Kim[1*], Sang Un Park[3,4*]

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PNB-73

New dihydrobenzoxanthone, Artonin W displaying bacterial neuraminidase inhibition from *Artocarpus elastics*

Yong Hyun Lee, Aizhamal Baiseitova, Ki Hun Park*

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

PNB-74

Ugonins derivatives of Luteolin and Eriodictyol with Bacterial Neuraminidase inhibition and their kinetics study

Abdul Bari Shah, Aizhamal Baiseitova, Ki Hun Park*

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PNB-75

Elicitor-mediated Production of Isochlorogenic Acid A in *Centipeda minima* Callus Cultures

Bo Ryeong Kim[1,2], Yu Jeong Jeong[1], Se Bin Kim[1,2], So Young Kim[1,2], Su Hyun Park[1,2], Ok Ran Lee[2], Cha Young Kim[1*]

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PNB-76

Improvement of atopic dermatitis of hemp(*Cannabis sativa L.*) seed extract through skin barrier reconstruction

Hee-Young Heo, Jae Kwon Kim, Haheon Kim, Se-Hui Jung, Kooyeon Lee*

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PNB-77

Isolation of Anti-Inflammatory Iridal-Type Triterpenoids from Roots of *Belamcanda chinensis*

Seung Hwan Lee, Jeong Ho Kim, Ki Hun Park*

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PNB-78

Evaluation of Bacterial Neuraminidase Inhibitory Potential of Soyasaponins from *Glycine max* L.

Si Won Moon, Aizhamal Baiseitova, Ki Hun Park*

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PNB-79

Cloning and Expression of Exo-beta-(1,3)-glucanase from Cyberlindnera jadinii NRRL Y-1542

Eun-Kyung Son, Yu-Mi Lim, Hye-Ryung Kang, Han-Saem Lee, Min-A Kim, Ha-Yeong Lee, Hyeon-Jung Jung, Jai-Hyun So*

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PNB-80

Growth Inhibition of Plant Pathogens by Limonene Derivative

Mi Hee Kim[1], Hyeonbin Kim[1], Sungbeom Lee[2], Moon-Soo Chung[2], Chul-Ho Yun[3], Young Kun Shim[4], Jaejun Oh[4], Gun Woong Lee[1*]

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[3]Chonnam National University, School of Biological Sciences and Technology,
[4]Microzyme Corp., Affiliated Institute

PNB-81

Confirmation of nitric oxide production ability and asthma prevention effect for red garlic

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Department of Applied Biosciences, College of Agriculture and Life Sciences, Kyungpook National University, Daegu, South Korea

PNB-82

Antifungal *Streptomyces* spp., Plausible Partners for Brood-Caring of the Dung Beetle *Copris tripartitus*

Goeun Park, Seung-Woo Jo, Jin-Soo Park*

Natural Product Informatics Center, Korea Institute of Science and Technology

PNB-83

Velutin, an Aglycone Extracted from Korean Mistletoe, with Improved Inhibitory Activity against Atopic dermatitis

Ju-Eun Kim, Hee-Young Heo, Jae Kwon Kim, Se-Hui Jung, Kooyeon Lee*

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PNB-84

Analysis of Total Polyphenol and Total Flavonoid of *Lepidium sativum*

Hyejin Cho[1], Chang-Dae Lee[1], Gia Han Tran[1], Hak-Dong Lee[1], Jeehyoung Shim[1,2], Kwang Hoon Ahn[2], Sanghyun Lee[1,3*]

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PNB-85

Variation of Phenolic Compound Content in Species and Stem Color of *Peucedanum japoincum*

Chang-Dae Lee, Hyejin Cho, Gia Han Tran, Hak-Dong Lee, Jeehyoung Shim, Kwang Hoon Ahn, Sanghyun Lee*

R&D Center, Natural Product Institute of Science and Technology

PNB-86

Bacterial inhibitory quercetin derivatives from the aerial part of *Siegesbeckia pubescens*

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

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

PNB-87

Effect of different extract conditions on phenolics and antioxidant activity of *Dendranthema zawadskii*

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

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PNB-88

Profile Analysis of Omega-5 Gliadins in Standard Wheat Cultivars at *Gli-B1* Loci Using RP-UPLC

Yu-Jeong Yang, Sewon Kim, Jae-Ryeong Sim, Eun Ji Park, Jong-Yeol Lee*

National Institute of Agricultural Science, RDA

PNB-89

Establishment of Fast and Reproducible RP-UPLC method for Large-Scale Analysis of Wheat HMW-GS Alleles

Eun Ji Park, Sewon Kim, Jae-Ryeong Sim, Yu-Jeong Yang, Jong-Yeol Lee*

National Institute of Agricultural Science, RDA

PNB-90

Discovery of Useful Microorganisms and Health Functional Food Materials Derived From Ginseng Seedlings Germinated in Smart Farm System

Nooruddin Bin Sadiq, Ho- Youn Kim*

Korean Institute of Science and Technology (KIST), Smart Farm Research Center (SFRC)

PNB-91

Protective Effect of a new phenolic glycoside, oddioside A, isolated from the fruits of *Morus alba* against TNF-α-Induced Human Dermal Fibroblast Damage

Kang Sub Kim[1], Ranhee Kim[2], So-Ri Son[3], Ki Sung Kang[1], Dae Sik Jang[3*], Sullim Lee[4*]

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PNB-92

Antioxidant Activity and Active Compounds of *Chamaecyparis pisifera* Essential Oil

Hyunjeong Na, Mi-Jin Park*, Jiyoon Yang, Soo-Kyong Jang, Su-Yeon Lee

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

PNB-93

Comprehensive changes of metabolites on mung bean and soybean leaves by treatment of ethylene and antioxidant activity

Du Yong Cho[1], Hee Yul Lee[1], Min Ju Kim[1], Jong Bin Jeong[1], Mu Yeun Jang[1], Jin Hwan Lee[2], Ki Ho Son[1], Kye Man Cho[1*]

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PNB-94

The Anti-Skin Aging Effect of GBDE from *Ginkgo biloba* fruits on Normal Human Dermal Fibroblasts

Yea Jung Choi[1], Ki Sung Kang[1], Sullim Lee[2*]

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PNB-95

Antioxidant Activity of *Ligularia fischeri* Essential Oil and Identification of Its Active Constituents

Hyunjeong Na, Mi-Jin Park*, Jiyoon Yang, Soo-Kyeong Jang, Su-Yeon Lee

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

PNB-96

A comparison of antioxidant effects of essential oils from the citrus peels of twenty-one cultivars

Jiyoon Yang, Mi-Jin Park*, Hyunjeong Na, Su-Yeon Lee, Soo-Kyeong Jang

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

PNB-97

The root extract of TK triggered apoptosis in EGFR TKI-resistant lung cancer cells via STAT3 inhibition

Shin-Hyung Park*, Jae-Hoon Jeong
Department of Pathology, College of Korean Medicine, Dong-eui University

PNB-98

The root extract of *Adenophora triphylla var. japonica* triggered apoptosis in human lung cancer cells via inhibition of Src/STAT3 pathway

Shin-Hyung Park*, Jae-Hoon Jeong
Department of Pathology, College of Korean Medicine, Dong-eui University

PNB-99

The leaves extract of PT suppressed adrenergic receptor-mediated cancer cell migration and invasion by inhibiting Src activity

Shin-Hyung Park*, Jae-Hoon Jeong
Department of Pathology, College of Korean Medicine, Dong-eui University

PNB-100

The root extract of *Peucedanum praeruptorum* Dunn exhibits anti-angiogenic effect by inhibition of VEGFR2 signaling pathway

Shin-Hyung Park*, Jae-Hoon Jeong
Department of Pathology, College of Korean Medicine, Dong-eui University

PNB-101

Biosynthisis zirconium oxide nanoparticles loading tetracycline using *Lactobacillus rhamnosus* and eradicate the oral bacterial biofilms

So Young Park, Myeong Hyeon Wang*
Bio-Health Convergence, Kangwon National University

PNB-102

Cytotoxicity and Application of Silver Nanoparticles Green Synthetic with Quercetin

Kiseok Han, Myeong-Hyeon Wang*
Bio-health Convergence, Kangwon National University

PNB-103

Mycochemical profiling and cytotoxic activities of ethyl acetate extract of endophytic *Penicillium* sp.

Kumar Vishven Naveen, Myong Hyeon Wang*
Bio-Health Convergence, Kangwon National University

PNB-104

Discovery of Useful Microorganisms and Health Functional Food Materials Derived from Ginseng Seedlings Germinated in Smart Farm System

Nooruddin Bin Sadiq[1], Ho-Youn Kim[1*], Bokyung Lee[2], Dong-Ha Kim[2], Ji-Eun Kim[2]

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PNB-105

Rapid screening and tentative identification of tyrosinase inhititors in *Pseudolysimachion rotundum* var. *subintegrum* using ultrafiltration screening by UPLC–QTOF/MS

Mi Hyeon Park[1], So-Yeun Woo[1], Sun In Jung[1,2], Doo-Young Kim[1], Sei-Ryang Oh[1], Mun-Ock Kim[1], Hyung Won Ryu[1*]

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PNB-106

Determining Antibacterial Activity and Mechanism of Metal Doped Carbon Quantum Dots

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PNB-107

UPLC-QTOF/MS based secondary metabolites profiling from stem of *Celtis sinensis*

Su Yeon Lee[1,2], Hyun-Jae Jang[1], Jung-Hee Kim[1], Eun Kyoung Seo[2], Sei-Ryang Oh[1], Hyung Won Ryu[1*]

[1]Natural Medicine Research Center, KRIBB, [2]College of Pharmacy, Graduate School of Pharmaceutical Sciences, Ewha Womans University

PNB-108

UPLC-QTOF/MS based secondary metabolites profiling of *Ligustrum foliosum* Nakai.

In Seon Kim[1], Ha Eun Song[1], So-Yeun Woo[1], Doo-Young Kim[1], Mi Hyeon Park[1], Jin-Hyub Paik[2], Sangho Choi[2], Hyung Won Ryu[1], Sei-Ryang Oh[1*]

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PNB-109

Profiling of chemical constituents from *Rubus takesimensis* by using UPLC-QTOF/MS

Ha Eun Song[1], In Seon Kim[1], So-Yeun Woo[1], Doo-Young Kim[1], Mi Hyeon Park[1], Jin-Hyub Paik[2], Sang Ho Choi[2], Hyung Won Ryu[1], Sei-Ryang Oh[1*]

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PNB-110

Identification of compounds isolated from *Arachis hypogaea* L. pods using UPLC-QTOF/MS

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

Natural Products Research Center, KRIBB

PNB-111

Establishment of optimum conditions for extracting of chiisanoside and chiisanogenin from *Eleutherococcus sessiliflorus* (Rupr. & Maxim.) leaves

Hyun-Jae Jang[1], Won Jun Kim[1], Soobin Song[1], Doo-Young Kim[1], Dae Young Lee[2], Bang Yeon Hwang[3], Hyung Won Ryu[1], Sei-Ryang Oh[1*]

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PNB-112

Phytochemical Profiling of *Epimedium Koreanum N.* using UPLC-QTOF/MS

Alfan Danny Arbianto, Jongmin Ahn, Hyun-Jae Jang, Hyung Won Ryu, Sei-Ryang Oh*

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

PNB-113

Computational docking simulations of iridoid glycosides from *Pseudolysimachion rotundum* var. *subintegrum* as anti-tyrosinase agent

So-Yeun Woo[1], Sunin Jung[2], Mi Hyeon Park[1], Su Ui Lee[1], Sei-Ryang Oh[1], Jinhyuk Lee[3,4], Hyung Won Ryu[1*]

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PNB-114

Herbal medicines protect skin photoageing through whitening and antioxidant effects

Young Mi Seok[1*], Ji-Woon Jeong[1], Hyun Hee Leem[1], In Soo Hwang[2], Jin Ki Jung[1], Se-Jin Kim[1], Hyo Jung Kim[1], Won Hee Nam[1]

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PNB-115

Analysis method of Nerve agent metabolite using UPLC-QTOF/MS

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PNB-116

The effect of nitrogen to potassium ratio in nutrient solution on the metabolites (rosmarinic acid and VOCs) and biological activities (antioxidant and neuroprotective) of hydroponically grown basil

Jwa Yeong Cho[1,2], Ho-Young Kim[1,2*]

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PNB-117

Activation of the adrenergic receptor pathway stimulates M2 macrophage polarization and cancer cell migration

Shin-Hyung Park*, Jae-Hoon Jeong

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

PNB-118

Characterization of dissociative interaction between novel small molecules and β-sheet-rich amyloid aggregates of Alzheimer's disease

Hee Yang Lee[1], Young Soo Kim[1,2*]

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PNB-119

Studies on the Formulation, Characterization, and Physical Stability of Tea Tree Oil (Melaleuca alternifolia) nanoemulsions

Muhammad Haroon, Sun Chul Kang*

Department of Biotechnology, Daegu University

PNB-120

Effects of Nanoemulsion on the Antimicrobial Properties of Tea Tree Oil (Melaleuca alternifolia) against Pathogenic Bacteria

Muhammad Haroon, Sun Chul Kang*
Department of Biotechnology, Daegu University

PNB-121

Ultraviolet-B Irradiated Mushroom Extract Ameliorates CCl4-induced Liver Fibrosis in Mice via Modulating Inflammatory and Fibrotic markers

Himanshi Gahlot, Muhammad Haroon, Sun Chul Kang*
Department of Biotechnology, Daegu University

PNB-122

Crataegus pinnatifida Root extract inhibits obesity in 3T3-L1 preadipocytes and high-fat diet-induced obese C57BL/6 mice through AMPK regulation

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PES Environmental Sciences

PES-1

Effect of microplastics on the toxic effects of procymidone and 3,5-dichloroaniline

Ji Won Yang, Eun Hea Jho*
Agricultural and Biological Chemistry, Chonnam National University

PES-2

Retraction

PES-3

Degradation of agricultural antibiotics in soi

Ga Eun Kim[1], Seon Hee Kim[2], Eun Hea Jho[1*]
[1]*Department of Agricultural and Biological Chemistry, Chonnam National University,*
[2]*Department of Agricultural Chemistry, Chonnam National University*

PES-4

Seasonal Changes in Golden Apple Snail Survival Rates Around Farmland and Fisheries in South Korea

Yong In Kuk*, Mi Young Lee, Hyun Hwa Park, Hyo Jin Lee, In Taek Hwang, Ye Geon Kim

Department of Bio-oriental Medicine Resources, Sunchon National University, Suncheon 57922, Republic of Korea

PES-5

Adsorption of Heavy Metals (Pb, Cd, Cu, Ni, Zn) in Aqueous Solution Using Bottom Ash of Biomass Power Plant

So Hui Kim[1,2], Seung Gyu Lee[1,2], Se Won Kang[1], Jin Ju Yun[1], Jae Hyuk Park[1,2], Jae Young Choi[3], Chi Hyeon Park[3], Ju Sik Choj[1,2*]

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PES-6

Molecular Responses in Heading Type Kimchi Cabbage (*Brassica rapa* L. ssp. pekinensis) to Cold Stress: Insight into Variation in Antioxidant Metabolism under Cold Condition

Seung Hee Eom, Tae Kyung Hyun*

Department of Industrial Plant Science and Technology, College of Agricultural, Life and Environmental Sciences, Chungbuk National University, Cheongju 28644, Korea

PES-7

Web-based Database System for Managing Pesticide Residues in Agricultural Environment

Da Jung Lim, In Seon Kim*

Department of Agricultural Chemistry, Chonnam National University

PES-8

A Comparative Study on the Spacing and Discharge Performance of Subsurface Drainage Culvert to Increase Drainage Efficiency

Young-Jun Park[1], Hyun-Tai Kim[2*]

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PES-9

Simultaneous Residue Analysis of Organic Pollutants in Soil using LC-MS/MS and Modified QuEChERS Method

Dong Kyu Jeong[1], Hyeon Hee Kim[1], Won Min Jeong[1], Hyeong Hwan Lee[1], Gyeong Hwan Lee[1], Eun-Hee Han[2], Dong Yeol Lee[1*]

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PES-10

Diagnostic Evaluation and Restoration Plan of the Forest Ecosystem around the Seokpo Zinc Smelter

A Reum Kim, Namin Koo*

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PES-11

Adsorption of Mn in the presence of Cr^{3+} and Cr^{6+} using biochar to reduce manganese toxicity

Hyokyung Jee, Jin Hee Park*

Department of Agricultural Chemistry, Chungbuk National University

PES-12

Monitoring of electrical signals and biological information of pepper (*Capsicum annuum*) according to soil water supply

Hyokyung Jee[1], Han Na Kim[1], Yeong Ju Seok[1], Gyung Min Park[1], Jeong Yeon Kim[1], Su Kyeong Sin[1], Jin Hee Park[1], Pyoung Ho Yi[2*]

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PES-13

Monitoring of plant induced electrical signal of roses for optimized growth in smart farm

Gyung Min Park, Han Na Kim, Hyo Kyung Jee, Yeong Ju Seok, Jeong Yeon Kim, Su Kyeong Sin, Jin Seok Lee, Min Ho Yeom, Vyavahare Govind Dnyandev, Jin Hee Park*

Environmental & Biological Chemistry, Chungbuk National University

PES-14

Evaluation of the acute toxicity of genetically modified rapeseed to Daphnia magna

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

Department of Agricultural Biotechnology, National Institute of Agricultural Sciences

PES-15

Effect of Climate and Soil Properties on Nitrous Oxide Emissions from Paddy Soils Fertilized with Urea in Geographically Different Region

Sung Un Kim, Sung Min Moon, Geon Hyeong Lee, Su Yeong Ryu, Chang Oh Hong*

Department of Life Science and Environmental Biochemistry, Pusan National University

PES-16

Effect of insect-resistant genetically engineered (Bt-T) rice and conventional cultivars on the brown planthopper (Nilaparvata lugens Stål)

Sung-Dug Oh[1], Eun Ji Bae[1], Kijong Lee[1], Soo-Yun Park[1], Myung-Ho Lim[1], Doh-Won Yun[1], Gang-Seob Lee[1], Seong-Kon Lee[1], Soon Ki Park[2], Jae Kwang Kim[3], Sang Jae Suh[2*]

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PES-17

Assessment of Forest Soil Sensitivity to Acidification Applying New Evaluation Techniques

A Reum Kim, Namin Koo*

Forest Ecology Division, National Institute of Forest Science

PES-18

Study on Photolysis of Agricultural Antibiotics in the Water: Effect of Initial Concentration, pH, and Coexisting Ions

Chang-Gu Lee[1], Youn-Jun Lee[1], Jong Min Lee[1], Eun Hea Jho[2*]

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PES-19

A Correlation Analysis between the Yield of Barley 'Seodunchal' and Meteorological Factors in a Central Area in Korea

Areum Han[1*], Kang Bo Shim[1], Weon Tai Jeon[1], Myeong Na Shin[1], Dea-Wook Kim[2]

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PES-20

Quantitative analysis of microplastics in long-term fertilized paddy soils

Jeong Yeon Kim , Han Na Kim, Hyo Kyung Jee, Yeong Ju Seok, Gyung Min Park, Su Kyeong Sin, Jin Hee Park*

Environmental and Biological Chemistry, Chungbuk National University

PES-21

Evaluation of As, Cd and Pb adsorption using various biochars coated with iron phosphate

Su Kyeong Sin, Han Na Kim, Hyo Kyung Jee, Yeong Ju Seok, Gyung Min Park, Jeong Yeon Kim, Jin Seok Lee, Min Ho Yeom, Jin Hee Park*

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PES-22

Residual safety of insecticide novaluron for the control of mites and corn earworm in corn

Yeong-Jin Kim[1], Sung-Gil Choi[1], Young-Sang Kwon[1], Deuk-Yeong Lee[2], Wenting Wang[1], Jong-Hwan Kim[1*]

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PES-23

Environmental application of ^{13}C isotope compositions in residual pesticides Diazinon and Procymidone

Hee Young Yun[1], Eun-Ji Won[1], Da-Jung Lim[2], In-Seon Kim[2], Kyung-Hoon Shin[1*]

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PES-24

ABA-responsive genes and suberization in rice (Oryza sativa L.) seedling roots under PEG-derived drought stress

Ga Eun Kim, Jwa Kyung Sung*

Department of Crop Science, Chungbuk National University

PES-25

Effect of NPK fertilizer placement method on Ammonia Emission in an orchard soil

Tae Il Moon[1], A Rin Kim[1], Toluwase Oreoluwa Adegoke[2], Hyun-Hwoi Ku[1,2*]

[1]School of Applied Science in Natural Resources & Environment, Hankyong National University, [2]Climate Change Research Center, Hankyong National University

PES-26

Effect of soil pH on Ammonia Emission in the different soil types

Tae Il Moon[1], A Rin Kiim[1], Toluwase Oreoluwa Adegoke[2], Hyun-Hwoi Ku[1,2*]

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PES-27

Phytotoxicity Evaluation of Methyl Bromide Fumigation on *Radermachera sinica* and *Polyscias fruiticosa*

Yurim Kim[1], Kyeongnam Kim[1], Chaeeun Kim[1], Jinsung Yoo[2], Jun-Ran Kim[2], Sung-Eun Lee[1*]

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PES-28

Evaluation of plant phytotoxicity of methyl bromide and ethyl formate using proteomics

Yerin Cho[1], Kyeongnam Kim[1], Chaeeun Kim[1], Donghyeon Kim[2], Yubin Lee[2], Jinsung Yoo[3], Jun-Ran Kim[3], Sung-Eun Lee[1,2*]

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PES-29

Acute toxicity evaluation of ethyl formate fumigation toward honey bees

Yubin Lee[1], Donghyeon Kim[1], Kyeongnam Kim[2], Chaeeun Kim[2], Yurim Kim[2], Yerin Cho[2], Hwang-Ju Jeon[2], Sung-Eun Lee[1,2*]

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PES-30

Monitoring of microplastic pollution in fish in the Han River basin in South Korea

Chaeeun Kim[1], Hwang-Ju Jeon[1], Yerin Cho[1], Yunseo Cho[2], Hyoyoung Lee[3], Sunku Park[3], Sang-Ryong Lee[2], Sung-Eun Lee[1*]

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PES-31

Alteration of Symbiotic Microbiome Following the Decline of Korean Fir (*Abies koreana*) in Regions of Mt. Hallasan, Jeju Island, the Republic of Korea: Preliminary Findings

Minsoo Jeong[1], Setu Bazie Tagele[1], Min-Ji Kim[1], Suk-Hyung Ko[2], Kwon-Su Kim[2], Jung-Goon Koh[2], Da-Ryung Jung[1], Youngjae Jo[1], Yeongyun Jung[3], Yeong-Jun Park[1], Min-Sueng Kim[1], Kyeongmo Lim[1], Jae-Ho Shin[1*]

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PES-32

Comparison of Heavy Metal Adsorption onto Microalgae-Based Biosorbent

So Eun Moon[1], Chang-Gu Lee[1*], Da Eun Jeong[2], Mi Rae Shin[2]

[1]Department of Environmental Engineering, Ajou University, [2]Department of Technical Development, AE Corporation

PES-33

Residue of Thiamethoxam and its metabolite in Kiwifruit for Establishment of Import Tolerance

Il Kyu Cho[1,2,3*], Young Goun Oh[1], Yun-Su Jeong[1], Woo Young Cho[2,3], Gyeong Hwan Lee[2]

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PES-34

Evaluation of Organic Pollutant Removal Performance of Fe-Modified Spirulina Biochar

So Eun Moon[1], Chang-Gu Lee[1*], Da Eun Jeong[2], Mi Rae Shin[2]

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PES-35

Enhancement of Enzyme Activity of Thermoalkaliphilic Laccase (CtLac) by Random Mutagenesis and Its Application to Lignin Degradation

Youri Yang, Sunil Ghatge, Hor-Gil Hur*

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

PES-36

Bio-Fenton reaction for degradation of sulfonated polyethylene

Sunil Ghatge, Youri Yang, Yongseok Ko, Seunghyeon Kim, Hor-Gil Hur*

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

PES-37

Dissipation Patterns of Lufenuron Residue in Coastal Hogfennel (Peucedanum Japonicum Thund.)

Hyo Been Choi[1], Jun Hyuk Hwang[1*], Chae Lin Song[1*], Ji Youn Lee[1*], Yang Bin Lee[1*], Kee Sung Kyung[2*]

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PES-38

Development of Mn-sensing whole cell-based biosensors from Manganese responsive genetic systems

Yangwon Jeon, Yejin Lee, Yeonhong Kim, Chanhee Park, Youngdae Yoon*

Departmentment of Environmental Health Science, Konkuk University

PES-39

The discriminant core ARGs as contamination indicator between effluent and receiving water

Hanseob Shin, Yongjin Kim, Seunggyun Han, Hor-Gil Hur*

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PES-40

Effect of organic fertilizer mixed dehydrated food waste powder application on crop yield and Nutrient uptake

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

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PES-41

Effect of Lime treated fertilizer application on soil properties in incubation experiment

Sang Geum Lee[1], Soon Ik Kwon[2], Yun Hae Lee[2], Seong Jin Park[2], Jaehong Shim[2], Seong Heon Kim[2*]

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PES-42

Investigation of Correlation between Growth Characteristics of Wild-simulated Ginseng (Panax ginseng C.A. Meyer) and Rhizosphere Environment

Yeong-Bae Yun, Jeong-Hoon Huh, Dae-Hui Jeong, Yurry Um*

Forest Medicinal Resources Research Center, National Institute of Forest Science

PES-43

Heavy metal removal efficiency of Fe-modified biochar made from several pure biochar

Hui-Seon Kim, Mi-Jin Kim, Ho-Yang Choi, Jung-Ok Woo, Ji-Hyock Yoo*

Department of Agro-Food Safety, National Institute of Agricultural Sciences, Wanju 55365, Republic of Korea

PES-44

Effect of earthworm manure on the characteristics of nutrient and plant growth of biochar

Hae-Been Kim[1], Seung-Ju Kang[1], Hye-In Jeong[1], Dong-Eon Lee[1], Dong-Cheol Seo[2], Jong-Hwan Park[1*]

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PES-45

Adsorption characteristics of Cd and Pb by biochar derived from fallen leaves

Ye-Ji Lee, Jeong-Min Lee, Hae-Been Kim, Jong-Hwan Park*

Department of Life Resources Industry, Dong-A University

PES-46

Exploration of time dependent phosphate adsorption by red mud and brown mud

Jeong-Min Lee[1], Dong-Cheol Seo[2], Jong-Hwan Park[1*]

[1]Department of Life Resources Industry, Dong-A University, [2]Department of Applied Life Chemistry, Gyeongsang National University

PES-47

Comparison of rutin and quercetin contents of buckwheat according to cultivation environment in Korea

Mi Jin Chae*, Seuk Ki Lee, Woonho Yang, Shingu Kang, Jong-Seo Choi, Dae-Woo Lee, Youngchul Yoo, Jeong-Ju Kim

Crop Cultivation & Environment Research Division, National Institute of Crop Science

PES-48

Effect of green manure fertilization when growing soybeans in paddy fields

Mi-Jin Chae*, Seuk Ki Lee, Woonho Yang, Shingu Kang, Jong-Seo Choi, Dae-Woo Lee, Youngchul Yoo, Jeong-Ju Kim

Crop Cultivation & Environment Research Division, National Institute of Crop Science

PES-49

Residual Characteristics and Risk Assessment of Five Pesticides in Spinach

Ji-Woo Yu, Min-Ho Song, Jeong-Hoon Lee, Hee-Yeon Ahn, Young-Soo Keum, Ji-Ho Lee*

Department of Crop Science, Konkuk University

PES-50

Effect of soil amendment on the changes in soil enzyme activity in paddy soils polluted with arsenic

Mi-Jin Kim, Hui-Seon Kim, Jung-Ok Woo, Ho-Yang Choi, Ji-Hyock Yoo*

Department of Agro-Food Safety, National Institute of Agricultural Sciences

PES-51

Effect of Released Veterinary Antibiotics on the Change of Microbial Community in Sediment

Jin Wook Kim[1], Sung Chul Kim[1*], Young Kyu Hong[1], Song Hee Ryu[2], Oh Kyung Kwon[3]

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PES-52

The effect of vinclozolin on mitochondria of mouse liver

Hwayeon Lim, Jisun Choi*, Sooim Shin*

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

PES-53

Acute contact toxicity of thiamethoxam and clothianidin to *Osmia pedicornis*

Kyongmi Chon[1*], Juyeong Kim[1], Bo-Seon Kim[1], Ji-Yeong Choi[1], Chang-Young Yoon[1], Jin-A Oh[1], Sangwon Kim[2], Kyeong Yong Lee[3]

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PES-54

Effect of reduced tillage on greenhouse gas emission in rice paddy

Hyo-Suk Gwon*, Eun-Jung Choi, Sun-Il Lee, Hyeong-Seok Lee, Hye-Ran Park, Jong-Mun Lee, Ye-Seul Yu, Seong-Soo Kang

Climate Change Assessment Division, National Institute of Agricultural Sciences

PES-55

Evaluation of herbicidal activity of *Solidago altissima* L. root extract on Poaceae and Fabaceae forage crops

Ho-Jun Gam, Yosep Kang, Eun-Jung Park, Sang-Mo Kang, In-Jung Lee*

Department of Applied Biosciences, Kyungpook National University

PES-56

Development of portable device for determining compost maturity by CO2, NH3 sensors

Jaehong Shim[1*], Da Hye Yun[1], Yun Hae Lee[1], Seong Heon Kim[1], Tae Hyun Kim[2], Hyun Dong Lee[2]

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PES-57

Increases in environmental temperature affected hematological parameters and growth of *Oncorhynchus masou*

Jang Won Lee*

Department of Integrative Biological Sciences and Industry, Sejong University

PES-58

Residue of veterinary antibiotics unintentionally introduced into paddy irrigation water in paddy soil

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

Department of Bioenvironmental Chemistry, Jeonbuk National University, Jeonju, Republic of Korea

PES-59

Adsorption and translocation of veterinary antibiotics unintentionally introduced into paddy irrigation water into plants

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

Department of Bioenvironmental Chemistry, Jeonbuk National University, Jeonju, Republic of Korea

PES-60

Evaluation of Inorganic Nitrogen Content and Chemical Change in Converted Soil and Reclaimed Soil in Biochar Application

Seung Gyu Lee[1,2], So Hui Kim[1,2], Jae Hyuk Park[1,2], Chi Hyeon Park[3], Se Won Kang[2,3], Ju Sik Cho[2,3*]

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PES-61

Effects of veterinary antibiotics unwittingly introduced into paddy irrigation water on phytotoxicity

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

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PES-62

Influences of veterinary antibiotics unconsciously introduced into paddy irrigation water on rice yield

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

Department of Bioenvironmental Chemistry, Jeonbuk National University, Jeonju, Republic of Korea

PES-63

The Establishment of Nitrogen Application for Management of *Zoysia matrella*

Mun-Jin Choi, Young-Sun Kim*

Division of Life and Environmental Science, Daegu University

PES-64

Reduction efficiency of designated odor substances by biochar, peat moss, and sawdust in the cattle shed

Jae-Hoon Lee[1], Su-Lim Lee[1], Jun-Suk Rho[1], Ah-Young Choi[1], Sin-Sil Kim[1], Seul-Rin Lee[1], Yu-Jin Park[2], Jong-Hwan Park[3*], Dong-Cheol Seo[4*]

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PES-65

Changing of Growth and Saponin Contents for Balloon Flower Sprouts Grown in the Various Light Intensity

Ga Oun Lee[1], Seong-Nam Jang[2], Du Yong Cho[1], Kye Man Cho[1,3], Ki-Ho Son[1,2*]

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PES-66

Effect of No-Tillage on Soil Bacterial Community from Soybean Cultivation on the Organic Paddy Soil

Yangsoo Han, Choongbae Park, Jung-Lai Cho, Sang-Gu Park, Hong-Shik Nam*

Organic Agriculture Division, Department of Agricultural Environment, National Institute of Agricultural Sciences, Rural Development Administration

PES-67

Comparison of extraction and cleanup method for determination of indoxacarb and novaluron in chive using LC-MS/MS

Mun-Ju Jeong[1], So-Hee Kim[1], Woo-Seok Ahn[1], Su-Min Kim[1], Yoon-Hee Lee[1], Ye-Jin Lee[1], Hye-Ran Eun[1], Seung-Hyun Yang[2], Hoon Choi[2], Yongho Shin[1*]

[1]Applied Bioscience, Dong-A University, [2]Bio-Environmental Chemistry, WonKwang University

PES-68

Effect of Artificial Wetland on Environmental Ecosystem from Mixed Farming System on the Organic Paddy Soil

Hong-Shik Nam, Choongbae Park, Jung-Lai Cho, Sang-Gu Park, Yangsoo Han*

Organic Agriculture Division, Department of Agricultural Environment, National Institute of Agricultural Sciences, Rural Development Administration

PES-69

Change of Soil Chemical Properties in Paddy Wetland under Rice-Fish Mixed Farming System on the Organic Paddy Soil

Choongbae Park, Hong-Shik Nam, Jung-Lai Cho, Sang-Gu Park, Yangsoo Han*

Organic Agriculture Division, Department of Agricultural Environment, National Institute of Agricultural Sciences, Rural Development Administration

PES-70

Evaluation of toxic effect of perfluorooctanoic acid on isolated mouse liver mitochondria

Dong Shin Yang[1], Soo Im Shin[2*]

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PES-71

Comparison of lead adsorption capacity of biochar and activated biochar derived from rendered solid residue

Jun Suk Rho[1], Su-Lim Lee[1], Jea-Hoon Lee[1], Ah-Young Choi[1], Sin-Sil Kim[1], Seul-Rin Lee[1], Jong-Hwan Park[2], Dong-Cheol Seo[3*]

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PES-72

Dissipation Characteristics of Tebuconazole and Thifluzamide for Establishment of Pre-Harvest Residue (PHRLs) Limits in Korean Cabbage

Sang-Jeong Park[1*], Kyu-Won Hwang[2], Seung-Jun Ka[1], Hyun-Ji Park[1], Joon-Kwan Moon[2*]

[1]Department of Plant Life & Environmental Science, Hankyong National University, Anseong 17579, Republic of Korea, [2]Department of Plant Resources and Landscape Architecture, Hankyong National University, Anseong 17579, Republic of Korea

PES-73

The Behaviour of Residual Thiodicarb and Metabolites in Celery

Hyun-Ji Park[1*], Kyu-Won Hwang[2], Sang-Jeong Park[1], Seung-Jun Ka[1], Joon-Kwan Moon[2*]

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PES-74

Residual Characteristics of Fungicide Ethaboxam and Pencycuron on Leaf mustard

Seung-Jun Ka[1*], Kyu-Won Hwang[2], Sang-Jeong Park[1], Hyun-Ji Park[1], Se-Hyeon Kim[1], Joon-Kwan Moon[2*]

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PES-75

Study to Prevent Golden Apple Snail against Ecosystem Release

Il Kyu Cho[1,2,3*], So-Young Jang[1], Joen-Yeon Kim[1], Woo Young Cho[2,3]

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PFS Food Sciences

PFS-1

Schisandraceae inhibits the 5-HT3 receptor-mediated currents

Sanung Eom, Junho Lee*

Biotechnology, Chonnam National University

PFS-2

Protective Effect of water extract Phellinus linteus-discard Schisandra chinensis solid fermented extracts on improvement of sarcopenia by Atorvastatin-induced muscle atrophy cell model

Young-Suk Kim*

Research Institute, Glucan Co. Ltd.

PFS-3

Establishment of Plant Back Interval (PBI) for Herbicide Pendimethalin based on Plant Uptake by Rotational Crop

Se Yeon Kwak, Sang Hyeob Lee, Jae Won Choi, Ji Eun Oh, Abdulkareem Lawal, Jang Eok Kim*

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

PFS-4

Metabolite Profiling of Korean Laver (*Porphyra tenera*) with different regions and harvest times using Gas Chromatography Coupled with Triple Quadrupole Mass Spectrometry

Hahyeong Yu[1], Eunyoung Park[1], Kee-Jai Park[2], Jihyun Lee[1*]

[1]Department of Food Science and Technology, Chung-Ang University, [2]Research Group of Consumer Safety, Korea Food Research Institute

PFS-5

Metabolite profiling in pepper (*Capsicum annuum* L.) seed, placenta, and peel using GC-MS/MS

Eunyoung Park[1], Donghee Ahn[1], Kyung-Hyung Ku[2], Jeong-Ho Lim[3], Jihyun Lee[1*]

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PFS-6

Optimization of enzymatic hydrolysis conditions for rice bran extraction

Man Jin In, In Young Song, Jung Min Kim, Ah Lim Kang, Ha Neul Kim, Yu Min Jang, Min Young Jo, Dong Chung Kim*

Department of Chemical Engineering, Chungwoon University

PFS-7

Physicochemical properties of Chitin and Chitosan from *Mealwoem ecdysis* and *Gryllus bimaculatus*

Kyung-Hoon Han[1], Je-Bum Jung[2], Sung-Hee Han[3*]

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PFS-8

Effect of Milling Degrees and Cultivars of Black Rice on Phenolic Profile, Antioxidant Activity, and Anti-diabetes Effects

Inhwan Kim, Jihyun Lee*

Department of Food Science and Technology, Chung-Ang University

PFS-9

Effects of dynamic high-pressure treatment on the preparation of whey protein aggregates by thermal treatment

Eunhee Yoo[1], Seung Jun Choi[2,3], Song-Yi Koo[4], Sang Min Kim[1*]

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PFS-10

The Advanced PLSR Models for the Prediction of Diverse Plant Metabolites Based on Hyperspectral Imaging from *Brassica juncea*

Jeo-Hyeong Choi[1,2], Soo Hyun Park[1], Dae-Hyun Jung[1], Hye In Lee[1], Sang Min Kim[1,2*]

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PFS-11

Method validation and multivariate analysis of trace metals in fruits by ICP-MS

Ye-Seul Park, Yong Eui Koo*

Food Contaminants Division, Ministry of Food and Drug Safety

PFS-12

The Effects of Different Cooking Methods Using Air Fryer on the Formation of 10 HCAs in Foods

Jungwon Kwon[1], Inhwan Kim[1], Bo Kyung Moon[2], Kwang-Won Lee[3], Mun Yhung Jung[4], Jihyun Lee[1*]

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PFS-13

Residual Characteristics and Risk Assessment of Broflanilide in Kimchi cabbage and Spinach

Dong-Ju Kim[1], Young-Jin Ham[1], Jun-Young Kim[1], Seung-Hwan Park[1], Eun-Bin Oh[1], Tae-Hwa Kim[2], Jang-Eok Kim[3], Sang-Soon Yoon[4], Kee-Sung Kyung[1*]

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PFS-14

Non-specific Degradation of Chloroacetanilide Herbicides Using Glucose Oxidase Supported Bio-Fenton Reaction

Youri Yang[1], Sunil Ghatge[1], Yongseok Ko[1], Seunghyeon Kim[1], Younggun Yoon[2], Jae-Hyung Ahn[2], Jeong Jun Kim[2], Hor-Gil Hur[1*]

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PFS-15

Effects of storage on sorbic, benzoic and propionic acid formation in fruit

Woojin Jang[1], Seoyeoung Kim[1], Yohan Yoon[2], Sang-Do Ha[1], Jihyun Lee[1*]

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PFS-16

Biological Activities of Crude Extracts and Solvent Fractions of Immature Citrus Fruits

Min Gun Kim[1], So Jin Kim[1], Su-Hyeong Heo[2], Kwan Woo Jeon[2], Kyung-Hwan Boo[1,2,3], Chang Sook Kim[1,2,3*]

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PFS-17

Antioxidant Activity of Immature Citrus Fruits Extracts Fermented by Jeju Indigenous Microorganisms

Min Gun Kim[1], So Jin Kim[1], Su-Hyeong Heo[2], Kwan Woo Jeon[2], Kyung-Hwan Boo[1,2,3], Chang Sook Kim[1,2,3*]

[1]Jeju National University, Faculty of Biotechnology, [2]Jeju National University, Residual Pesticide Center, [3]Jeju National University, Subtropical/Tropical Organism Gene Bank

PFS-18

Effect of rice washing on tebufenozide residue

Su Bin Bae[1], Mihyun Cho[1], Hyesu Lee[2], Myungheon Kim[1], Minsoo Park[1], Hyeon Jun Kim[1], Seohong Kim[3], Moo-Hyeog Im[1*]

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PFS-19

A survey on residual pesticides in grapefruit and cherry utilizing international pesticide residue monitoring data

Minsoo Park[1], Seohong Kim[2], Su Bin Bae[1], Hyesu Lee[3], Mihyun Cho[1], Myungheon Kim[1], Hyeon Jun Kim[1], So Eun An[1], Moo-Hyeog Im[1*]

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PFS-20

Validation of a multi-residue analysis method for pesticide residues in onion using LC-MS/MS

Xiu Yuan, Chang Jo Kim, Min Kim, Raekeun Lee, Hee Jeong Shin, Leesun Kim, Kyeong-Ae Son, Hyun Ho Noh*

Agro-Food Safety & Crop Protection, Residual Agrochemical Assessment Division

PFS-21

Photoprotective Effect of Fermented and Aged Mountain-Cultivated Ginseng Sprouts (*Panax ginseng*) on Ultraviolet Radiation-Induced Skin Aging in Hairless Mouse Mode

Hee Yul Lee[1], Du Yong Cho[1], Jae Gack Jeong[1], Min Ju Kim[1], Jong Bin Jeong[1], Jin Hwan Lee[2], Dawon Kang[3], Kye Man Cho[1*]

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PFS-22

Change of Metabolites on Isoflavone Enriched Soybean Leaf by the Fermentation of Different *Monascus* sp. and Antioxidant Activity

Mu Yeun Jang[1], Hee Yul Lee[1], Du Yong Cho[1], Jae Gack Jeong[1], Min Ju Kim[1], Jong Bin Jeong[1], Jin Hwan Lee[2], Kye Man Cho[1*]

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PFS-23

Comprehensive comparison of nutrient and ginsenoside compounds on mountain-cultivated ginseng sprout by the fermentation of different mushroom mycelium and antioxidant activity

Jea Gack Jeong[1], Hee Yul Lee[1], Du Yong Cho[1], Min Ju Kim[1], Jong Bin Jeong[1], Mu Yeun Jang[1], Jin Hwan Lee[2], Kye Man Cho[1*]

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PFS-24

Comparative Analysis of Composition of Pest-resistant Rice (*Oryza sativa* L.) and Non-transformed Rice

Ji Eun Sim[1], Sung-Dug Oh[2], Soon Ki Park[3], Jae Kwang Kim[1*]

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PFS-25

Changes physiochemical and antioxidant activity of lactic acid-fermented *Artemisia argyi* H. by addition of sugars

Nan Kyung Kim[1], Wean Youl Bae[2], Ji Hyun Kim[1], Weon Taek Seo[1], Hyun Young Kim[1*]

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PFS-26

Glucosinoalte accumulation in *Raphanus sativus* seedlings supplemented with different carbohydrate

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PFS-27

Dissipation pattern and risk assessment of pesticides (bistrifluron, dinotefuran, pyrifluquinazon, flupyradifurone, and oxathiapiprolin) in perilla leaf

Min-Ho Song, Ji-Woo Yu, Hee-Yeon Ahn, Jeong-Hoon Lee, Ji-Won Shin, Young-Soo Keum, Ji-Ho Lee*

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PFS-28

Determination of chemical constituents and biological activities of lotus (*Nelumbo nucifera*) root extract by different extraction method

Hyun Hee Leem[1], Se-Jin Kim[1], Won-Hee Nam[1], Ji-Woon Jeong[1], Jin Ki Jung[1], Young Mi Seok[1], You-Jin Park[1], Yun-Hwan Kang[1], Ji Soon Lee[2], Jung-Ok Kim[1], Hyo Jung Kim[1]*

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PFS-29

Residue Characteristics of Antimicrobials in Different Parts of Pepper Plants

Song-Hee Ryu*, Hyoin Yoon, Jeewon Rhee, Areum Song, Geun-Hyoung Choi

Residual Agrochemical Assessment Division, National Institute of Agricultural Sciences, RDA

PAM Applied Microbiology

PAM-1

Suppressive effects of soil microorganisms on *Ralstonia solanacearum* and *Xanthomonas oryzae pv. oryzae*.

Jae Gyeong Kim, Jeong Min Heo, Thi Hoa Nguyen, Eun Hea Jho*

Agricultural and Biological Chemistry, Chonnam National University

PAM-2

Nocardioides epidermidis sp. nov., isolated from human skin

Chaeyun Baek*, Dong-Geol Lee

COSMAX R&I Center, BI3

PAM-3

A new member of Ilumatobacteraceae family, Bacterium Kera-3 (Rappoilot™) isolated from keratin epidermis and their skin condition improving effect

Hyungwoo Jo, Dong-Geol Lee*

COSMAX BTI, BI 3 Team

PAM-4

Potential of *Bacillus velezensis* CE 100 for Control of Fungal Pathogens in Apple

Seo Hyun Hwang, Chwa Ei Htwe Maung, Jun Su Noh, Kil Yong Kim*

Agricultural and Biological Chemistry, Chonnam National University

PAM-5

Bacterial community structures of rhizosphere soils of pathogen-inoculated horticultural plants by next-generation sequencing

Hyeong Geun Song[1], Yu Sung Cho[1], Hyun Joo Yang[2], Min Kyoung Seo[2], Ji Hoon Lee[1,3*]

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PAM-6

Application of Novel Thermostable D-Allulose 3-epimerase for D-Allulose Production at High-temperature

Seong-Hee Jeong*, Moonhyuk Kwon, Seon-Won Kim

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

PAM-7

The therapeutic effect of fecal transplantation on the murine model of colitis-associated cancer is related to the increment of short-chain fatty acid caused by gut microbiota modulation

Hyunwoo Son[1], Hoyul Lee[2], Yu-Jeong Lee[3], Hyun Dong Ji[4], Sang-Woo Lee[5], Eun Soo Kim[3,6], Jae-Ho Shin[1*]

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PAM-8

Effect of *Chlorella vulgaris* as bio-fertilizer on growth and metabolite changes in "Red Russian" kale (*Brassica napus var.pabularia*)

Yun Ji Park[1], Jai-Eok Park[1], To Quyen Truong[1,2], Sang Min Kim[1*]

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PAM-9

Improvement of Biological Activities of Natural Products by Biorenovation using *Bacillus siamensis* JD3-7

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Microorganism Resources Division, National Institute of Biological Resources

PAM-10

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

Min-Kyu Park[1,2], Yeong-Jun Park[1,2], Tae-Hyung Park[1], Jae-Ho Shin[1,2*]

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PAM-11

Novel Interpretation of relation between Ramadan fasting and Gut microbiome variations

Gyudae Lee, Jerald-Conrad Ibal, Min-Ji Kim, Amani Sliti, Jae-Ho Shin*

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PAM-12

Potential Rhizobacteria for Biological Control and Growth Promotion of Pepper (*Capsicum Annum*)

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PAM-13

Retinoid production enhancement by adding glyoxylic acid in metabolically engineered *Escherichia coli*

Min-Kyoung Kang[1], Ji-Bin Park[2], Seong-Hee Jeong[1], Moonhyuk Kwon[1,3], Seon-Won Kim[1,2,3*]

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PAM-14

Engineering efflux transporter expression to enhance the performance of *Escherichia coli* cell factory

Min-Kyoung Kang[1,2], Sergey Boyarskiy[2], Michael A. Fisher[2], Moonhyuk Kwon[1,3], Danielle Tullman-Ercek[2*], Seon-Won Kim[1,3*]

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PAM-15

Dynamics of Microbiome and Antibiotic Resistome in the Nakdong River

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PAM-16

Quantitative PCR and next-generation sequencing analysis for anammox in rice paddy soils

Yu Sung Cho[1], Hyeong Geun Song[1], Ji Hoon Lee[1,2*]

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PAM-17

Metagenomic Analysis of Metagenomic Analysis of Gut Microbiome as Non-invasive Biomarkers for Cervical Cancer

Da-Ryung Jung[1], Gi-Ung Kang[2], Minsoo Jeong[1], Min-Sueng Kim[1], Hyung Soo Han[3], Gun Oh Chong[3], Jae-Ho Shin[1*]

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PAM-18

Study of Anti-Aging activity of Bifidobacterium animalis subsp. lactis in human fibroblast (Hs68) cell

Su Ryeon Choi[1], Yong Gyeong Kim[2], Chang Ho Kang[2], Hyung Seo Hwang[1*]

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PAM-19

Alteration of Soil Microbiota Caused Enhanced Plant Growth

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PAM-20

Lactobacillus plantarum strains isolated from Kimchi and their characterization with genome sequencing

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PAM-21

Correlation Analysis of Microbial Community and Volatile Organic Compounds in the Soybean-Cultivated Soils and Isoflavone Contents in Soybean Root by Treatment of the Chemical and Biological Inducers

Hee Yul Lee[1], Du Yong Cho[1], Jae Gack Jeong[1], Min Ju Kim[1], Jong Bin Jeong[1], Mu Yeun Jang[1], Jin Hwan Lee[2], Ki Ho Son[1], Kye Man Cho[1*]

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PAM-22

Comparison of rhizosphere bacterial distribution and isoflavone contents of produced soybean root by the deep-water cultivation

Jong Bin Jeong[1], Hee Yul Lee[1], Jae Gack Jeong[1], Min Ju Kim[1], Mu Yeun Jang[1], Jin Hwan Lee[2], Ki Ho Son[1], Kye Man Cho[1*]

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PAM-23

Endophytic Bacterial Communities in Seedling Ginseng and Their Effect on the Growth of Ginseng Sprout

Ae Ryeon Lee[1], Hee Yul Lee[1], Du Yong Cho[1], Jae Gack Jeong[1], Min Ju Kim[1], Jong Bin Jeong[1], Jin Hwan Lee[2], Ki Ho Son[1], Kye Man Cho[1*]

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PAM-24

The chemical compositions before and after the lactic acid fermentation of isoflavone-enriched soybean leaves and anti-obesity effect and intestinal microbiome by these diets

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PAM-25

Evaluation of hybrid sequencing by comparing DNA digestion pattern of XbaI in pulsed field gel electrophoresis (PFGE) and in *in silico* analysis of whole genome sequencing (WGS) data

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PAM-26

CmGH11 from *Cochliobolus miyabeanus* Induces Cell Death in *Nicotiana benthamiana* and may Act as an Innate Immune Effector

Ju Soon Yoo[1], Gi Hyun Lee[1], Ha Ram Oh[1], Jeong Woo Jang[1], Cheol Woo Min[1], Ravi Gupta[2], Sun Tae Kim[1*]

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PAM-27

Investigation of Antibiotic Resistance Genes in Plasmids based on the "One-Health" Approach

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PAM-28

Isolation and Identification of Ginseng Growth Promoting Bacteria from Korean Ginseng Rhizosphere

Yeonjong Koo*, Euyeon Kim, Ji Yeon Baek, Hyosun Park

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PAM-29

Magnaporthe oryzae-Secreted Protein MGG40 Induces Cell Death and Elicits Defense Responses in Rice

Gi Hyun Lee[1], Ju Soon Yoo[1], Cheol Woo Min[1], Jeong Woo Jang[1], Ravi Gupta[2], Jong Seong Jeon[3], Sun Tae Kim[1*]

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PAM-30

Comparison of Peach(*Prunus persica* L. Batsch) Microbiome and Mycobiome Associated with Peach Gummosis and Functional Differences

Tae-Hyung Park[1], Min-Kyu Park[2], Kyeong-Mo Lim[2], Gyu-Dae Lee[2], Do-Kyung Lee[1], Wan-Ro Kim[1], Yeon-Kyeong Lee[1], Amani Sliti[2], Chang-Hee Lee[3], Sung-Hoon Park[3], Sang-Hyun Seo[3], Jae-Ho Shin[1,2*]

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PAM-31

Different DNA Extraction Protocols Affects Next Generation Sequencing (NGS) Based Fecal Microbiome Analysis

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PAM-32

Phylogenetic diversity and roles of *Cutibacterium acnes* as a member of core microbiota in the gut of the marine polychaete *Capitella teleta*

Jeonghwan Jang[1*], Valery E. Forbes[2], Michael J. Sadowsky[3]

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PAM-33

Skin Microbiome in Burn Patients is Associated with Hypertrophic Change of Scars

Yeon Gyun Jung[1], Eun Kyung Lee[1], So Young Joo[2], Cheong Hoon Seo[2], Yoon Soo Cho[2*]

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PAM-34

Novel iminosugar compounds produced by *Lactobacillus* species and their anti-biofilm activities

Mingkun Gu[1], Jinhua Cheng[2], Yeong-Geun Lee[3], Joo-Hyung Cho[2], Joo-Won Suh[3*]

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PAM-35

Lactobacillus plantarum MK2 inhibits *Streptococcus mutans* biofilm formation

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PAM-36

Inhibition of fat accumulation by *Lactobacillus* species in *Caenorhaditis elegans*

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PBD Bio-health/Drug Development

PBD-1 *p*-Coumaric acid prevents high fat and sucrose diet-induced muscle atrophy by ameliorating mitochondrial dysfunction in the C57BL/6 mice

Thi My Tien Truong[1,2], Seok Hee Seo[2], Inhae Kang[1,2*]

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PBD-2 *Caulerpa okamurae* attenuates bleomycin-mediated lung fibrogenesis which may involved in activation of NLRP3 inflammasome

Seok Hee Seo[1], Feng Fang[1], Inhae Kang[1,2*]

[1]Department of Food Science and Nutrition, Jeju National University, Jeju 63243, Republic of Korea, [2]Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju 63243, Republic of Korea

PBD-3 Dexamethasone and high-fat/high-sucrose diet-induced skeletal muscle atrophy was attenuated by peanut sprout extract

Sang-Mi Jo[1], Dohyun Ahn[1], Thi My Tien Truong[2], Seok Hee Seo[1], Inhae Kang[1,2*]

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PBD-4 Oleic acid, a major component of the chloroform solvent fraction of broccoli (Brassica oleracea L.) sprouts, inhibits stemness in breast cancer stem cell MCF-7/SCs

Ji Soo Kim[1], Somi Kim Cho[1,2*]

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PBD-5 Effects of drying methods on the phytochemical content and antioxidant and anti-proliferative potential of leaf layers of cabbage (*Brassica oleracea* var. *Capitata*)

Do Manh Cuong[1], Hee Young Kim[1], Meran Keshawa Ediriweera[2], Somi Kim Cho[1,3*]

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PBD-6

A novel hot spot of hexavalent chromium accumulation leads to cartilage degenerate

Godagama Gamaarachchige Dinesh Suminda[1], Young-Ok Son[1,2,3,4*]

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PBD-7

The inhibitory effects of Jeju Lava seawater salt on the expression of the catabolic factors in chondrocytes

Mangeun Kim[1], Yunhui Min[1], Jiwon Yang[2], Yunji Heo[2], Jinho Kim[3], Kyungpil Kang[3], Junsu Lee[3], Young-Ok Son[1,2*]

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PBD-8

Morphological and Phytochemical differences on *Hypochaeris radicata* and two *Taraxacum* species native to Korea

So-Hee Jang[1], Ji-Yeon Lee[1], Ji-Yeong Bae[1,2*]

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PBD-9

Chemical composition and antioxidant activities of *Daphne jejudoensis* plant parts

Ji-Yeon Lee[1], So-Hee Jang[1], Ji-Yeong Bae[1,2*]

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PBD-10

Anti-inflammatory Effects of (9Z,11E)-13-Oxooctadeca-9,11-Dienoic Acid (13-KODE) Derived from *Salicornia herbacea* L. on Lipopolysaccharide-Stimulated Murine Macrophage via NF-kB and MAPK Inhibition and Nrf2/HO-1 Signaling Activation

Yu-Chan Ko[1], Hack Sun Choi[1,2,3,4], Su-Lim Kim[1,2,3,4], Dong-Sun Lee[1,2,3,4,5*]

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PBD-11

Trade and Status Mapping Of Important Medicinal Aromatic Plants of Eastern Nepal

Prakash Gairhe[1], Hong-Shik Oh[1,2*]

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PBD-12

Tree Regeneration and Diversity in Two Community Forests of Tanahun District, Nepal

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PBD-13

Genetic identification of alien species *Rattus norvegicus* (Berkenhout, 1769) using mitochondrial DNA in Sasudo uninhabited Island, Republic of Korea

Seon-Mi Park[1], Hong-Shik Oh[2,3*]

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PBD-14

Spatiotemporal overlap of Siberian roe deer (*Capreolus pygargus tianschanicus*) with sympatric mammalian species in Jeju Island, South Korea

Maniram Banjade[1], Hong-Shik Oh[2,3*]

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PBD-15

Distribution pattern of *Mustela sibirica quelpartis* in Jeju island

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PBD-16

Status and Habitat Characteristics of Pleske's Grasshopper-warble (*Locustella pleskei*) in Unmanned Islands (Cheongdo, Jikgudo, Heukgeomdo) in South Korea

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PBD-17

Effects of Northern Bamboo (*Sasa borealis*) on the Nitrogen Dynamics in Forest Ecosystem

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PBD-18

Compound X derived from hexane extract of banana flesh suppresses stemness and enhances radio-sensitivity of human breast cancer MDA-MB-231 cells

Dae Kyeong Kim[1], Jeong Yong Moon[2], Somi Kim Cho[1,2*]

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PBD-19

High sucrose diet enhances arthritis in a collagen-induced rheumatoid arthritis model

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PBD-20

Carbonic anhydrases cause alteration of anabolic and catabolic factors through increasing metabolic shift in OA pathogenesis

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PBD-21

Schizophyllum commune produced β-glucan improves intestinal health suggesting protection against constipation and common metabolic diseases

Vuong Vu[1], Karthika Muthuramalingam[2], Vineet Singh[3], Changmin Choi[2], Young Mee Kim[2], Tatsuya Unno[3,4*], Moonjae Cho[1,2,5*]

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PBD-22

ROS affects EGFR phosphorylation, resulting an acceleration of pulmonary fibrosis – *in vitro* analysis

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PBD-23

TMF/catechol synergistic administration can be a therapeutic candidate for bleomycin-induced pulmonary fibrosis, by inhibiting EMT

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PBD-24

IL-17A deficiency contribute to alleviation of airway inflammation in PM-induced allergic asthma

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PBD-25

Immunosuppressive effects of a *Sargassum horneri* celluclast enzymatic extracts on concanavlin A-stimulated splenocytes and allergic asthma in mouse

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PBD-26

Sargassum horneri mitigates PM-induced lung damages through suppressing MMPs in allergic asthma mice

Hyo Jin Kim[1*], Jiwon Yang[2], Duong Thi Thuy Dinh[3], Kalahe Hewage Iresha Nadeeka Madushani Herath[4], You-Jin Jeon[5], Hyun Jung Kim[1], Youngheun Jee[3,4]

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PBD-27

Diverse physiological traits of Comammox bacterium, *Nitrospira inopinata*

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PBD-28

Genomic and ecophysiological properties of ammonia-oxidizing archaea, *Nitrosocosmicus oleophilus* MY3, involve in the ecosystem adaptation

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PBD-29

Physiological response of methane and ammonia oxidizers in various copper conditions

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PBD-30

The effect of biological nitrification inhibitors (BNIs) on the nitrification rate in co-culture of various ammonia oxidizers

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PBD-31

Potential Anti-adipogenic Effects on Seaweed-Derived Polysaccharides

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PBD-32

Overexpression and Purification of Rv2170, GCN5-related N-acetyltransferase from *Mycobacterium tuberculosis*

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PBD-33

Protective effect of 2-mercaptoethanol against DNA damage in kidney ischemia and reperfusion

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PBD-34

G2/M Arrest Contributes to Fibroblast to Myofibroblast Transformation during Repeated Administration of Cisplatin

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PBD-35

Aristolochic Acid Induce Transformation into Senescent Myofibroblast and Lipid Peroxidation in Kidney Fibroblast

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PBD-36

Screening of immune-stimulatory effects of marine algae extracts in mouse bone marrow-derived antigen presenting cells

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PBD-37

Discovery and validation of active extracts for senotherapeutics from Jeju natural resources

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