



# 2015 International Symposium and Annual Meeting of The **KSABC**

*Back to the Basic "from Genome to Metabolome"*

August **17** (Mon)-**19** (Wed), 2015  
Pyeongchang Campus Seoul National University



**Organized by**

- The Korean Society for Applied Biological Chemistry

**Co-Organized by**

- The National Center for GM Crops
- Functional Glycosie Conjugater Research Center, Konkuk University
- Agricultural Biotechnology Center for Innovative Future Brains, Kyung Hee University
- The Agricultural Genome Center
- Graduate School of International Agricultural Technology, Seoul National University
- The Institute of Plant Environment Science, Research Institute of Agriculture and Life Sciences, Seoul National University
- Korea Promotion Institute for Traditional Medicine Industry, Bioconverted Medical Herb Materials Bank

**Supported by**

- Korean Federation of Science and Technology Societies
- Gangwon Convention & Visitors Bureau
- Ginseng Exportation Model Development Team
- Konkuk University
- Rural Development Administration
- Dong-il SHIMADZU Corp.
- Macrogen



2015

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한국응용생명화학회  
The Korean Society for Applied Biological Chemistry



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## Timetable

### August 17 (Mon)

09:00-09:30	Registration (Lobby, 3F)		Bio-exhibition
09:30-11:30	Graduate Student Presentation (301)		
11:30-12:20	Award Lectures (301)		
12:20-13:20	Lunch (1F)		
13:20-13:40	General Assembly Members Meeting (301)		
13:40-13:50	Opening Ceremony (301)		
14:00-17:00	<b>International Symposia (301)</b> IS1	<b>Symposia (201)</b> S1 / S2	
17:00-18:00	Poster Session I (Lobby, 2F)		
18:00-20:00	Workshop (201, 202) Welcome Reception (1F, 3F)		

### August 18 (Tue)

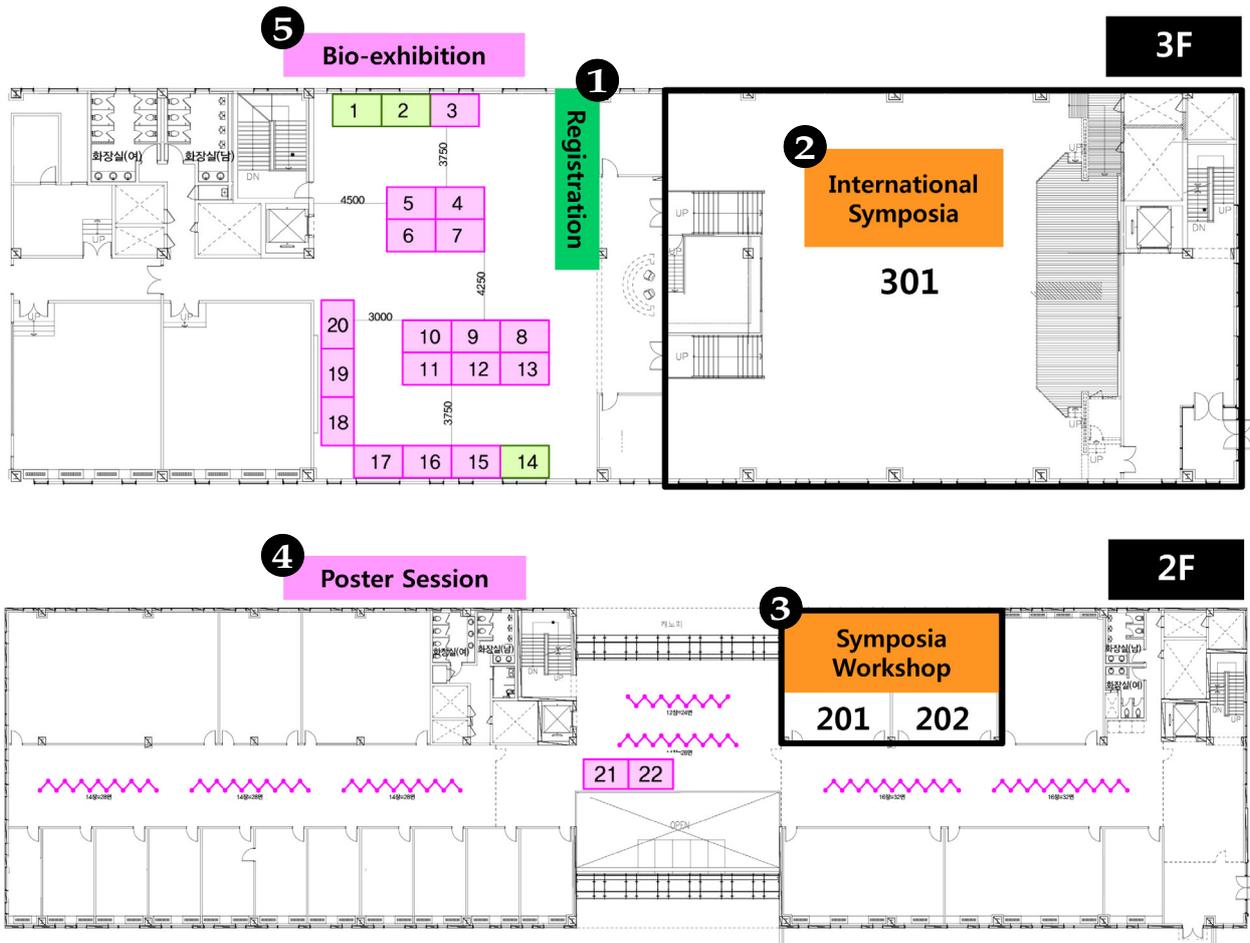
09:00-09:30	Registration (Lobby, 3F)		Bio-exhibition
09:30-12:30	<b>International Symposia (301)</b> IS2	<b>Symposia (201)</b> S3 / S4	
12:30-13:30	Lunch (1F)		
13:30-14:30	Poster Session II (Lobby, 2F)		
	Workshop (202)		
14:30-16:30	<b>International Symposia (301)</b> IS3	<b>Symposia (201)</b> S5	
16:30-16:50	Closing Ceremony (301)		

### August 19 (Wed)

09:00-	<b>Field Trip</b>
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<b>AL</b>	Award Lectures	
<b>IS</b>	International Symposia	<b>IS1</b> Metabolomics · Natural Products
		<b>IS2</b> Genomics
		<b>IS3</b> Biochemistry · Proteomics
<b>S</b>	Symposia	<b>S1</b> Environmental Sciences
		<b>S2</b> Biochemistry · Molecular Biology · Microbiology
		<b>S3</b> Food Sciences
		<b>S4</b> Biologics
		<b>S5</b> Natural Products · Bioactive Materials · Biomedical Sciences
<b>GS</b>	Graduate Student Presentation	<b>GS1</b> Biochemistry · Molecular Biology · Microbiology
		<b>GS2</b> Natural Products · Bioactive Materials · Biomedical Sciences
		<b>GS3</b> Environmental Sciences · Food Sciences
<b>P</b>	Poster Session	<b>PBM</b> Biochemistry · Molecular Biology · Microbiology
		<b>PNB</b> Natural Products · Bioactive Materials · Biomedical Sciences
		<b>PES</b> Environmental Sciences
		<b>PFS</b> Food Sciences
<b>W</b>	Workshop	
<b>B</b>	Bio-exhibition	

# Floor Plan



① Registration	④ Poster Session
② International Symposia	⑤ Bio-exhibition
③ Symposia Workshop	

## Program Schedule

### Award Lectures

**August 17 (Mon), Rm. 301**

*Chair: Yoongho Lim (Konkuk University)*

AL-1

11:30-12:00

**Natural Product in the Human Health: Enzyme Inhibition and Chronic Disease**

Ki Hun Park

*Division of Applied Life Science (BK21 plus), IALS, Gyeongsang National University, Jinju 660-701, Korea*

AL-2

12:00-12:20

**From wild plant in Korea to global natural drug against asthma/COPD**

Sei-Ryang Oh

*Natural Medicine Research Center, KRIBB, Cheongju 363-883, Korea*

### International Symposia

**IS1**

**Metabolomics · Natural Products**

**August 17 (Mon), Rm. 301**

*Chair: Minkyun Kim (Seoul Nat'l University)*

IS1-1

14:00-14:30

**Importance of nitrogen transporter function for plant metabolism and growth**

Mechthild Tegeder

*School of Biological Sciences, Washington State University, Pullman, WA 99164, USA*

IS1-2

14:30-15:00

**Metabolomics and its application in plant sciences**

Jae Kwang Kim

*Division of Life Sciences, College of Life Sciences and Bioengineering, Incheon National University, Incheon 406-772, Korea*

August 17 (Mon), Rm. 301

Chair: Nam-In Baek (Kyung-Hee University)

IS1–3

15:00–15:30

**Polymethoxyflavones: Purification, Characterization, Biological Activity and Intestinal Metabolism**

Mihyang Kim, Supawadee Burapan, Jaehong Han\*

*Metalloenzyme Research Group and Department of Integrative Plant Science, Chung-Ang University, Anseong 456-756, Korea*

IS1–4

15:30–16:00

***Rhodomyrtus tomentosa* (Aiton) Hassk: from Basic Research to Applications**

Supayang P. Voravuthikunchai

*Natural Product Research Center of Excellence, Prince of Songkla University, Hat Yai, Songkhla 90112, Thailand*

## IS2 Genomics

August 18 (Tue), Rm. 301

Chair: Yang Do Choi (Seoul Nat'l University)

IS2–1

09:30–10:00

**Comparative Genome Sequence of Mungbean and Adzuki Bean**

Yango-Je Kang<sup>1</sup>, Dani Satyawana<sup>1</sup>, Rajeev K Varshney<sup>2</sup>, and Suk-Ha Lee<sup>1\*</sup>

*<sup>1</sup>Department of Plant Science, Seoul National University, Seoul 151-921, Korea, <sup>2</sup>International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Hyderabad, India*

IS2–2

10:00–10:30

**Root-to-Shoot Signaling: the *bypass* signaling pathway functions upstream of ABA to induce osmotic stress responses**

Leslie E. Sieburth<sup>1\*</sup>, Dong-Keun Lee<sup>1,2</sup>, David L. Parrott<sup>1</sup>

*<sup>1</sup>University of Utah, Salt Lake City, USA, <sup>2</sup>Crop Biotechnology Institute, Seoul National University, Pyeongchang, Korea*

IS2–3

10:30–11:00

**Post-transcriptional gene regulation by small RNAs in plant development and stress responses**

Dong-Hoon Jeong

*Department of Life Science, Hallym University, Chuncheon, Korea*

August 18 (Tue), Rm. 301

Chair: Lin-Woo Kang (Kunkuk University)

IS2-4

11:00-11:30

Interplay between bacterial effectors and plant immunity: *Xanthomonas campestris* pv *campestris* XopAC/AvrAC effector-triggered immunity in Arabidopsis depends on PBL2 kinase, RKS1 pseudokinase and ZAR1 NB-LRR Receptor

Brice Roux<sup>1,2#</sup>, Guoxun Wang<sup>4#</sup>, Feng Feng<sup>4#</sup>, Endrick Guy<sup>1,2</sup>, Martine Lautier<sup>1,2,3</sup>, Marie-Françoise Jardinaud<sup>1,2</sup>, Matthieu Chabannes<sup>1,2</sup>, Matthieu Arlat<sup>1,2,3\*</sup>, Chaozu He<sup>5</sup>, and Jian-Min Zhou<sup>4\*</sup> and Laurent D. Noël<sup>1,2\*</sup>

<sup>1</sup>INRA, Laboratoire des Interactions Plantes Micro-organismes (LIPM), UMR 441, Castanet-Tolosan, France,

<sup>2</sup>CNRS, Laboratoire des Interactions Plantes Micro-organismes (LIPM), UMR 2594, Castanet-Tolosan, France,

<sup>3</sup>Université Paul Sabatier, Toulouse, France, <sup>4</sup>State Key Laboratory of Plant Genomics, Institute of Genetics and Developmental Biology, Chinese Academy of Sciences, No. 1 West Beichen Road, Beijing 100101, China, <sup>5</sup>Hainan University, Haikou, China (#\*These authors contributed equally to this work)

IS2-5

11:30-12:00

Interplay of kinases and phosphatases during K<sup>+</sup> deprivation stress signaling in plant

Girdhar K. Pandey

Department of Plant Molecular Biology, University of Delhi South Campus, New Delhi-110021, India

IS2-6

12:00-12:30

Green Regenerative Tissue Technology and Commercial Maize Elite Inbred Transformation

Myeong-Je Cho

DuPont-Pioneer, 4010 Point Eden Way, Hayward, CA 94545, USA

## IS3 Biochemistry · Proteomics

August 18 (Tue), Rm. 301

Chair: Soo-Un Kim (Seoul Nat'l University)

IS3-1

14:30-15:00

Control of the levels of PIP3 in normal and tumor cells: Structure and Function of the lipid kinase PI3Ka

Ignacia Echeverria<sup>1,2</sup>, Evan Brower<sup>3,4</sup>, Daniele Chaves Moreira<sup>1,5</sup>, Yunglong Liu<sup>1</sup>, Michelle Miller<sup>1,6</sup>, B. Vogelstein<sup>3</sup>, S. B. Gabelli<sup>1,7</sup>, and L. M. Amzel<sup>1\*</sup>

<sup>1</sup>Department of Biophysics and Biophysical Chemistry, Johns Hopkins University School of Medicine, Baltimore,

MD 21205, USA, <sup>2</sup>Department of Chemistry and Biochemistry, University of Maryland, College Park, Maryland

20742, USA, <sup>3</sup>Ludwig Center for Cancer Genetics and Therapeutics and Howard Hughes Medical Institute at

the Hopkins-Kimmel Cancer Center, University School of Medicine, Baltimore, MD 21231, USA, <sup>4</sup>Present

address: Paragon Bioservices, Baltimore, MD, USA, <sup>5</sup>Present address: Universidade Federal do Paraná,

Department of Cell Biology, Brazil, <sup>6</sup>Medicinal Chemistry, Monash Institute of Pharmaceutical Sciences, 381

Royal Parade, Parkville, Victoria 3052, Australia, <sup>7</sup>Department of Medicine and Department of Oncology, Johns

Hopkins University School of Medicine, Baltimore, Maryland 21287, USA

IS3–2

15:00–15:30

Unlocking the mystery of natural rubber biosynthesis in lettuce (*Lactuca sativa*)

Dae-Kyun Ro<sup>\*</sup>, Yang Qu, Romit Chakrabarty, Hue T. Tran, Moonhyuk Kwon, Eun-Joo G. Kwon,  
and Trinh-Don Nguyen

*Department of Biological Sciences, University of Calgary, Alberta, Canada*

August 18 (Tue), Rm. 301

Chair: Sun Chul Kang (Daegu University)

IS3–3

15:30–16:00

Global and target metabolomics approaches to study stress responses in plants

Geum-Sook Hwang

*Integrated Metabolomics Research Group, Western Seoul Center, Korea Basic Science Institute, Seoul 120-140, Korea*

IS3–4

16:00–16:30

Shotgun proteomics approach in crop proteomic researches

Joohyun Lee

*Department of applied Bioscience, Konkuk University, Seoul 143-701, Korea*

## Symposia

### S1 Environmental Sciences

August 17 (Mon), Rm. 201

Chair: In Seon Kim (Chonnam Nat'l University)

S1–1

14:00–14:30

Pathway-Specific Biomass Engineering

Won-Chan Kim

*School of Applied Biosciences, Kyungpook National University, Daegu 702-701, Korea*

S1–2

14:30–15:00

Establishment of analytical method of harmful constituents in mainstream smoke of tobacco

Hyoung-Joon Park, So-Hyun Cho, Jin-Hee Lee, Sooyeul Cho, Sung-kwan Park, Chang-yong Yoon, Jung-Ah Do,  
Seok Heo, JiHyun Lee, JeongHwa Jo, Sun-Young Baek<sup>\*</sup>

*Advanced Analysis Team, Toxicological Evaluation and Research Department, National Institute of Food and Drug Safety Evaluation, Ministry of Food and Drug Safety, Chungcheongbuk-do, 363-700, Korea*

S1–3

15:00–15:30

Synthetic Application of Microorganisms and Plants in Contaminated Environments

Young Soo Keum

*Department of Bioresources and Food Science, Konkuk University, 1 Hwayang-Dong, Gwanjin-Gu, Seoul, Korea*

## S2 Biochemistry · Molecular Biology · Microbiology

August 17 (Mon), Rm. 201

Chair: Young-Kee Kim (Chungbuk Nat'l University)

S2-1

15:30–16:00

**Blockade of dual-specificity phosphatase 28 decreases chemo-resistance and migration in human pancreatic cancer cells**

Jungwhoi Lee<sup>1</sup>, Jeong Hun Yun<sup>1</sup>, Jungsul Lee<sup>2</sup>, Chulhee Choi<sup>2</sup>, and Jae Hoon Kim<sup>1\*</sup>

<sup>1</sup>Faculty of Biotechnology, college of Applied Life Science, Jeju National University, Jeju-do 690-756, Korea,

<sup>2</sup>Department of Bio and Brain Engineering, KAIST, Daejeon 305-701, Korea

S2-2

16:00–16:30

**Manageable symbiont: cell wall changes of gut symbiont increase susceptibility against host immune responses**

Jiyeun Kate Kim<sup>1\*</sup>, Antonio Molinaro<sup>2</sup>, and Bok Luel Lee<sup>3</sup>

<sup>1</sup>Department of Microbiology, College of Medicine, Kosin University, Korea, <sup>2</sup>Dipartimento di Scienze Chimiche, Università di Napoli Federico II, Italy, <sup>3</sup>Global Research Laboratory, College of Pharmacy, Pusan National University, Korea

S2-3

16:30–17:00

**Mass spectrometry-driven investigation of molecular dynamics for a microalga, *Chlamydomonas reinhardtii***

Jung-Eun Lee<sup>1</sup>, Yeoul Cho<sup>1</sup>, Sooah Kim<sup>2</sup>, Kyoung Heon Kim<sup>2</sup>, Do Yup Lee<sup>1\*</sup>

<sup>1</sup>Department of Bio and Fermentation Convergence Technology, Kookmin University, 77 Jeongneung-ro, Seongbuk-gu, Seoul, 136-702, Korea, <sup>2</sup>School of Life Sciences and Biotechnology, Korea University, 145 Anam-ro, Seongbuk-gu, Seoul, 136-701, Korea

## S3 Food Sciences

August 18 (Tue), Rm. 201

Chair: Donghwa Chung (Seoul Nat'l University)

S3-1

09:30–10:00

**Analysis of Microflora Profile in Korean Traditional *Nuruk***

Sang Hoon Song<sup>1,5</sup>, Chung hee Lee<sup>2</sup>, Sulhee Lee<sup>3</sup>, Jung Min Park<sup>4</sup>, Hyong-Joo Lee<sup>5</sup>, Dong-Hoon Bai<sup>2</sup>, Sung-Sik Yoon<sup>6</sup>, Jun Bong Choi<sup>7</sup>, and Young-Seo Park<sup>3\*</sup>

<sup>1</sup>CJ Foods R&D, CJ Cheiljedang, Seoul 152-051, Korea, <sup>2</sup>Department of Food Engineering, Dankook University, Cheonan 330-714, Korea, <sup>3</sup>Department of Food Science and Biotechnology, Gachon University, Seongnam 461-701, Korea, <sup>4</sup>Korea Culture Center of Microorganisms, Korea Federation of Culture Collections, Seoul 120-091, Korea, <sup>5</sup>Department of Agricultural Biotechnology, Seoul National University, Seoul 151-921, Korea, <sup>6</sup>Division of Biological Science and Technology, Yonsei University, Wonju 220-100, Korea, <sup>7</sup>Graduate School of Hotel & Tourism, The University of Suwon, Hwaseong 445-743, Korea

S3-2

10:00–10:30

Screening of Antioxidants and Anti-aging Activity from Various Natural Materials

Hyun-Jung Lee, So Young Baek, and Eunju Park\*

*Department of Food and Nutrition, Kyungnam University, Changwon 631-701, Korea*

S3-3

10:30–11:00

Intestinal transport mechanism of vitamin U by using Caco-2 cells

Soon-Mi Shim

*Department of Food Science and Technology, Sejong University, Seoul 134-747, Korea*

## S4 Biologics

August 18 (Tue), Rm. 201

Chair: *Se-Ho Kim (Gangneung-Wonju Nat'l University)*

S4-1

11:00–11:30

Inhibitory effects of recombinant Fc-IL-18BP isoforms and Fc-ST2 protein on inflammatory cytokine production

Kwang-won Hong

*BIOONE, Co., Ltd, Gangneung-si 210-702, Korea*

S4-2

11:30–12:00

Recent trend of molecular diagnostics in medical science

Hae Joon Park

*BioNext Inc. Ltd., Yongin, Korea*

S4-3

12:00–12:30

DNA Based Monoclonal Antibody Therapeutics, dMAb: Proof of Concept

Moonsup Jeong

*Pharma R&D Division, GeneOne Life Science, Seoul 135-914, Korea*

## S5 Natural Products · Bioactive Materials · Biomedical Sciences

August 18 (Tue), Rm. 201

Chair: *Ki Hun Park (Gyeongsang Nat'l University)*

S5-1

14:30–15:00

Natural product profiling analysis by high-resolution mass spectrometry and in-house tandem mass spectral library

Jong Suk Lee

*Biocenter, Gyeonggi Institute of Science and Technology Promotion (GSTEP), Suwon 443-270, Korea*

S5-2

15:00-15:30

**Remote Enzyme Catalysis: Coupling Free Radical Chemistry to Long Range Electron Transfer**

Sooim Shin<sup>1,2</sup>, Victor L. Davidson<sup>2\*</sup>

<sup>1</sup>Department of Biotechnology and Bioengineering, College of Engineering, Chonnam National University, Gwangju, 500-757, Korea, <sup>2</sup>Burnett School of Biomedical Sciences, College of Medicine, University of Central Florida, Orlando, FL 32827, USA

**August 18 (Tue), Rm. 301**

Chair: Kyung-Sik Song (Kyungpook Nat'l University)

S5-3

15:30-16:00

**Flowers, New Source for Biologically Active Materials**

Jung-Hwa Kwon, Jae-Woo Jung, Kyeong-Hwa Seo, and Nam-In Baek\*

Graduate School of Biotechnology and Oriental Medicine Biotechnology, Kyung-Hee University

S5-4

16:00-16:30

**Glutathione S-transferase, a ruling factor of aflatoxin induced autophagy-apoptosis cross talk in macrophage**

Souren Paul, Rekha Jakhar, and Sun Chul Kang\*

Department of Biotechnology, Daegu University, Kyongsan, Kyoungbook 712-714, Korea

## Graduate Student Presentation

**GS1**

**Biochemistry · Molecular Biology · Microbiology**

**August 17 (Mon), Rm. 301**

Chair: Cheol-Ho Pan (Korea Institute of Science and Technology (KIST))

GS1-1

09:30-09:42

***In-planta* transcriptomics and proteomics analysis of *Xanthomonas oryzae pv. Oryzae***

So Eui Lee<sup>1</sup>, Yiming Wang<sup>2</sup>, Kyu Young Kang<sup>3</sup>, Sun Tae Kim<sup>1\*</sup>

<sup>1</sup>Dept. of Plant Bioscience, Pusan National University, Miryang, 627-706, Korea, <sup>2</sup>Department of Plant Microbe Interactions, Max-planck Institute for Plant Breeding Research, Cologne, Germany, <sup>3</sup>Division of Applied Life Science and Plant Molecular Biology & Biotechnology Research Center, Gyeongsang National University, Jinju, 660-701, Korea

GS1-2

09:42-09:54

**Study of phytochrome A degradation domain and ubiquitination site**

Kaewta Rattanapisit, Man-Ho Cho, Tae-Ryong Hahn and Seong Hee Bhoo\*

Graduate School of Biotechnology and Plant Metabolism Research Center, Kyung Hee University, Yongin 446-701, Korea

GS1-3

09:54–10:06

The overexpression of *OsNAC9* alters the root architecture of rice plants enhancing drought resistance and grain yield under field conditions

Mark C.F.R. Redillas<sup>1†</sup>, Jin Seo Jeong<sup>1†</sup>, Youn Shic Kim<sup>1</sup>, Harin Jung<sup>1</sup>, Seung Woon Bang<sup>1</sup>, Yang Do Choi<sup>2</sup>, Sun-Hwa Ha<sup>3</sup>, Christophe Reuzeau<sup>4</sup> and Ju-Kon Kim<sup>1\*</sup>

<sup>1</sup>Crop Biotechnology Institute, GreenBio Science and Technology, Seoul National University, Pyeongchang 232-916, Korea, <sup>2</sup>School of Agricultural Biotechnology, Seoul National University, Seoul, 151-921, Korea,

<sup>3</sup>Department of Plant Molecular Systems Biotechnology, Crop Biotech Institute, Kyung Hee University, Yongin 446-701, Korea, <sup>4</sup>Crop Design NV, a BASF Plant Science Company, Technologiepark 3, B-9052 Ghent, Belgium (C.R.) (†These authors contributed equally to this work)

GS1-4

10:06–10:18

Lack of a cytoplasmic non-RD kinase induces a strong resistance to bacterial leaf blight of rice

Youngechul Yoo, Jong Chan Park, Joo-Mi Yoon, Sang-Won Lee\*

Graduate School of Biotechnology, Kyung Hee University, Yongin 446-70, Korea

GS2

Natural Products · Bioactive Materials · Biomedical Sciences

August 17 (Mon), Rm. 301

GS2-1

10:18–10:30

Evaluation of Benzaldehyde Derivatives as Anti-mite Agents with Dual Function as Acaricide and Mite Indicator

Jaeun Song, Ji-Yeon Yang, Hoi-Seon Lee\*

Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University, Jeonju 561-756, Korea

GS2-2

10:30–10:42

Anti-Melanogenesis and Anti-Wrinkle Effects of *Sargassum micracanthum* and *Myagropsis myagroides* Extracts

Won Min Pak<sup>1</sup>, Koth Bong Woo Ri Kim<sup>2</sup>, Min Ji Kim<sup>2</sup>, Si Woo Bark<sup>1</sup>, Na Kyung Ahn<sup>1</sup>, Yeon Uk Choi<sup>1</sup>, Ji Hye Park<sup>1</sup>, Nan Young Bae<sup>1</sup>, Sun Hee Park<sup>1</sup>, Dong-Hyun Ahn<sup>1\*</sup>

<sup>1</sup>Department of Food Science and Technology, Pukyong National University, Busan 608-737, Korea, <sup>2</sup>Institute of Fisheries Sciences/Pukyong National University, 474, Ilgwang-ro, Ilgwang-myeon, Gijang-gun, Busan 619-911, Korea

GS2-3

10:42–10:54

Curcumin based Near-infrared Fluorescence (NIRF) Probe for Detection of Tau Aggregate

Kwang-Su Park, Yujin Seo, Mi Kyoung Kim, Kyungdo Kim, Youhoon Chong\*

Department of Bioscience & Biotechnology, Konkuk University, 1 Hwayang-dong, Gwangjin-gu, Seoul 143-701, Korea

GS2-4

10:54–11:06

**Design and synthesis of hydroxy–methoxynaphthochalcones bearing pyrazolylcarbothioamide, and their cytotoxicities**

Seunghyun Ahn, Yoongho Lim\*

*Division of Bioscience and Biotechnology, BMIC, Konkuk University, Seoul 143-701, Korea*

**GS3**

**Environmental Sciences · Food Sciences**

**August 17 (Mon), Rm. 301**

GS3-1

11:06–11:18

**Determination of lipophilic metabolites for species discrimination and quality assessment of nine leafy vegetable**

Tae Jin Kim<sup>1</sup>, Kyoung Bok Lee<sup>1</sup>, Seung-A Baek<sup>1</sup>, Jaehyuk Choi<sup>1</sup>, Sun-Hwa Ha<sup>2</sup>, Sun-Hyung Lim<sup>3</sup>, Soo-Yun Park<sup>3</sup>, Sang Un Park<sup>4</sup>, Jae Kwang Kim<sup>1\*</sup>

<sup>1</sup>*Division of Life Sciences, College of Life Sciences and Bioengineering, Incheon National University, Incheon 406-772, Korea,* <sup>2</sup>*Graduate School of Biotechnology and Crop Biotech Institute, Kyung Hee University, Youngin 446-701, Korea,* <sup>3</sup>*National Academy of Agricultural Science, Rural Development Administration, Wanju-gun, Jeollabuk-do 565-851, Korea,* <sup>4</sup>*Department of Crop Science, Chungnam National University, Daejeon 305-764, Korea*

GS3-2

11:18–11:30

**Characteristics of agar–based core–shell macrocapsules formed by electro–coextrusion**

Peerapong Ngamnikom<sup>1</sup>, Natthiya Phawaphuthanon<sup>1</sup>, Moojoong Kim<sup>1</sup>, Donghwa Chung<sup>2\*</sup>

<sup>1</sup>*Department of Marine Food Science and Technology, Gangneung-Wonju National University, Gangneung 210-702, Korea,* <sup>2</sup>*Institute of Food Industrialization, Graduate School of International Agricultural Technology, Seoul National University, Pyeongchang 232-916, Korea*

## Workshop

August 17 (Mon), Rm. 202

W-1

17:00–17:20  
Choongin Science Inc.

W-2

17:20–17:40  
ChunLab, Inc.

W-3

17:40–18:00  
Macrogen

August 17 (Mon), Rm. 201

W-4

17:00–17:20  
Ginseng Exportation Model Development Team

W-5

17:20–17:40  
LST (Life Science Technology)

August 18 (Tue), Rm. 202

W-6

13:30–13:50  
AB SCIEX KOREA

W-7

13:50–14:10  
EmaGene Science

## Poster Session

### ► Poster Category

<b>PBM</b>	Biochemistry · Molecular Biology · Microbiology
<b>PNB</b>	Natural Products · Bioactive Materials · Biomedical Sciences
<b>PES</b>	Environmental Sciences
<b>PFS</b>	Food Sciences

### ► Poster Session I & II

Date	Session	PBM	PNB	PES	PFS
	<b>I</b>				
August 17 (Mon) 17:00 - 18:00		#1-56	#1-80	#1-23	#1-22
	<b>II</b>				
August 18 (Tue) 13:30 - 14:30		#57-113	#81-159	#24-45	#23-45
Place		Lobby, 2F			

## PBM

## Biochemistry · Molecular Biology · Microbiology

### PBM-1

**Anti-Cancer Activity of Safflower Seed Extracts through Cyclin D1 Proteasomal Degradation in Human Colon Cancer Cells**

Se Chul Hong<sup>1\*</sup>, Ik Su Joo<sup>1</sup>, Sun Young Son<sup>1</sup>, Nam Hee Kwon<sup>1</sup>, Gwang Hun Park<sup>2</sup>, Hyun Ji Eo<sup>2</sup>, Hun Min Song<sup>2</sup>, Jin Wook Lee<sup>2</sup>, Mi Kyung Kim<sup>2</sup>, Jin Boo Jeong<sup>2\*</sup>

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### PBM-2

**Bacterial synthesis of two coumarin derivatives from glucose**

So-Mi Yang<sup>1</sup>, Geun-Young Sim<sup>1</sup>, Bong-Gyu Kim<sup>2</sup>, Joong-Hoon Ahn<sup>1\*</sup>

<sup>1</sup>Department of Bioscience and Biotechnology, Bio/Molecular Informatics Center, Konkuk University,

<sup>2</sup>Department of Forest Resource, Gyeongnam National University of Science & Technology

### PBM-3

**Biosynthesis of hydroxycinnamoyl tyramine**

Geun-Young Sim, So-Mi Yang, Joong-Hoon Ahn<sup>\*</sup>

Department of Bioscience and Biotechnology, Bio/Molecular Informatics Center, Konkuk University

PBM–4

**Arabidopsis *NAC-S*, one of NAC transcription factors, plays a negative role in ABA signaling**

Chan Young Jeong, Ho Jung Lee\*

*Department of Biosystems and Biotechnology, Korea University*

PBM–5

**AtMYBH, a MYB-like protein, interferes with cytokinin-induced *AtGA2OX8* expression in *Arabidopsis thaliana***

Nguyen Hoai Nguyen<sup>1</sup>, Chan Young Jeong<sup>1</sup>, Ye Rim Kwon<sup>1</sup>, Sang A Lee<sup>1</sup>, Suk Whan Hong<sup>2</sup>, Ho Jung Lee<sup>1\*</sup>

<sup>1</sup>*Department of Biosystems and Biotechnology, Korea University*, <sup>2</sup>*Department of Molecular Biotechnology, Chonnam National University*

PBM–6

**Ectopic expression of *AtMYBS1* reduces the salt-stress tolerance of *Arabidopsis thaliana***

Sang A Lee, Chan Young Jeong, Ho Jung Lee\*

*Department of Biosystems and Biotechnology, Korea University*

PBM–7

**Arabidopsis *MybC* plays a negative role in the accumulation of anthocyanin in response to sucrose**

Ji Hye Kim, Nguyen Hoai Nguyen, Chan Young Jeong, Ho Jung Lee\*

*Department of Biosystems and Biotechnology, Korea University*

PBM–8

**Development of Genetically Modified Rice Event Lines of Enhanced Grain Yield and Biomass**

Tae Young Um<sup>1</sup>, Geu Pil Jang<sup>1</sup>, Ji Myung Moon<sup>1</sup>, Sun Hyun Chang<sup>1</sup>, Ju Kon Kim<sup>2</sup>, Yang Do Choi<sup>1\*</sup>

<sup>1</sup>*Department of Agricultural Biotechnology, Seoul National University*, <sup>2</sup>*Graduate School of International Agricultural Technology, Seoul National University*

PBM–9

**Role of the chaperonic part ClpC1 and ClpC2 of Clp protease in the physiology and development in plants**

Md. Sarafat Ali, Kwang-Hyun Baek\*

*School of Biotechnology, Yeungnam University*

PBM–10

**Antibacterial potential of endophytic bacteria isolated from *Equisetum arvense* L.**

Gitishree Das, Kwang-Hyun Baek\*

*School of Biotechnology, Yeungnam University*

PBM–11

**Isolation of endophytic bacteria from *Taxus brevifolia* for antibacterial activity**

Islam Nurul, Kwang-Hyun Baek\*

*School of Biotechnology, Yeungnam University*

PBM-12

**Functional identification of two Flavonoid 3'-Hydroxylases isolated from pigmented and non-pigmented rice**

Sangkyu Park<sup>1</sup>, Sun-Hwa Ha<sup>2</sup>, Minji Choi<sup>1</sup>, Da-Hye Kim<sup>1</sup>, Jong-Yeol Lee<sup>1</sup>, Young-Mi Kim<sup>1</sup>, Sun-Hyung Lim<sup>1\*</sup>

<sup>1</sup>National Academy of Agricultural Science, Rural Development Administration, JeonJu, 560-500, Korea,

<sup>2</sup>Graduate School of Biotechnology, Kyung Hee University, Yongin, 446-701, Korea

PBM-13

**An R2R3 MYB transcription factor associated with regulation of the anthocyanin biosynthetic pathway in Radish (*Raphanus sativus*)**

Minji Choi<sup>1</sup>, Da-Hye Kim<sup>1</sup>, Sangkyu Park<sup>1</sup>, Sun-Hwa Ha<sup>2</sup>, Jong-Yeol Lee<sup>1</sup>, Young-Mi Kim<sup>1</sup>, Sun-Hyung Lim<sup>1\*</sup>

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<sup>2</sup>Graduate School of Biotechnology, Kyung Hee University, Yongin, 446-701, Korea

PBM-14

**Vaccination of respiratory syncytial virus by formulation of synthetic peptide epitope-CpG-DNA-liposome complex**

Byoung Kwon Park<sup>1</sup>, Song Hee Choi<sup>2</sup>, Dongbum Kim<sup>1</sup>, Guang Wu<sup>1</sup>, Su In Lee<sup>2</sup>, Younghee Lee<sup>3</sup>,

Hyung-Joo Kwon<sup>1,2\*</sup>

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Hallym University College of Medicine, <sup>3</sup>Department of Biochemistry, Chungbuk National University

PBM-15

**Post-Transcriptional Silencing of Dihydroflavonol 4-Reductase mRNA in Tobacco Leads to Change the Flower Color**

Da-Hye Kim<sup>1</sup>, Sangkyu Park<sup>1</sup>, Minji Choi<sup>1</sup>, Sun-Hwa Ha<sup>2</sup>, Jong-Yeol Lee<sup>1</sup>, Young-Mi Kim<sup>1</sup>, Sun-Hyung Lim<sup>1\*</sup>

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<sup>2</sup>Graduate School of Biotechnology, Kyung Hee University, Yongin, 446-701, Korea

PBM-16

**Production of monoclonal antibody against F protein of respiratory syncytial virus**

Byoung Kwon Park<sup>1</sup>, Song Hee Choi<sup>2</sup>, Te Ha Kim<sup>2</sup>, Avishekh Gautam<sup>2</sup>, Jung Nam Kim<sup>2</sup>, Young-Eun Kim<sup>3</sup>,

Younghee Lee<sup>3</sup>, Hyung-Joo Kwon<sup>1,2\*</sup>

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Hallym University College of Medicine, <sup>3</sup>Department of Biochemistry, Chungbuk National University

PBM-17

**Comprehensive Identification of LMW-GS Genes and Their Protein Products**

Hye-Rang Beom, Sun-Hyung Lim, Young-Mi Kim, Jong-Yeol Lee<sup>\*</sup>

National Academy of Agricultural Science, Rural Development Administration, JeonJu, 560-500, Korea

PBM-18

**Proteomic Analysis of Glutenin Subunits in Korean Common Wheat Cultivars**

Jong-Yeol Lee<sup>\*</sup>, Hye-Rang Beom, Sun-Hyung Lim, Young-Mi Kim

National Academy of Agricultural Science, Rural Development Administration, JeonJu, 560-500, Korea

PBM–19

**A new wheat mutant of low-molecular-weight glutenin subunit at *Glu-B3* locus**

Jong-Yeol Lee<sup>1\*</sup>, Hye-Rang Beom<sup>1</sup>, Sun-Hyung Lim<sup>1</sup>, Young-Mi Kim<sup>1</sup>, Chul-Soo Park<sup>2</sup>

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<sup>2</sup>Department of Crop Agriculture and Life Science, Chonbuk National University, Jeonju 561-756, Korea

PBM–20

**New Design of Storage Proteins to Improve Processing Properties in Rice Seed**

Young-Min Jo, Hye-Jung Lee, Jong-Yeol Lee, Young-Mi Kim<sup>\*</sup>

National Academy of Agricultural Science, RDA, Jeonju 560-500, Korea

PBM–21

**Development of GM soybean (*Glycine max*) that overexpressed material protein for bio-industrial use**

Sung Kwan Park, Eun Hye Kim, Ju Seok Seo, Sung Ho Moon<sup>\*</sup>

R&D center, Celltrion

PBM–22

**Improvement of Daptomycin Yield by Increasing of Decanoic Acid Resistance in *Streptomyces roseosporus***

Sung-Kwon Lee<sup>1</sup>, Ying-Yu Jin<sup>1</sup>, Seung Hwan Yang<sup>1,2\*</sup>, Joo-Won Suh<sup>1,3\*</sup>

<sup>1</sup>Center for Nutraceutical and Pharmaceutical Materials, Myongji University, Gyeonggi, Republic of Korea,

<sup>2</sup>Interdisciplinary Program of Biomodulation, Myongji University, Gyeonggi, Republic of Korea, <sup>3</sup>Division of Bioscience and Bioinformatics, Myongji University, Gyeonggi, Republic of Korea

PBM–23

**The Ethyl Acetate Extract of *Streptomyces* sp, strain MJM 8637 has Glutathione S-transferase pi (GST-pi) Inhibition and Anti-inflammation Activity**

Sung-Kwon Lee<sup>1</sup>, Dong-Ryung Lee<sup>1</sup>, Jinghua Cheng<sup>1</sup>, Sasikumar Arunachalam Palaniyandi<sup>1</sup>,

Seung Hwan Yang<sup>1,2\*</sup>, Joo-Won Suh<sup>1,3\*</sup>

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PBM–24

**Developmental stage-specific proteomic analysis of root-knot nematode (*Meloidogyne incognita*)**

Joon-Soo Sim, Inchan Choi, Chang-Muk Lee, Bon-Sung Koo, Sang-Hong Yoon, Bum-Soo Hahn<sup>\*</sup>

Department of Agricultural Biotechnology, National Academy of Agricultural Science

PBM–25

**Suppressing activity of staurosporine from *Streptomyces* sp. MJM4426 against rice bacterial blight disease**

Jinhua Cheng<sup>1,2</sup>, Seung Hwan Yang<sup>3,4</sup>, Joo-Won Suh<sup>1,3</sup>, Jeong Gu Kim<sup>5\*</sup>

<sup>1</sup>Division of Bioscience and Bioinformatics, College of Natural Science, Myongji University, <sup>2</sup>Center for

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Pharmaceutical Materials, Myongji University, <sup>4</sup>Interdisciplinary Program of Biomodulation, Myongji

University, <sup>5</sup>Genomics Division, National Academy of Agricultural Science, Rural Development Administration

PBM-26

**Systemic spatiotemporal analyses in rice reveal different senescence programs between the flag leaf and the 2nd leaf during the grain filling period**

Shinyoung Lee<sup>1</sup>, Hyobin Jeong<sup>1</sup>, Sun-Ji Kim<sup>1</sup>, Sichul Lee<sup>1</sup>, Jinwon Lee<sup>1</sup>, Pyung Ok Lim<sup>2</sup>, Dahee Hwang<sup>1,2</sup>, Hong Gil Nam<sup>1,2\*</sup>

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PBM-27

**Suppression of Botrytis Fruit Rot on Strawberry by *Streptomyces acidiscabies* JA(II)-10**

Eun-Kyung Lee<sup>1\*</sup>, Hyo-Jin Lee<sup>2</sup>, Ju-Ok Kim<sup>2</sup>, Yea-Rim Lee<sup>2</sup>, In-Hwa Jeon<sup>2</sup>, Geon-Yeong Cho<sup>2</sup>, Kyung-Sook Whang<sup>1,2</sup>

<sup>1</sup>Institute of Microbial Ecology and Resources, Mokwon University, <sup>2</sup>Department of Microbial & Nano materials, Mokwon University

PBM-28

**Nitrogen assimilation and transport in *Puccinia horiana*, the causal agent of *Chrysanthemum* white rust and the comparison to those of *Puccinia graminis* f. sp. *tritici* the wheat leaf rust pathogen : prediction from draft genome**

Jeong-Gu Kim<sup>1\*</sup>, Shin-Chul Bae<sup>2</sup>, Seung Hwan Kim<sup>1</sup>, Byoung Moo Lee<sup>1</sup>, Dong-Jun Lee<sup>1</sup>, Changhoon Kim<sup>3</sup>, Jeong Hun Baek<sup>4</sup>

<sup>1</sup>Genomics Division, National Academy of Agricultural Science, <sup>2</sup>Molecular Breeding Division, National Academy of Agricultural Science, <sup>3</sup>Bioinformatics Research Center, Macrogen Inc, <sup>4</sup>Bioinformatics Research Center, Macrogen Inc.

PBM-29

**Iron uptake related genes are stimulated by rice leaf extract in *Xanthomonas oryzae* pathovar *oryzae***

Seunghwan Kim<sup>1</sup>, Lin-Woo Kang<sup>2</sup>, Jeong-Gu Kim<sup>1\*</sup>

<sup>1</sup>Genomics Division, National Academy of Agricultural Science, <sup>2</sup>Department of Biological Sciences, Konkuk University

PBM-30

**One dimensional native gel electrophoresis of bacterial H-NS**

Ji-Hwan Yook<sup>1</sup>, Choong-Min Kang<sup>2</sup>, Woo-Yeon Kim<sup>1\*</sup>

<sup>1</sup>Dept. of Systemic Biotechnology, Chung-Ang University, <sup>2</sup>Dept. of Biology, California State University, Stanislaus, USA

PBM-31

**Purification and characterization of polyphenol oxidase from Potato**

Ji-Hwan Yook, Woo-Yeon Kim<sup>\*</sup>

Chung-Ang University, Dept. of Systemic Biotechnology

PBM-32

**A combination of gel based and shotgun approaches to identify salt stress responsive total and secreted proteins from different growth stages of *Panax ginseng***

Sowun Kim<sup>1</sup>, Chul Woo Min<sup>1</sup>, Ravi Gupta<sup>1</sup>, Ick Hyun Jo<sup>2</sup>, Kyong Hwan Bang<sup>2</sup>, Sun Tae Kim<sup>1\*</sup>

<sup>1</sup>Plant bioscience, Pusan national university, <sup>2</sup>Herbal crop research, RDA

PBM–33

***OsbZIP23* and *OsbZIP45*, members of the rice basic leucine zipper transcription factor family, are involved in drought tolerance**

Su-Hyun Park<sup>1</sup>, Jin Seo Jeong<sup>1</sup>, Youn Shic Kim<sup>1</sup>, Yang Do Choi<sup>1,2</sup>, Ju-Kon Kim<sup>1\*</sup>

<sup>1</sup>*Crop Biotechnology Institute, GreenBio Science and Technology, Seoul National University, Pyeongchang 232-916, Korea,* <sup>2</sup>*Department of Agricultural Biotechnology, Seoul National University, Seoul 151-921, Korea*

PBM–34

**The activities of four constitutively expressed promoters in single-copy transgenic rice plants for two homozygous generations**

Seung Woon Bang<sup>1</sup>, Su-Hyun Park<sup>1</sup>, Youn Shic Kim<sup>1</sup>, Yang Do Choi<sup>1,2\*</sup>

<sup>1</sup>*Crop Biotechnology Institute, GreenBio Science and Technology, Seoul National University, Pyeongchang 232-916, Korea,* <sup>2</sup>*Department of Agricultural Biotechnology, Seoul National University, Seoul 151-921, Korea*

PBM–35

***OslAA6*, A Member of the Rice *Aux/IAA* Gene Family, is Involved in Drought Tolerance and Tiller Outgrowth**

Harin Jung<sup>1</sup>, Dong-Keun Lee<sup>1</sup>, Yang Do Choi<sup>1,2</sup>, Ju-Kon Kim<sup>1\*</sup>

<sup>1</sup>*Crop Biotechnology Institute, GreenBio Science and Technology, Seoul National University, Pyeongchang 232-916, Korea,* <sup>2</sup>*Department of Agricultural Biotechnology, Seoul National University, Seoul 151-921, Korea*

PBM–36

**Global Changes in Rice Transcriptome in Response to Nitrogen Starvation**

Chanseok Shin<sup>1,2\*</sup>, Sang-Yoon Shin<sup>2</sup>, Jin Seo Jeong<sup>3</sup>, Ju-Kon Kim<sup>3</sup>

<sup>1</sup>*Department of Agricultural Biotechnology, Seoul National University, Seoul, Republic of Korea,* <sup>2</sup>*Interdisciplinary Program in Agricultural Genomics, Seoul National University, Seoul, Republic of Korea,* <sup>3</sup>*Seed Biotechnology Institute, Green Bio Science and Technology, Seoul National University, Pyeongchang-gun, Kangwon-do, Republic of Korea*

PBM–37

**Small RNA and degradome profiling reveals a role for miRNAs and their targets in the regulation of disease resistance genes**

Chanseok Shin<sup>\*</sup>, June Hyun Park

*Department of Agricultural Biotechnology, Seoul National University, Seoul, 151-921, Republic of Korea*

PBM–38

**MYB96 regulates FATTY ACID ELONGATION1 (*FAE1*) gene in Arabidopsis seeds**

Bo-Yeon Park<sup>1</sup>, Hong Gill Lee<sup>2</sup>, Pil Joon Seo<sup>2</sup>, Kyeong-Ryeol Lee<sup>1</sup>, Kyung Hee Roh<sup>1</sup>, Han-Chul Kang<sup>1</sup>, Jong-Bum Kim<sup>1</sup>, Hyun Uk Kim<sup>1\*</sup>

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PBM–39

**Potent crop protectant material from UV-treated rice leaves**

Hye Lin Park, Youngchul Yoo, Sang-Won Lee, Seong Hee Bhoo, Man-Ho Cho<sup>\*</sup>

*Graduate School of Biotechnology, Kyung Hee University, Yongin 446-701, Korea*

PBM-40

Fine mutational analysis of novel epitope tags with highly sensitive monoclonal antibodies 2B8 and 3H7 for improved detection

Tae-Lim Kim, Hye Rin Choi, Kaewta Rattanapisit, Karan Lohmaneeratana, Seong Hee Bhoo\*  
*Graduate School of Biotechnology, Kyung Hee University, Yongin 446-701, Korea*

PBM-41

Production of poly-methyl flavonoids using a fusion flavonoid O-methyltransferase

Dan Bi Lee, Hye Lin Park, Seong Hee Bhoo, Man-Ho Cho\*  
*Graduate School of Biotechnology, Kyung Hee University, Yongin 446-701, Korea*

PBM-42

Next-generation sequencing and transcriptome analysis-based isolation of terpene synthases in *Piper nigrum*

Zhehao Jin<sup>1</sup>, Ah-Reum Lee<sup>1</sup>, Moonhyuk Kwon<sup>1,2</sup>, Dae-Kyun Ro<sup>2</sup>, Soo-Un Kim<sup>1,3\*</sup>  
<sup>1</sup>*Department of Agricultural Biotechnology, Seoul National University*, <sup>2</sup>*Department of Biological Sciences, University of Calgary*, <sup>3</sup>*School of Gardening and Horticulture, Yangtze University*

PBM-43

Exploration of Reference Genes for Quantitative Real-Time PCR in marine diatom *Phaeodactylum tricorutum*

Yu-Jin Jung, Bok-Kyu Shin, Sang Min Kim, Cheol-Ho Pan\*  
*Laboratory of Biomodulation, Natural Products Research Center, KIST Gangneung Institute of Natural Products, Gangneung, Gangwon-do 210-340, Korea*

PBM-44

Metabolic Engineering to Study Fucoxanthin Biosynthesis in Marine Diatom *Phaeodactylum tricorutum*

Bok-Kyu Shin, Yu-Jin Jung, Byeol-Ri Kwon, Sang-Min Kim, Cheol-Ho Pan\*  
*Laboratory of Biomodulation, Natural Products Research Center, KIST Gangneung Institute of Natural Products, Gangneung, Gangwon-do 210-340, Korea*

PBM-45

Prevalence of Potential Human Pathogenic *Vibrio* spp. in the Southern Coastal Waters and Mud

Doris Yoong Wen Di, Youri Yang, Hor-Gil Hur\*  
*School of Environmental Science and Engineering, Gwangju Institute of Science and Technology, Buk-gu, Gwangju 500-712, Korea*

PBM-46

A novel family VIII esterase with distinctive substrate specificity from a compost metagenomic library

Hyun Woo Lee<sup>1</sup>, Won Kyeong Jung<sup>2</sup>, Yong Ho Kim<sup>3</sup>, Bum Han Ryu<sup>4</sup>, Jungho Kim<sup>3</sup>, T. Doohun Kim<sup>4</sup>, Hoon Kim<sup>1,2,3\*</sup>  
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PBM-47

**Down-Regulation of Brassinosteroid (BR) Biosynthetic Genes Leads to a Dwarf Phenotype in *Echinacea purpurea***

Jin Zhao<sup>1</sup>, Yuan-Yuan Fu<sup>1</sup>, Min Ji Lee<sup>2</sup>, Ji Hye Kim<sup>2</sup>, Jong-Hwa Park<sup>1</sup>, Kong Young Park<sup>3</sup>, Geun-Won Choi<sup>2</sup>, In Sik Chung<sup>1</sup>, Youn-Hyung Lee<sup>2\*</sup>

<sup>1</sup>Department of Genetic Engineering and Graduate School of Biotechnology, Kyung Hee University, <sup>2</sup>Department of Horticultural Biotechnology, Kyung Hee University, <sup>3</sup>URISEED Inc., Korea

PBM-48

**Rice FLAVIN-BINDING, KELCH REPEAT, F-BOX 1 (OsFKF1) promotes flowering independent of photoperiod**

Soocheul Yoo<sup>1</sup>, Su-Hyun Han<sup>2</sup>, Nam-Chon Paek<sup>2\*</sup>

<sup>1</sup>Department of Plant Life & Environmental Science, Hankyong National University, <sup>2</sup>Department of Plant Science, Seoul National University

PBM-49

**Development of a novel and reproducible method for analyzing the "Hidden Proteome" of plants**

Ravi Gupta<sup>1</sup>, Chul Woo Min<sup>1</sup>, So Wun Kim<sup>1</sup>, Ganesh Kumar Agrawal<sup>2</sup>, Randeep Rakwal<sup>3</sup>, Sun Tae Kim<sup>1\*</sup>

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PBM-50

**Structural and functional study of CRISPR-associated protein Cas2 at various pHs**

Donghyun Ka<sup>1</sup>, Euiyoung Bae<sup>1,2,3\*</sup>

<sup>1</sup>Department of Agricultural Biotechnology, Seoul National University, <sup>2</sup>Center for Food and Bioconvergence, Seoul National University, <sup>3</sup>Research Institute of Agriculture and Life Sciences, Seoul National University

PBM-51

**Cloning, Expression, and Purification of *Xanthomonas* Csy3 proteins**

Ugeene Jeong<sup>1</sup>, Euiyoung Bae<sup>1,2,3\*</sup>

<sup>1</sup>Department of Agricultural Biotechnology, Seoul National University, <sup>2</sup>Center for Food and Bioconvergence, Seoul National University, <sup>3</sup>Research Institute of Agriculture and Life Sciences, Seoul National University

PBM-52

**The Effects of Tylosin as Antibiotics Growth Promoter on Swine Gut Microbiota**

Jungman Kim, Robin B. Guevarra, Son G. Nguyen, Tatsuya Unno\*

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

PBM-53

**Gut Microbiota Comparison between Black and White pigs fed with or without AGP**

Nakwon Hwang, Mincheol Kim, Yumi Kim, Jungman Kim, Robin B. Guevarra, Son G. Nguyen, Tatsuya Unno\*

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

PBM-54

**Comparison Analysis of Fecal Microbiome Based on 16S rRNA Gene Sequences**

Mincheol Kim, Nakwon Hwang, Yumi Kim, Jungman Kim, Robin B. Guevarra, Son G. Nguyen, Unno Tatsuya\*

*Faculty of Biotechnology, College of Applied Life Sciences, Jeju National University*

**PBM-55**

**Metagenomics characterization of methane emission mechanisms from rice paddies in Vietnam**

Son G. Nguyen, Robin B. Guevarra, Jungman Kim, Tatsuya Unno\*

*Faculty of Biotechnology, College of Applied Life Sciences, Jeju National University*

**PBM-56**

**Inhibitory Effects of Bacterial Peptide Toxins on the Various Varieties of *Trichoderma harzianum***

Hyoun-Jin Lee, Hye-Jin Choi, Young-Kee Kim\*

*Department of Environmental and Biological Chemistry, Chungbuk National University*

**PBM-57**

**Analysis of Structural Similarities among Bacteriophages Measured by Phage-induced Polyclonal Antibodies**

Ji-Hye Han, Soo-Jin Park, Young-Kee Kim\*

*Department of Environmental and Biological Chemistry, Chungbuk National University*

**PBM-58**

**Expression dynamics of metabolic and regulatory components across stage of panicle and seed development in rice**

Songhwa Chae<sup>1</sup>, Joung Sug Kim<sup>1</sup>, Kyong-Mi Jun<sup>2</sup>, Yoon Mok Pakh<sup>2</sup>, Yeon-Ki Kim<sup>1\*</sup>, Baek-Hie Nahm<sup>1,2\*</sup>

*<sup>1</sup>Division of Bioscience and Bioinformatics, Myongji University, <sup>2</sup>Plant molecular genetics Institute, GreenGene Biotech. Inc.*

**PBM-59**

**MSP1 triggers host cell death and defense response in rice**

Qing Feng Meng<sup>1</sup>, Yi Ming Wang<sup>2</sup>, Kyu Young Kang<sup>3</sup>, Ravi Gupta<sup>1</sup>, Sun Tae Kim<sup>1\*</sup>

*<sup>1</sup>Department of Plant Bioscience, Pusan National University, Miryang, Korea, <sup>2</sup>Department of Plant Microbe Interactions, Max Planck Institute for Plant Breeding Research, Carl-von-Linne Weg 10, Cologne, 50829, Germany, <sup>3</sup>Plant Molecular Biology and Biotechnology Research Center, Gyeongsang National University, Jinju, Korea*

**PBM-60**

**Isolation and characterization of senescence regulation gene from rice**

Chi Yeol Kim, Kieu Vo, Da Yeong Kang, Jong Seong Jeon\*

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

**PBM-61**

**Gene flow from transgenic *B. napus* to Korean varieties of *B. rapa***

Soo-In Sohn<sup>1\*</sup>, Sung-Dug Oh<sup>1</sup>, Tae-Hoon Ryu<sup>1</sup>, Gang-Seob Lee<sup>1</sup>, Doh-Won Yun<sup>1</sup>, Hyun-Suk Cho<sup>1</sup>, Young-Ju Oh<sup>2</sup>

*<sup>1</sup>National Academy of Agricultural Science, Jeonju 560-500, Korea, <sup>2</sup>Institute of Future Environmental Ecology, Jeonju 561-842, Korea*

PBM-62

**Identification and characterization of callus-specific promoters in Rice**

Kyong-Mi Jun<sup>1</sup>, Joung Sug Kim<sup>2</sup>, Songhwa Chae<sup>2</sup>, Yoon Mok Pahk<sup>1</sup>, Yeon-Ki Kim<sup>2\*</sup>, Baek-Hie Nahm<sup>1,2\*</sup>

<sup>1</sup>Plant molecular genetics Institute, GreenGene Biotech Inc, <sup>2</sup>Division of Bioscience and Bioinformatics, Myongji University

PBM-63

**Role of rice cytosolic hexokinase *OsHXK7* in sugar signaling and metabolism**

Hyun Bi Kim, Sang Kyu Lee, Danh Nguyen, Yu Kyung Je, Jong Seong Jeon\*

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

PBM-64

**Expressions profiles of glucosinolate genes in Brassica rapa under various light qualities**

Jin A Kim\*, Soo In Lee, Mi-Jeong Jeong

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

PBM-65

**Identification of specific circadian regulation in Brassica rapa through the diurnal transcriptome analysis**

Jin A Kim\*, Soo In Lee, Mi-Jeong Jeong

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

PBM-66

**Development of salt resistant plants through regulation of a Brassica rapa GIGANTEA gene**

Ha-Eun Jung, Mi-Jeong Jeong, Soo In Lee, Jin A Kim\*

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

PBM-67

**OsMDB1, a MYB transcription factor, is involved in the control of plant height by down-regulating gibberellin biosynthetic Genes**

Joung Sug Kim<sup>1</sup>, Songhwa Chae<sup>1</sup>, Kyong-Mi Jun<sup>2</sup>, Yoon Mok Pahk<sup>2</sup>, Baek-Hie Nahm<sup>1,2\*</sup>, Yeon-Ki Kim<sup>1\*</sup>

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PBM-68

**The Effects of Laminarin, a Polysaccharide from Seaweed, on Fecal Microbiota of High Fat-Fed Mice**

Robin B. Guevarra, Jungman Kim, Son G. Nguyen, Tatsuya Unno\*

Faculty of Biotechnology, College of Applied Life Sciences, SARI, Jeju National University

PBM-69

**Fusarium toxin contamination of discolored rice from rice processing complexes in 2011**

Soohyung Lee\*, Theresa Lee, Hye Yeon Mun, Kyung Ah Lee, Min Hee Kim, Sung Kee Hong, Jae-Gee Ryu  
Microbial Safety Team, National Academy of Agricultural Science, Rural Development Administration, Wanju 565-851, Korea

PBM-70

**Crystal structure of D-alanine-D-alanine ligase from *Yersinia pestis***

Thi Huyen Tran<sup>1</sup>, Myoungki Hong<sup>1</sup>, Jeong-Gu Kim<sup>2</sup>, Byoung-Moo Lee<sup>2</sup>, Yeh-Jin Ahn<sup>3\*</sup>, Lin Woo Kang<sup>1\*</sup>  
<sup>1</sup>Department of Biological Sciences, Konkuk University, <sup>2</sup>Genomics Division, National Academy of Agricultural Science (NAAS), <sup>3</sup>Department of Life Science, Sangmyung University

PBM-71

**Differential protein expression profiling in *Pleurotus ferulae* caused by asafetida extract**

Yujia Bai<sup>1</sup>, Weicheng Hu<sup>2</sup>, Zuoshan Feng<sup>1\*</sup>  
<sup>1</sup>College of Food Science and Pharmacology, Xinjiang Agricultural University, Urumqi, Xinjiang 830052, China, <sup>2</sup>Jiangsu Key Laboratory for Eco-Agricultural Biotechnology around Hongze Lake, School of Life Sciences, Huaiyin Normal University, Huaian 223300

PBM-72

**Inhibitory Effects of *Sphallerocarpus gracilis* on IgE-induced Degranulation in Rat Basophilic Leukemia Mast Cells and TNF- $\alpha$ - and IFN- $\gamma$ -induced Expression of Chemokines and Cytokines in Human Keratinocytes**

Myungsuk Kim, Eui Jeong Nam, Ahmad Randy, Sue Ji Lim, Chu Won Nho<sup>\*</sup>  
Natural Products Research Center, Korea Institute of Science and Technology

PBM-73

**Expression of the BnPPT gene and BnPPT promoter activity in developing seeds of *Arabidopsis thaliana***

Kyung Hee Roh<sup>\*</sup>, Han-Chul Kang, Jong-Bum Kim, Hyun Uk Kim, Kyeong-Ryeol Lee, Sun Hee Kim  
Department of Agricultural Biotechnology, National Academy of Agricultural Science (NAAS)

PBM-74

**Metabolite profiling based comparison of solid-state and liquid-state fermentation by *Aspergillus Oryzae***

Su Young Son, Eun Sung Jung, Dong Ho Suh, Choong Hwan Lee<sup>\*</sup>  
Department of Bioscience and Biotechnology, Konkuk University

PBM-75

**DetR charging in defense is critical for virulence in *Xanthomonas oryzae* pv. *oryzae***

Sang-Won Lee<sup>\*</sup>, Minh-Phuong Nguyen  
Department of Genetic Engineering and Graduate School of Biotechnology, Kyung Hee University

PBM-76

**Identification of sound wave induced genes in *Arabidopsis thaliana***

Joo Yeol Kim, Hyeon Ju Kim, Soo In Lee, Jin A Kim, Mi Jeong Jeong<sup>\*</sup>  
National Academy of Agricultural Science, RDA, Jeonju 560-500, Korea

PBM-77

**Tomato fruit ripening delayed by sound waves through regulation of ethylene biosynthesis and signaling related genes**

Joo Yeol Kim<sup>1</sup>, Jin Su Lee<sup>2</sup>, Hye Ryun Ahn<sup>1</sup>, Soo In Lee<sup>1</sup>, Jin A Kim<sup>1</sup>, Soo Chul Park<sup>1</sup>, Mi Jeong Jeong<sup>1\*</sup>

<sup>1</sup>National Academy of Agricultural Science, RDA, Jeonju 560-500, Korea, <sup>2</sup>National Institute of Horticultural and Herbal Science, RDA, Wanju-gun, 565-852, Korea

PBM-78

**Transgenic rice plant producing caffeine confers resistance to rice pathogens and triggered the plant immune system**

Jong Chan Park<sup>1,2</sup>, Youngchul Yoo<sup>1,2</sup>, Hyemin Lim<sup>3</sup>, Gang-Seob Lee<sup>3</sup>, Sang-Won Lee<sup>1,2\*</sup>

<sup>1</sup>Department of Plant Molecular Systems Biotechnology & Crop Biotech Institute, Kyung Hee University, Yongin, 446-701, Korea, <sup>2</sup>Graduate School of Biotechnology, Kyung Hee University, Yongin, 446-701, Korea, <sup>3</sup>Genomics Division, National Academy of Agricultural Science, Rural Development Administration, Jeonju, Korea

PBM-79

**The Anti-Photoaging effect of Glycitin**

Ga Young Seo<sup>1</sup>, Young Mee Kim<sup>1</sup>, Phorl Sophors<sup>1</sup>, Mo A Son<sup>2</sup>, Sanggyu Park<sup>3</sup>, Jung-Sik Huh<sup>4</sup>, Moonjae Cho<sup>5\*</sup>

<sup>1</sup>Department of Biochemistry School of Medicine, Jeju National University, <sup>2</sup>Department of Biomaterials, Jeju National University, <sup>3</sup>Division of Life & Environmental Science, Daegu University, <sup>4</sup>Department of Urology, School of Medicine, Jeju National University, <sup>5</sup>Institute of Medical Science, Jeju National University

PBM-80

**The Novel Naphtochalcone Derivative Accelerates Wound Healing Through Induction of EMT of Keratinocyte**

Ga Young Seo<sup>1</sup>, Youngmee Kim<sup>1</sup>, Phorl Sophors<sup>1</sup>, Mo A Son<sup>2</sup>, Dongsoo Koh<sup>3</sup>, Yoongho Lim<sup>4</sup>, Changlim Hyun<sup>5</sup>, Moonjae Cho<sup>6\*</sup>

<sup>1</sup>Department of Biochemistry School of Medicine, Jeju National University, <sup>2</sup>Department of Biomaterials, Jeju National University, <sup>3</sup>Department of Applied Chemistry, Dongduk Women's University, <sup>4</sup>Division of Bioscience and Biotechnology, Konkuk University, <sup>5</sup>Department of Pathology, School of Medicine, Jeju National University, <sup>6</sup>Institute of Medical Science, Jeju National University

PBM-81

**System Establishment for Candidate Selection of Transgenic Rice lines to Produce  $\beta$ -Carotene as GMO Events**

Jin Hwa Kim<sup>1</sup>, Ye-Sol Jeong<sup>1</sup>, Jae-Kwang Kim<sup>2</sup>, Min-Kyoung You<sup>1,3</sup>, Sun-Hwa Ha<sup>1,3\*</sup>

<sup>1</sup>Crop Biotech Institute, Kyung Hee University, Yongin, Korea, <sup>2</sup>Department of Life Science, Incheon National University, Korea, <sup>3</sup>Graduate School of Biotechnology, Kyung Hee University, Yongin, Korea

PBM-82

**Development of a transit peptide derived from a carotenoid enzyme for targeting to the specified-membrane structures in chloroplasts**

Min Kyoung You<sup>1,2</sup>, Jin Hwa Kim<sup>2</sup>, Yeo Jin Lee<sup>1,2</sup>, Ye Sol Jeong<sup>2</sup>, Mi Ran Ko<sup>1,2</sup>, Sun-Hwa Ha<sup>1,2\*</sup>

<sup>1</sup>Graduate School of Biotechnology, Kyung Hee University, Yongin 446-701, Korea, <sup>2</sup>Crop Biotech Institute, Kyung Hee University, Yongin 446-701, Korea

PBM-83

**Exploring the possibility of an OsMYB transcription factor as a tool for terpenoid metabolic engineering in rice plants**

Ye Sol Jeong<sup>1,3</sup>, Min-Kyoung You<sup>1,2</sup>, Mi Ran Ko<sup>1,2</sup>, Dongho Lee<sup>3</sup>, Sun-Hyung Lim<sup>4\*</sup> and Sun-Hwa Ha<sup>1,2\*</sup>

<sup>1</sup>Crop Biotech Institute, Kyung Hee University, Yongin, Korea, <sup>2</sup>Graduate School of Biotechnology, Kyung Hee University, Yongin, Korea, <sup>3</sup>Department of Biosystems and Biotechnology, Korea University, Seoul, Korea, <sup>4</sup>National Academy of Agricultural Science, RDA, Jeonju, Korea

**PBM-84**

**Blockade of dual-specificity phosphatase 28 decreases chemo-resistance and migration in human pancreatic cancer cells**

Jungwhoi Lee<sup>1</sup>, Jeong Hun Yun<sup>1</sup>, Jungsul Lee<sup>2</sup>, Chulhee Choi<sup>2</sup>, Jae Hoon Kim<sup>1,3\*</sup>

<sup>1</sup>Faculty of Biotechnology, College of Applied Life Science, SARI, Jeju National University, Jeju-do 690-756, Korea, <sup>2</sup>Department of Bio and Brain Engineering, KAIST, Daejeon 305-701, Korea, <sup>3</sup>Subtropical Horticulture Research Institute, Jeju National University, Jeju 690-756, Korea

**PBM-85**

**Molecular cloning and characterization of a flavonoid glucosyltransferase, bGT612, from Citrus platymamma Hort, et Tanaka**

Myeong Seung Kim<sup>1</sup>, Dong Shik Yang<sup>1</sup>, Song-I Han<sup>1</sup>, Jeong Hun Yun<sup>1</sup>, Jae Hoon Kim<sup>1,2\*</sup>

<sup>1</sup>Faculty of Biotechnology, College of Applied Life Science, SARI, Jeju National University, Jeju-do 690-756, Korea, <sup>2</sup>Subtropical Horticulture Research Institute, Jeju National University, Jeju 690-756, Korea

**PBM-86**

**Molecular cloning and characterization of flavonoid 7-O-glucosyltransferase gene from Byungkyool (Citrus platymamma Hort, ex, Tanaka)**

Dong Shik Yang<sup>1</sup>, Myeung Seung Kim<sup>1</sup>, Song-I Han<sup>1</sup>, Jung Hun Yun<sup>1</sup>, Jae Hoon Kim<sup>1,2\*</sup>

<sup>1</sup>Faculty of Biotechnology, College of Applied Life Science, SARI, Jeju National University, Jeju-do 690-756, Korea, <sup>2</sup>Subtropical Horticulture Research Institute, Jeju National University, Jeju 690-756, Korea

**PBM-87**

**Functional analysis of a flavonoid glucosyltransferase from Byungkyool (Citrus platymamma, Hort, ex, Tanaka)**

Song-I Han<sup>1</sup>, Jungwhoi Lee<sup>1</sup>, Dong Shik Yang<sup>1</sup>, Myeung Seung Kim<sup>1</sup>, Jae Hoon Kim<sup>1,2\*</sup>

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**PBM-88**

**Involvement of a Chloroplast DNA Repair Protein in the Innate Immune Response of Higher Plants**

Hyesung Jeon, Hye-Yun Lee, Minkyun Kim\*

Dept. Agricultural Biotechnology, Seoul National University, Seoul 151-921, Korea

**PBM-89**

**Positive ABA Responses by a Novel G Protein  $\beta$  Subunit-like Protein in Arabidopsis**

Jaemin Hwang, Sang-Ryoung Park, Minkyun Kim\*

Dept. Agricultural Biotechnology, Seoul National University, Seoul 151-921, Korea

**PBM-90**

**RNA-Seq Based De Novo Transcriptome Profiling of *Phlomis umbrosa* Turcz. Root**

Yeon Bok Kim<sup>\*</sup>, Young-Sub Lee, Siyoon Hwang, Sin-Hee Han, Young-Guk Kim, Seon-Woo Cha,  
Sang-Won Lee  
*Department of Horticultural Crop Research, National Institute of Horticultural and Herbal Science (NIHHS),  
Eumseong, 369-873, Korea*

PBM-91

**Characterization of zoysiagrass (*Zoysia Japonica* Steud.) class II chitinase gene and *Agrobacterium*-mediated transformation for improved resistance against fungal pathogen *Rhizoctonia solani***

Ji-Nam Kang<sup>1</sup>, Mi-Young Par<sup>2</sup>, Hong-Gyu Kang<sup>2</sup>, Hyeon-Jin Sun<sup>2</sup>, Yong-Ik Kwon<sup>2</sup>, Suk-Min Ko<sup>2</sup>, Hyo-Yeon Lee<sup>1,2\*</sup>  
<sup>1</sup>*Faculty of Biotechnology, Jeju National University, Jeju 690-756, Korea,* <sup>2</sup>*Subtropical Horticulture Research Institute, Jeju National University, Jeju, 690-756, Korea*

PBM-92

**Efficient production of d-allose and d-allulose from d-fructose**

Kyoung-Rok Kim, Deok-Kun Oh<sup>\*</sup>  
*Department of Bioscience and Biotechnology, Konkuk University, 1 Hwayang-Dong Gwangjin-Gu, Seoul 143-701, Korea*

PBM-93

**Transcriptional insights into symbiosis signaling network during early establishment of nitrogen fixing nodules in a model legume plant *Medicago truncatula***

Goon-Bo Kim, Seunghoon Baek, Young-Eun Kwon, Ara Cho, Jeong-Hwan Mun<sup>\*</sup>  
*Department of Bioscience and Bioinformatics, Myongji University, Yongin 449-728, Korea*

PBM-94

**Proteomics based recent studies on biotic stress: a review**

Ram Krishna, Ravi Gupta, Chul Woo Min, So Wun Kim, Sun Tae Kim<sup>\*</sup>  
*Department of Plant Bioscience, Pusan National University, Miryang, 627-706, Korea*

PBM-95

**Effect of PDT on the free fatty acid uptake in hepatoma cells**

Solee Jin<sup>1</sup>, Jin-Hyeok Kim<sup>1</sup>, Jung-Eun Kwon<sup>1</sup>, Min-Hye Sin<sup>2</sup>, A-Reum Ryu<sup>3</sup>, Mi-Young Lee<sup>1,3\*</sup>  
<sup>1</sup>*Department of Medical Biotechnology, College of Medical Science, SoonChunHyang University, Asan, Chungnam 336-745, Korea,* <sup>2</sup>*Department of Health Administration and Management, college of Medical Science, SoonChunHyang University, Asan, Chungnam 336-745, Korea,* <sup>3</sup>*Department of Medical Science, College of Medical Science, SoonChunHyang University, Asan, Chungnam 336-745, korea*

PBM-96

**The effect of sulforaphane on steroid sulfatase expression in breast cancer cells**

Yoon-Hye Kim<sup>1</sup>, Won-Ku Yang<sup>1</sup>, Yeon-Jeong Song<sup>1</sup>, Hye-Soo Moon<sup>1</sup>, Da-Young Kim<sup>2</sup>, Min-Joo Kang<sup>3</sup>,  
Mi-Young Lee<sup>1,3\*</sup>  
<sup>1</sup>*Department of Medical Biotechnology, College of Medical Science, SoonChunHyang University, Asan, Chungnam 336-745, Korea,* <sup>2</sup>*Department of Health Administration and Management, college of Medical Science, SoonChunHyang University, Asan, Chungnam 336-745, Korea,* <sup>3</sup>*Department of Medical Science, College of Medical Science, SoonChunHyang University, Asan, Chungnam 336-745, korea*

PBM-97

**Characterization of NADPH-Cytochrome P450 reductase gene from Hot pepper**

Hyun Min Kim, Ga-Young Lee, Ah Young Kim, Se Hee Park, Sang Hoon Ma, Seo Young Park, Ji Sun Park, Mi Jin Jeon, Chul-Ho Yun, Young Hee Joung\*

*Plant Molecular Biology Lab, School of Biological Sciences and Technology, Chonnam National University, Gwangju, 500-757, Korea*

PBM-98

**Foreign Protein Accumulation to Thylakoid lumen using Transit peptides from an oxygen-evolving protein**

Sang Hoon Ma, Ah Young Kim, Se Hee Park, Hyun Min Kim, Seo Young Park, Ji Sun Park, Mi Jin Jeon, Young Hee Joung\*

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PBM-99

**The *Raphanus sativus* L. Genome as a Reference of Radish Biology and Breeding**

Jeong-Hwan Mun<sup>1\*</sup>, Hee-Ju Yu<sup>2</sup>, Namshin Kim<sup>3</sup>, Beom-Seok Park<sup>4</sup>

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PBM-100

**Fragrance Pattern Analysis According to Injection Type and Flowering Stage in *Freesia***

Pue-Hee Park<sup>\*</sup>, Su-Yeoung Kim, Youn-Jung Choi, Yun-Su Baek, Hye-Ryun An, Pil-Man Park, Oh-Kuen Kweon  
*National Institute of Horticultural and Herbal Science(NIHHS), Rural Development Administration, Wanjugun, korea*

PBM-101

**Purification of human carcinoma antigen GA733-2 expressed in *Escherichia coli* and production of its polyclonal antibody in rabbit**

Se Hee Park<sup>1</sup>, Ah-Young Kim<sup>1</sup>, Sang Hoon Ma<sup>1</sup>, Hyun Min Kim<sup>1</sup>, Hyung Sik Kang<sup>1</sup>, Jin-Soo Maeng<sup>2</sup>, Kisung Ko<sup>3</sup>, In Sik Chung<sup>4</sup>, Young Hee Joung<sup>1\*</sup>

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PBM-102

**Determination of the Consensus Sequence for FUS3-Specific Binding by Protein Binding Microarray Analysis**

Yeon-Ki Kim<sup>1</sup>, Baek Hie Nahm<sup>1,2</sup>, Nam Iee Oh<sup>3</sup>, Jong-Joo Cheong<sup>3\*</sup>

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PBM-103

**RNAi Suppression of Seed Storage Proteins in Rice Induces Morphological Change of Subcellular Structure and Delay of Germination Rate**

Kyoungwon Cho, Hye-Jung Lee, Yeong-Min Jo, Jong-Yeol Lee, Sun-Hyung Lim, Young-Mi Kim\*

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PBM-104

**Characterization of a 7,8-Linoleate diol synthase from *Glomerella cingulate***

Min-Ju Seo, Kyung-Chul Shin, Woo-Ri Kang, Jung-Aun An, Deok-Kun Oh\*

*Department of Bioscience and Biotechnology, Konkuk University, Seoul 143-701, Korea*

PBM-105

**Production of 5,8-dihydroxy-9,12,15(Z,Z)-octadecatrienoic acid from  $\alpha$ -linolenic acid by recombinant 5,8-diol synthase from *Aspergillus nidulans***

Min-Ju Seo, Kyung-Chul Shin, Deok-Kun Oh\*

*Department of Bioscience and Biotechnology, Konkuk University, Seoul 143-701, Korea*

PBM-106

**Production of 13-hydroxy-9,15(Z,Z)-octadecadienoic acid from  $\alpha$ -linolenic acid by permeabilized cells of recombinant *Escherichia coli* expressing the linoleate 13-hydratase from *Lactobacillus acidophilus***

Chul-Soon Park, Kyung-Chul Shin, Deok-Kun Oh\*

*Department of Bioscience and Biotechnology, Konkuk University, Seoul 143-701, Korea*

PBM-107

**Characterization of a D- Psicose 3-Epimerase from *Flavonifractor plautii***

Chul-Soon Park, Kyung-Chul Shin, Seung-Hye Hong, Deok-Kun Oh\*

*Department of Bioscience and Biotechnology, Konkuk University, Seoul 143-701, Korea*

PBM-108

**Discovery of a New Type 8,11-Linoleate Diol Synthase from *Penicillium chrysogenum***

Kyung-Chul Shin, Min-Ju Seo, Deok-Kun Oh\*

*Department of Bioscience and Biotechnology, Konkuk University, Seoul, Korea*

PBM-109

**Auto-luminescence of the bacterial luciferase *luxAB* transgenic plants**

Eun Kyung Yoon<sup>1</sup>, Yul Mi Lee<sup>1</sup>, Jin-Hyoung Lee<sup>1</sup>, Yang Qin<sup>1</sup>, Kong-Sik Shin<sup>1</sup>, Hee-Jong Woo<sup>1</sup>, Kangmin Kim<sup>2</sup>, Chan Yong Lee<sup>3</sup>, Myung-Ho Lim<sup>1\*</sup>

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<sup>3</sup>*Department of biochemistry, ChungNam National University, Daejeon, 305-764, Korea*

PBM-110

**Virus-Induced Gene Silencing (VIGS) in Spinach (*Spinacia oleracea* L.)**

Jungmin Lee<sup>1</sup>, Jiwon Kim<sup>1</sup>, Dang Viet Cao<sup>1</sup>, Reniel S. Pamplona<sup>1</sup>, Dong Shik Yang<sup>1</sup>, Myung Seung<sup>1</sup>, Kyung Hwan

Boo<sup>1,2</sup>, Key Zung Riu<sup>1,2\*</sup>

<sup>1</sup>Department of Biotechnology, College of Applied Life Science (SARI), Jeju National University, Jeju 690-756, Korea, <sup>2</sup>Subtropical Horticulture Research Institute, Jeju National University, Jeju 690-756, Korea

**PBM-111**

**Construction of Reference Transcriptome for Spinach (*Spinacia oleracea* L.)**

Dang Viet Cao<sup>1</sup>, Jiwon Kim<sup>1</sup>, Jungmin Lee<sup>1</sup>, Reniel S. Pamplona<sup>1</sup>, Song-I Han<sup>1</sup>, Kyung Hwan Boo<sup>1,2</sup>, Key Zung Riu<sup>1,2\*</sup>

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**PBM-112**

**ToxB Encodes a Canonical GTP Cyclohydrolase II in Toxoflavin Biosynthesis and *ribA* Expression Restored Toxoflavin Production in a *DtoxB* Mutant**

Minae Joo, Hye-Gyeong Yoo, Hyun-Ju Kim, Hyung-Jin Kwon\*

Division of Bioscience and Bioinformatics, Myongji University, Yongin 449-728, Korea

**PBM-113**

**Production of 10-Hydroxy-12,15(*Z,Z*)-octadecadienoic Acid from  $\alpha$ -Linolenic Acid by Permeabilized *Stenotrophomonas nitritireducens* Cells**

Hye-Yeon Choi, Min-Ju Seo, Kyung-Chul Shin, Deok-Kun Oh\*

Department of Bioscience and Biotechnology, Konkuk University, Seoul 143-701, Korea

**PNB**

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**PNB-1**

**Acaricidal Potency of 2-Isopropyl-5-Methylcyclohexanol and Its Structural Analogues against Pyroglyphid Mites**

Hwa-Won Lee, Hoi-Seon Lee\*

Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University, Jeonju 561-756, Korea

**PNB-2**

**Evaluation of Benzaldehyde Derivatives as Anti-mite Agents with Dual Function as Acaricide and Mite Indicator**

Jaeun Song, Ji-Yeon Yang, Hoi-Seon Lee\*

Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University, Jeonju 561-756, Korea

**PNB-3**

**Insecticidal Effects of Essential Oils Derived from Twelve Plants against Stored Grain Insects**

Jaeun Song<sup>1</sup>, Jeong-Moon Kim<sup>2</sup>, Sang-Guei Lee<sup>3</sup>, Hoi-Seon Lee<sup>1\*</sup>

<sup>1</sup>Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University, Jeonju 561-756, Korea, <sup>2</sup>Department of Landscape Architecture, College of Agriculture & Life Sciences, Chonbuk National University, Jeonju 561-756, Korea, <sup>3</sup>Crop Protection Division, Department of Crop Life Safety, National Academy of Agricultural Science, Wanju-gun 565-851, Korea

PNB-4

**Insecticidal Constituent from *Ruta graveolens* and Structure–Activity Relationship Studies against Stored–Food Pests**

Jaeun Song<sup>1</sup>, Jeong-Moon Kim<sup>2</sup>, Sang-Guei Lee<sup>3</sup>, Hoi-Seon Lee<sup>1\*</sup>

<sup>1</sup>Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University, Jeonju 561-756, Korea, <sup>2</sup>Department of Landscape Architecture, College of Agriculture & Life Sciences, Chonbuk National University, Jeonju 561-756, Korea, <sup>3</sup>Crop Protection Division, Department of Crop Life Safety, National Academy of Agricultural Science, Wanju-gun 565-851, Korea

PNB-5

**Naturally Occurring Naphthalenedione and Its Structurally Related Analogs Show Larvicidal Toxicities against Three Mosquito Species**

Jaeun Song, Hoi-Seon Lee\*

Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University, Jeonju 561-756, Republic of Korea

PNB-6

**Larvicidal Activities of 5–Hydroxy–2–Methyl–1,4–Naphthoquinone Isolated from *Diospyros Kaki* against *Aedes aegypti*, *Culex pipiens pallens*, and *Ochlerotatus togoi***

Jaeun Song, Hoi-Seon Lee\*

Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University, Jeonju 561-756, Korea

PNB-7

**Antimicrobial Activities of Active Component Isolated from *Lawsonia inermis* Leaves and Structure–activity Relationships of Its Analogues against Food–borne Bacteria**

Jaeun Song, Hoi-Seon Lee\*

Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University, Jeonju 561-756, Korea

PNB-8

**Methylbenzylaldehyde Derivatives as Acaricide and Mite Killer with Fumigant and Contact Action against Stored–Food Mites**

Hwa-Won Lee, Jaeun Song, Hoi-Seon Lee\*

Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University, Jeonju 561-756, Korea

PNB-9

**Antimicrobial Effects of *Platycladus orientalis* oil against Intestinal Bacteria and Its Chemical Analysis**

Jaeun Song, Hoi-Seon Lee\*

Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University, Jeonju 561-756, Korea

PNB-10

**Mechanisms of autophagy and apoptosis triggered by mimulone in A549 human lung cancer cells**

Hyung-In Moon<sup>1\*</sup>, Yonug-Tak Kim<sup>1</sup>, Soo-Ki Kim<sup>2</sup>

<sup>1</sup>Department of Medicinal Biotechnology, Dong-A University, <sup>2</sup>Department of Animal Sciences & Environment, Kon-Kuk University

PNB-11

**Serum lipidotyping in high-fat diet induced obese mice for the evaluation of the pharmacological effect of compound K**

Kwang-Hyeon Liu<sup>1\*</sup>, Jong Cheol Shon<sup>1</sup>, Heungsop Shin<sup>2</sup>

<sup>1</sup>College of Pharmacy, Kyungpook National University, <sup>2</sup>Department of Chemical Engineering & Biotechnology, Korea Polytechnic University

PNB-12

**Determination of the Ratio between Two Types of Prostate Specific Antigens for Prostate Cancer Diagnosis by Using LDI-TOF MS and Gold Nanoparticles**

Minyoung Yoo, Jungchan Nam, Woon-Seok Yeo<sup>\*</sup>

Department of Bioscience and Biotechnology, Bio/Molecular Informatics Center, Konkuk University, Seoul

PNB-13

**Chemical Composition and Biological Activity of 23 *Curcuma* species**

Supawadee Burapan<sup>1,2</sup>, Mihyang Kim<sup>1,2</sup>, Jaeun Hwang<sup>1,2</sup>, Hailong Wu<sup>1,2</sup>, Jaehong Han<sup>1,2\*</sup>

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PNB-14

**Exportation Model for the Korean Ginseng Product to China**

Seungho Lee<sup>1,2</sup>, Jaeun Hwang<sup>2,3</sup>, Mihyang Kim<sup>2,3</sup>, Nan Jiang<sup>1,2</sup>, Supawadee Burapan<sup>2,3</sup>, Hailong Wu<sup>2,3</sup>, Jaehong Han<sup>2,3\*</sup>

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PNB-15

**Ginseng Database: Health Promoting Effects of Ginseng Published in the Scientific Journals is Available for Public**

Mihyang Kim<sup>1,2</sup>, Jaeun Hwang<sup>1,2</sup>, Supawadee Burapan<sup>1,2</sup>, Hailong Wu<sup>1,2</sup>, Jaehong Han<sup>1,2\*</sup>

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PNB-16

**Immunomodulatory Effects of Orally-administered Astragali Radix Water Extract on macrophage and T cell Responses in Mice**

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PNB-17

**Anti-inflammatory Activities of Taxifolin from *Opuntia humifusain* Lipopolysaccharide Stimulated RAW264.7 Murine Macrophages**

Jaeyoung Kim, Yonghwa Lee, Yongsu Yi\*

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PNB-18

**Cytotoxicities of combined polyphenols of resveratrol and chalcone**

Youngshim Lee<sup>1</sup>, Seunghyun Ahn<sup>1</sup>, Yearam Jung<sup>1</sup>, Hyeryoung Jung<sup>1</sup>, Jihyun Im<sup>1</sup>, Hyeok Lee<sup>1</sup>, Kyungrai Kang<sup>1</sup>, Dongsoo Koh<sup>2\*</sup>, Kang-Yeoun Jung<sup>3</sup>, Yoongho Lim<sup>1\*</sup>

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PNB-19

**<sup>1</sup>H and <sup>13</sup>C NMR spectral assignments of chalcones with benzothiazepine moiety**

Seunghyun Ahn<sup>1</sup>, Hyeryoung Jung<sup>1</sup>, Yearam Jung<sup>1</sup>, Jihyun Im<sup>1</sup>, Hyeok Lee<sup>1</sup>, Kyungrai Kang<sup>1</sup>, Dongsoo Koh<sup>2\*</sup>, Kang-Yeoun Jung<sup>3</sup>, Yoongho Lim<sup>1\*</sup>

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PNB-20

**Holo QSAR between flavones and their inhibitory effects on glycogen synthase kinase 3β**

Yearam Jung<sup>1</sup>, Hyeryoung Jung<sup>1</sup>, Seunghyun Ahn<sup>1</sup>, Jihyun Im<sup>1</sup>, Hyeok Lee<sup>1</sup>, Kyungrai Kang<sup>1</sup>, Dongsoo Koh<sup>2\*</sup>, Kang-Yeoun Jung<sup>3</sup>, Yoongho Lim<sup>1\*</sup>

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PNB-21

**<sup>1</sup>H and <sup>13</sup>C NMR spectral assignments of flavonols**

Yearam Jung<sup>1</sup>, Seunghyun Ahn<sup>1</sup>, Hyeryoung Jung<sup>1</sup>, Jihyun Im<sup>1</sup>, Hyeok Lee<sup>1</sup>, Kyungrai Kang<sup>1</sup>, Dongsoo Koh<sup>2\*</sup>, Kang-Yeoun Jung<sup>3</sup>, Yoongho Lim<sup>1\*</sup>

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PNB-22

**<sup>1</sup>H and <sup>13</sup>C NMR spectral assignments of 19 novel polymethoxylated diphenyl-naphthylpyrazolinyl-carbothioamides**

Hyeryoung Jung<sup>1</sup>, Seunghyun Ahn<sup>1</sup>, Yearam Jung<sup>1</sup>, Jihyun Im<sup>1</sup>, Hyeok Lee<sup>1</sup>, Kyungrai Kang<sup>1</sup>, Dongsoo Koh<sup>2\*</sup>, Kang-Yeoun Jung<sup>3</sup>, Yoongho Lim<sup>1\*</sup>

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PNB-23

**Flavonoid showing the AMPK activation, kaempferide**

Hyeryoung Jung<sup>1</sup>, Yearam Jung<sup>1</sup>, Seunghyun Ahn<sup>1</sup>, Jihyun Im<sup>1</sup>, Hyeok Lee<sup>1</sup>, Kyungrai Kang<sup>1</sup>, Dongsoo Koh<sup>2\*</sup>, Kang-Yeoun Jung<sup>3</sup>, Yoongho Lim<sup>1\*</sup>

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PNB-24

**Green synthesis of silver nanoparticles using *Zea mays* hair extract and investigation of its antibacterial and antioxidant potential: A novel approach towards waste utilization**

Jayanta Kumar Patra, Kwang-Hyun Baek\*

*School of Biotechnology, Yeungnam University*

PNB-25

**Triazole-linked-D-fructoses showing sialidase inhibitory effect**

Kang-Yeoun Jung\*, Tae-Woo Kim

*Department of Biochemical Engineering, Gangneung-Wonju National University*

PNB-26

**Inhibition of *Candida albicans* Morphological Transition by Phorbacin H Isolated from *Phorbas* sp.**

Eun ji Cho, Chan Hong Ahn, Ki-Bong Oh\*

*Department of Agricultural Biotechnology, College of Agriculture and Life Sciences, Seoul National University*

PNB-27

**Quercetin derivative (5,3'-dihydroxy-3,7,4'-triethoxyflavone) induces apoptosis in human colon cancer HCT 116 cells**

Imran Khan<sup>1</sup>, Souren Paul<sup>1</sup>, Youngrong Park<sup>2</sup>, Jaehong Han<sup>2</sup>, Sun Chul Kang<sup>1\*</sup>

<sup>1</sup>Department of Biotechnology, Daegu University, <sup>2</sup>Metalloenzyme Research Group, College of Biotechnology and Natural Resources, Chung-Ang University

PNB-28

**Chemical composition, antibacterial and antioxidant activities of essential oil and extracts of *Lippia alba***

Atiqur Rahman, Anil Kumar Chauhan, Souren Paul, Sun Chul Kang\*

*Department of Biotechnology, Daegu University*

PNB-29

**Modulation of cigarette smoke induced apoptosis by morin hydrate in the rat respiratory system**

Rekha Jakhar, Souren Paul, Monika Bhardwaj, Sun Chul Kang\*

*Department of Biotechnology, Daegu University*

PNB-30

**Bioactive packaging using polyethylene (PE) film coated with antimicrobial leaf extract of *Metasequoia glyptostroboides* Miki ex Hu to extend self life of grapes (*Vitis vinifera* L.)**

Ashutosh Bahuguna, Anil Kumar Chauhan, Souren Paul, Sun Chul Kang\*

*Department of Biotechnology, Daegu University*

PNB-31

**5, 3'-Dihydroxy-3, 7, 4'-trimethoxyflavone; an alkyl quercetin derivative induced mitochondrial apoptosis in HCT-116 colon cancer cells**

Mahendra Pal Singh<sup>1</sup>, Souren Paul<sup>1</sup>, Youngrong Park<sup>2</sup>, Jaehong Han<sup>2</sup>, Sun Chul Kang<sup>1\*</sup>

<sup>1</sup>Department of Biotechnology, Daegu University, <sup>2</sup>Metalloenzyme Research Group, College of Biotechnology and Natural Resources, Chung-Ang University

PNB-32

**Aflatoxin B1 induces macrophage activation via TLR4–Myd88 dependent pathway**

Souren Paul, Rekha Jakhar, Monika Bhardwaj, Sun Chul Kang\*

Department of Biotechnology, Daegu University

PNB-33

**Vitexin activates intracellular reactive oxygen species and promotes autophagy mediated cell death in HCT-116 human colon carcinoma cell line**

Monika Bhardwaj, Souren Paul, Rekha Jakhar, Sun Chul Kang\*

Department of Biotechnology, Daegu University

PNB-34

**Isolation and Biological Activity of Suvanine Sesterterpenes and Deacyl Irciniasulfonic Acid from a Tropical *Coscinoderma* sp. Sponge**

Beom Koo Chung<sup>1</sup>, Chang-Kwon Kim<sup>2</sup>, Yeon-Ju Lee<sup>3</sup>, Hyi-Seung Lee<sup>3</sup>, Jongheon Shin<sup>2</sup>, Ki-Bong Oh<sup>1\*</sup>

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PNB-35

**Inhibition of *Candida albicans* Isocitrate Lyase Activity by Cadiolides and Synoilides from the Ascidian *Synoiicum* sp.**

Wanki Park<sup>1</sup>, Tae Hyung Won<sup>2</sup>, Jongheon Shin<sup>2\*</sup>, Ki-Bong Oh<sup>1\*</sup>

<sup>1</sup>Department of Agricultural Biotechnology, College of Agriculture & Life Science, Seoul National University, <sup>2</sup>Natural Products Research Institute, College of Pharmacy, Seoul National University

PNB-36

**Isoflavone metabolism leading by the Human Intestinal Bacteria**

Mihyang Kim, Jaeun Hwang, Jaehong Han\*

Metalloenzyme Research Group and Department of Integrative Plant Science, Chung-Ang University

PNB-37

**Antimicrobial activity of essential oil of Armeniaceae Semen**

Yu-Hong Min\*

College of Herbal Bio-Industry, Daegu Haany University, Gyeongsan, 712-715, Korea

PNB-38

**Armeniaceae Semen essential oil inhibits melanin biosynthesis**

Yu-Hong Min\*

College of Herbal Bio-Industry, Daegu Haany University, Gyeongsan, 712-715, Korea

PNB-39

**Isolation and Identification of Phytochemical Constituents from *Lespedeza cuneata***

Dong Gu Lee, Chun Geon Park, Young Sup Ahn, Yusu Shin\*

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

PNB-40

**LC-MS based Screening and Structure Analysis of Novel Secondary Metabolites from Marine Strain**

Woo Jung Kim<sup>1\*</sup>, Young Ok Kim<sup>2</sup>, Hye Min Lee<sup>1</sup>, Jong Suk Lee<sup>1</sup>

*<sup>1</sup>Analysis Support Team, Gyeonggi Institute of Science & Technology Promotion, <sup>2</sup>Biotechnology Research Division, National Fisheries Research and Development Institute*

PNB-41

**Identification of Saponins in *Achyranthis Radix* by High Resolution Orbitrap MS**

Dae-Min Bak, Si Hyung Park\*

*Department of Oriental Medicine Resources and Institute for Traditional Korean Medicine Industry, Mokpo National University, Muan 534-729, Korea*

PNB-42

**Comparison of Saponins in *Achyranthis Radix* by HPLC-ESI-MS**

Gun-Woong Joe, Hui Kim, Si Hyung Park\*

*Department of Oriental Medicine Resources and Institute for Traditional Korean Medicine Industry, Mokpo National University, Muan 534-729, Korea*

PNB-43

**Antioxidant activity of rice bran after fermented with *Monascus pilosus* KCCM60084**

Jinhua Cheng<sup>1,2</sup>, Bong-Keun Choi<sup>2</sup>, Seung Hwan Yang<sup>2,3\*</sup>, Joo-Won Suh<sup>4,5\*</sup>

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PNB-44

**Antioxidant and Lifespan Extension Activities of Red bean sprouts**

Eun Byeol Lee<sup>1</sup>, Jun Hyeong Kim<sup>1</sup>, Youn-Soo Cha<sup>2</sup>, Mina Kim<sup>2</sup>, Seuk Bo Song<sup>3</sup>, Dae Keun Kim<sup>1\*</sup>

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PNB-45

**Lifespan Extension Property of Vitexin from *Vigna angularis* in *Caenorhabditis elegans***

Eun Byeol Lee<sup>1</sup>, Jun Hyeong Kim<sup>1</sup>, Youn-Soo Cha<sup>2</sup>, Mina Kim<sup>2</sup>, Seuk Bo Song<sup>3</sup>, Dae Keun Kim<sup>1\*</sup>

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PNB-46

**Suppressing activities of *Streptomyces* culture extracts on *Pectobacterium carotovorum* pv. *carotovorum***

Jinho Jeong<sup>1</sup>, Seunghwan Kim<sup>1</sup>, In-Ae Lee<sup>2</sup>, Jinhua Cheng<sup>2</sup>, Joo-Won Suh<sup>2</sup>, Lin-Woo Kang<sup>3</sup>, Choong Hwan Lee<sup>4</sup>, Eun Sung Jung<sup>4</sup>, Jeong-Gu Kim<sup>1\*</sup>

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PNB-47

**Chemotaxonomy analysis of Korean mistletoe types and their activity relative oleanolic acid contents**

Hyuk-Hwan Song<sup>1</sup>, Hyung Won Ryu<sup>2</sup>, Hui-Seong Kim<sup>2</sup>, Doo-Young Kim<sup>2</sup>, Chan-Soo Kim<sup>3</sup>, Sei-Ryang Oh<sup>2\*</sup>

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PNB-48

**Phytochemicals of *Gnaphalium affine* and Their Anti-inflammatory Activity**

Ki Ohk Kim<sup>1</sup>, Yhun Jung Park<sup>1</sup>, Ju Hyeon An<sup>1</sup>, Hyung Won Ryu<sup>1</sup>, Hyuk-Hwan Song<sup>2</sup>, Doo Young Kim<sup>1</sup>, Sei-Ryang Oh<sup>1\*</sup>

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PNB-49

**Identification of secondary metabolites from the fruit of *Paulownia tomentosa***

Yhun Jung Park<sup>1</sup>, Ki Ohk Kim<sup>1</sup>, Hyung Won Ryu<sup>1</sup>, Hyuk-Hwan Song<sup>2</sup>, Doo Young Kim<sup>1</sup>, Sei-Ryang Oh<sup>1\*</sup>, Ju Hyeon An<sup>1</sup>

<sup>1</sup>Natural Medicine Research Center, Korea Research Institute of Bioscience & Biotechnology (KRIBB), <sup>2</sup>Research Development Team, Agency for Korea National Food Cluster (AnFC)

PNB-50

**Comparative assessment of compositional components from *Agastache rugosa* Kuntze**

Ju Hyeon An<sup>1,2</sup>, Hyung Won Ryu<sup>1</sup>, Yhun Jung Park<sup>1</sup>, Ki Ohk Kim<sup>1</sup>, Doo Young Kim<sup>1</sup>, Dongho Lee<sup>2</sup>, Sei-Ryang Oh<sup>1\*</sup>

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PNB-51

**Selection of discriminant markers for authentication of *Pinellia ternata* by fingerprints and their anti-tyrosinase activity**

Hyung Won Ryu, Ju Hyeon An, Yhun Jung Park, Ki Ohk Kim, Doo Young Kim, Sei-Ryang Oh<sup>\*</sup>

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PNB-52

**Metabolomics investigation of seasonal phytochemical changes in *Camellia sinensis* leaves**

Hyung Won Ryu<sup>1</sup>, Hyuk-Hwan Song<sup>2</sup>, Heung Joo Yuk<sup>1</sup>, Ju Hyeon An<sup>1</sup>, Doo-Young Kim<sup>1</sup>, Sei-Ryang Oh<sup>1\*</sup>

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**PNB-53**

**Phenolics and Monoterpene from the flowers of *Brugmansia arborea***

Hyoung Geun Kim, Jung Hwa Kwon, Eun Ji Oh, Eun Mi Ahn, Youn Hyung Lee, Nam In Baek\*

*Graduate School of Biotechnology & Department of Oriental Medicine Biotechnology, Kyung Hee University*

**PNB-54**

**Dineolignans from *Magnolia obovata* Fruits**

Kyeong Hwa Seo<sup>1</sup>, Dae Young Lee<sup>2</sup>, Nhan Nguyen Thi<sup>1</sup>, Nam In Baek<sup>1\*</sup>

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**PNB-55**

**Neuroprotective effect of prenylated arylbenzofuran and flavonoids from *Morus alba* fruits of on glutamate-induced oxidative injury in HT22 cells**

Nhan Nguyen Thi<sup>1</sup>, Kyoung Hwa Seo<sup>1</sup>, Dong Sung Lee<sup>2</sup>, Young Eon Kim<sup>3</sup>, Dong Man Kim<sup>3</sup>, Eock Kee Hong<sup>4</sup>, Youn Chul Kim<sup>2</sup>, Nam In Baek<sup>1\*</sup>

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**PNB-56**

**Flavonoids from The Roots of *Sedum kamtschaticum***

Yeong Geun Lee<sup>1</sup>, Kyoung Hwa Seo<sup>1</sup>, Eun Ji Oh<sup>1</sup>, Nhan Nguyen Thi<sup>1</sup>, Hee Cheol Kang<sup>2</sup>, Nam In Baek<sup>1\*</sup>

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**PNB-57**

**Establishment of purification process of melanin from by *Kitasatospora* sp. DG09 and its structural characteristics**

Eun Ji Oh<sup>1</sup>, Jung Hwa Kwon<sup>1</sup>, Na Young Song<sup>1</sup>, Su Yeon Kim<sup>1</sup>, Seo Ji In<sup>1</sup>, Dong Geol Lee<sup>2</sup>, Hee Cheol Kang<sup>2</sup>, Youn Hyung Lee<sup>1</sup>, Nam In Baek<sup>1\*</sup>

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**PNB-58**

**Chronic treatment of Pentamethoxyflavone (PMF) increased basal H<sub>2</sub>S release of the thoracic aorta of middle-aged male rats**

Chaweewan Jansakul<sup>1\*</sup>, Somruedee Yorsin<sup>2</sup>, Kanyanatt Kanokwirun<sup>3</sup>

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PNB-59

**Mechanism of 1-hydroxy-2-hydroxymethylantraquinone purified from *Coptosapelta flavescens* against *G. intestinalis* cell cycle and attachment to Caco-2 cell line**

Nongyao Sawangjaroen<sup>1\*</sup>, Kruawan Hounkong<sup>1</sup>, Wipapan Kongyen<sup>2</sup>, Vatcharin Rukachaisirikul<sup>3</sup>

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PNB-60

**Encapsulation of Capsaicin with a maleated poly(vinyl alcohol)-g-gelatin**

Sa-Ad Riyajan<sup>1\*</sup>, Wattana Sukhlaaied<sup>2</sup>

<sup>1</sup>Department of Materials Science and Technology, Faculty of Science and Natural Product Research Center of Excellence, Prince of Songkla University, Thailand, <sup>2</sup>Department of Material Science and Technology, Faculty of Science and Natural Product Research Center of Excellence, Prince of Songkla University, Thailand

PNB-61

**Antifungal potential of *Streptomyces* sp. AC51 against fungal contaminants of natural rubber sheets**

Souwalak Phongpaichit<sup>1\*</sup>, Sirinut Duangsook<sup>2</sup>, Morakot Kaewpet<sup>3</sup>, Vatcharin Rukachaisirikul<sup>3</sup>, Aran H-Kittikun<sup>4</sup>, Saranyoo Klaiklay<sup>5</sup>

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PNB-62

**Chemical constituents from the bulbs of *Crinum amabile***

Kanda Panthong<sup>1\*</sup>, Wichuda Laksanapiya<sup>2</sup>

<sup>1</sup>Department of Chemistry, Faculty of Science and Natural Products Research Center of Excellence, Prince of Songkla University, Thailand, <sup>2</sup>Department of Chemistry, Faculty of Science, Prince of Songkla University, Thailand

PNB-63

**Antioxidant activity of extracts and flavonoid constituents from *Albizia myriophylla* Benth**

Nantiya Joycharat<sup>1\*</sup>, Chancheera Boonma<sup>2</sup>, Chonlatid Sontimuang<sup>2</sup>, Supayang Voravuthikunchai<sup>3</sup>

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PNB-64

**Chemical Constituents from the Twigs of *Feronia limonia***

Suda Chakthong<sup>1\*</sup>, Suwaibah Madmanang<sup>2</sup>, Hafira Siseng<sup>2</sup>

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PNB-65

**Engineering of the (-)- $\alpha$ -Bisabolol Production in Plant Epidermal Cell**

Ah-Reum Lee<sup>1</sup>, Young-Jin Son<sup>1</sup>, Moon Hyuk Kwon<sup>1,2</sup>, Dae-Kyun Ro<sup>2</sup>, Soo-Un Kim<sup>1,3\*</sup>

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PNB-66

**Anti-quorum sensing potential of certain phytochemicals against *Pseudomonas aeruginosa***

Khadar Syed Musthafa<sup>1</sup>, Jongkon Saising<sup>1,2</sup>, Supayang Piyawan Voravuthikunchai<sup>1,3\*</sup>

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PNB-67

**Evaluation of antibacterial activity of Thai herbal formulation (THF-GI003) traditionally used for gastrointestinal infections against diarrhoea-causing bacteria**

Surasak Limsuwan<sup>\*</sup>, Siriporn Jarukitsakul

Faculty of Traditional Thai Medicine and Excellent Research Laboratory on Natural Products and Natural Product Research Center of Excellence, Prince of Songkla University, Thailand

PNB-68

**Antibacterial activity of lupinifolin against pathogenic bacteria of upper respiratory tract**

Wipawadee Sianglum<sup>1\*</sup>, Nantiya Joycharat<sup>2</sup>, Kanitta Muangngam<sup>1</sup>, Chatchai Funoi<sup>1</sup>,  
Thanaporn Sinlapateeratom<sup>1</sup>, Sunisa Ammarin<sup>1</sup>, Anassaya Lemkoon<sup>1</sup>

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PNB-69

**Antifungal activity of marine-derived actinomycetes against fungal diseases of rice and Para rubber**

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PNB-70

***Entamoeba histolytica*: ultrastructural alteration cause by 1-hydroxy-2-hydroxymethylantraquinone purified from *Coptosapelta flavescens***

Kruawan Hounkong<sup>1</sup>, Nongyao Sawangjaroen<sup>1\*</sup>, Wipapan Kongyen<sup>2</sup>, Vatcharin Rukachaisirikul<sup>3</sup>

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PNB-71

**Lipid-Lowering Effects of Ivy Gourd (*Coccinia grandis* L. Voigt) Root in Mice Fed a High-Fat Diet**  
Ruthaiwan Bunkrongcheap<sup>1</sup>, Inafuku Masashi<sup>2</sup>, Oku Hirotsuke<sup>2</sup>, Nongporn Hutadilok-towatana<sup>1\*</sup>,  
Chatchai Wattanapiromsakul<sup>3</sup>

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PNB-72

**Effects of *Houttuynia cordata* water extract on vaginal innate immunity**

Surada Satthakarn<sup>1</sup>, Florian Hladik<sup>2</sup>, Aornrutai Promsong<sup>3</sup>, Wipawee Nittayananta<sup>4\*</sup>

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PNB-73

**The use of secondary metabolite profiling in chemotaxonomy of spider-associated fungus *Akanthomyces Wilawan Kuephadungphan***<sup>1\*</sup>, Souwalak Phongpaichit<sup>1</sup>, Jennifer Luangsa-ard<sup>2</sup>, Vatcharin Rukachaisirikul<sup>3</sup>, Marc Stadler<sup>4</sup>

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PNB-74

**Rhodomyrton as a potential antiproliferative and apoptosis inducing agent in HaCaT keratinocyte cells**  
Supayang Piyawan Voravuthikunchai<sup>1\*</sup>, Julalak Chorachoo<sup>1</sup>, Teerapol Srichana<sup>2</sup>, Thanaporn Amnuaikit<sup>2</sup>

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PNB-75

**Ellagic acid inhibits HIV-1 infection in vitro: Potential role as a novel microbicide**

Wipawee Nittayananta<sup>1\*</sup>, Aornrutai Promsong<sup>2</sup>, Thippawan Chuenchitra<sup>3</sup>, Surada Satthakarn<sup>4</sup>

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PNB-76

**Improvement of  $\gamma$ -aminobutyric acid production by fermentation with lactic acid bacteria**

Eun Hye Jang, Se Ah Kim, Hye Seon Park, Woo Kyeong Kim, Hyung Joo Kim, Hyun Jeong Soon, Young Geol Yoon<sup>\*</sup>

Department of Biomedical Science, Jungwon University

PNB-77

**Chemotaxonomic Classification of Traditional Indigenous Plant Species Based on Metabolomic Approaches**

Sarah Lee<sup>1</sup>, Dong Gu Oh<sup>2</sup>, Ga Ryun Kim<sup>1</sup>, Jong Seok Lee<sup>1</sup>, Youn Kyoung Son<sup>1</sup>, Chang-Hwan Bae<sup>1</sup>, JooHong Yeo<sup>1</sup>, Sunmin Lee<sup>2</sup>, Choong Hwan Lee<sup>2\*</sup>

<sup>1</sup>Biological and Genetic Resources Assessment Division, National Institute of Biological Resources, Incheon 404-708, Korea, <sup>2</sup>Department of Bioscience and Biotechnology, Konkuk University, Seoul 143-701, Korea

PNB-78

**Characterization for the Immobilized  $\alpha$ -Amylase for *Exiguobacterium* sp. DAU5**

Shu-Jun Fang<sup>1,2</sup>, Je-Hoon Lee<sup>1</sup>, Eun-Jung Hwang<sup>1</sup>, Yong-Suk Lee<sup>1</sup>, Yong-Lark Choi<sup>1\*</sup>

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PNB-79

**Isolation and Characterization of Carbohydrate Esterase from *Microbulbifer thermotolerans* DAU221**

Eun-Jung Hwang, Yong-Suk Lee, Je-Hoon Lee, Hyo-Jung Lee, Yong-Lark Choi<sup>\*</sup>

Department of Biotechnology, Dong-A University, Busan 604-714, Korea

PNB-80

**Characterization of maltotriose by hydrolyzing of soluble starch with  $\alpha$ -amylase from *Microbulbifer thermotolerans* DAU221**

Yong-Suk Lee, Je-Hoon Lee, Eun-Jung Hwang, Hyo-Jung Lee, Yong-Lark Choi<sup>\*</sup>

Department of Biotechnology, Dong-A University, Busan 604-714, Korea

PNB-81

**Characterization of a novel ocean-derived Cellulophaga fucicola DAU203 degrading cypermethrin in saline condition**

Je-Hoon Lee, Yong-Suk Lee, Eun-Jung Hwang, Hyo-Jung Lee, Yong-Lark Choi<sup>\*</sup>

Department of Biotechnology, Dong-A University, Busan 604-714, Korea

PNB-82

**Tyrosinase inhibitory activities of meso-dihydroguaiaretic acid from *Machilus thunbergii***

Hyun Sook Kwon<sup>1</sup>, Joon Yeop Lee<sup>1</sup>, Yun Ju Kwon<sup>1</sup>, Ji Eun Park<sup>1</sup>, Bomi Kim<sup>1</sup>, Soo Jeong Cho<sup>2\*</sup>

<sup>1</sup>Natural Products Bank, Korea Promotion Institute for Traditional Medicine Industry, <sup>2</sup>Department of Pharmaceutical Engineering, Gyeongnam National University of Science and Technology

PNB-83

**Tyrosinase inhibitory activities of safrole from *Myristica fragrans* Houtt**

Hyun Sook Kwon<sup>1</sup>, Soo Jeong Cho<sup>2</sup>, Hanna Lee<sup>1</sup>, Hyun Hee Leem<sup>1</sup>, Soo Hyun Kim<sup>1</sup>, Ki Hun Park<sup>3\*</sup>

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PNB-84

**Fermentation enhances antioxidative effects of Gentianae Scabrae Radix via increase in**

**deglycosyltrifloroside content**

Ju Gyeong Lee, Ju Hee An, Eun A Choi, Seo Hyun Kim, Joon Hyouk Moon, Kyung Sik Song\*

Research Institute of Pharmaceutical Sciences, Department of Pharmacy, Kyungpook National University

PNB-85

**Changes in Contents of Major Phenolic Compounds in *Crepidiastrum denticulatum* in Different Growth and Harvest Conditions**

Sang-Bin Oh<sup>1,2</sup>, Hee Ju Lee<sup>1</sup>, Song-Yi Park<sup>3,4</sup>, Jin-Hui Lee<sup>3,4</sup>, Ji-Hoon Bae<sup>3,4</sup>, Myung-Min Oh<sup>3,4</sup>, Sang Min Kim<sup>1\*</sup>

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PNB-86

**Quantification of Pectolinarin in the Genus *Cirsium* Using HPLC/UV Analysis**

Yoon Kyoung Lee<sup>1</sup>, Sunghun Cho<sup>1</sup>, Jaemin Lee<sup>1</sup>, Sanghoon Yang<sup>1</sup>, Kang Hee Lee<sup>1</sup>, Jai Souk Sim<sup>2</sup>, Sanghyun Lee<sup>1\*</sup>

<sup>1</sup>Department of Integrative Plant Science, Chung-Ang University, <sup>2</sup>Herbal Medicine, Imsil Herbal Medicine

PNB-87

**Content Analysis of  $\alpha$ - and  $\gamma$ -Linolenic Acids in the Seeds of *Perilla frutescens* var. *japonica***

Jaemin Lee<sup>1</sup>, Sunghun Cho<sup>1</sup>, Sanghoon Yang<sup>1</sup>, Myoung-Hee Lee<sup>2</sup>, Eun Ju Cho<sup>3</sup>, Sanghyun Lee<sup>1\*</sup>

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PNB-88

**Analysis of Agstragalin Content in the Genus *Aster* by High-Performance Liquid Chromatography**

Sanghoon Yang<sup>1</sup>, Jaemin Lee<sup>1</sup>, Sunghun Cho<sup>1</sup>, Eun Ha Kim<sup>2</sup>, Yeon Kwon Jung<sup>2</sup>, Kung-Woo Nam<sup>3</sup>, Sanghyun Lee<sup>1\*</sup>

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PNB-89

**Anticancer Effects of the Lemon Leaf Extract in MCF-7-SC Human Breast Cancer Stem Cells**

Jeong Yong Moon<sup>1</sup>, Somi Kim Cho<sup>2\*</sup>

<sup>1</sup>Subtropical Horticulture Research Institute, Jeju National University, Jeju 690-756, Republic of Korea, <sup>2</sup>Faculty of Biotechnology, College of Applied Life Sciences, Jeju National University, Jeju 690-756, Republic of Korea

PNB-90

**Isolation and Identification of Phenolic Compounds from the Fruits of *Prunus davidiana* (Carriere) Franch**

Min-Ji Lee<sup>1</sup>, Ji-Hye Kim<sup>1</sup>, Kyung-Hwa Seo<sup>2</sup>, Youn-Hyung Lee<sup>1\*</sup>, Nam-In Baek<sup>3</sup>

<sup>1</sup>Functional material and metabolic engineering laboratory, Department of Horticultural Biotechnology, Kyung-Hee University, Yongin 446-701, <sup>2</sup>Natural products chemistry laboratory, Department of Oriental Medicine Biotechnology, Kyung-Hee University, Yongin 446-701, <sup>3</sup>Natural products chemistry laboratory, Graduate School of Biotechnology, Kyung-Hee University, Yongin 446-701

PNB-91

**Comparison of *Zingiber mioga* and *officinale* with Their Plant and Root Part through MS-Based Metabolite Profiling and Bioactivities**

Ji Soo Han, Hyang Yeon Kim, Choong Hwan Lee\*

*Department of Bioscience and Biotechnology, Konkuk University*

PNB-92

**Content Analysis of Rutin in the Leaves of *Boehmeria nivea* by HPLC/UV**

Sunghun Cho<sup>1</sup>, Sanghoon Yang<sup>1</sup>, Jaemin Lee<sup>1</sup>, Yong-Su Jung<sup>2</sup>, Ho Bang Kim<sup>3</sup>, Eun Ju Cho<sup>4</sup>, Sanghyun Lee<sup>1\*</sup>

<sup>1</sup>*Department of Integrative Plant Science, Chung-Ang University, <sup>2</sup>Agricultural Technology Center, Yeong-Gwang Agricultural Technology Center, <sup>3</sup>Life Sciences Research Institute, Biomedic Co. Ltd.,*

<sup>4</sup>*Department of Food Science and Nutrition, Pusan National University*

PNB-93

**Antioxidant activity of hot-water extracts and floral waters from natural plant pigments**

Su Jin Kim<sup>1</sup>, Eun Sil Lee<sup>1</sup>, Hyeong Ho Seo<sup>2</sup>, Yong Chool Boo<sup>2</sup>, Hwa Jin Suh<sup>1\*</sup>

<sup>1</sup>*Bio Fusion Research Team, Gyeongbuk Natural Color Industry Institute, <sup>2</sup>Research Development Team, Ruby Crown*

PNB-94

**Effects of Bambusae Caulis in Taeniam Extract on the UVB-induced Cell Death, Oxidative Stress and Matrix Metalloproteinase 1 Expression in Keratinocytes**

Eun Sil Lee<sup>1</sup>, Hwa Jin Suh<sup>1</sup>, Su Jin Kim<sup>1</sup>, Oh Oun Kwan<sup>2</sup>, Jin Kyung Seok<sup>3</sup>, Yong Chool Boo<sup>4\*</sup>

<sup>1</sup>*Bio Fusion Research Team, Gyeongbuk Natural Color Industry Institute, <sup>2</sup>Natural Color Research Team, Gyeongbuk Natural Color Industry Institute, <sup>3</sup>Medicine Laboratory, Kyungpook National University School of Medicine, <sup>4</sup>Research Development Team, Ruby Crown*

PNB-95

**Anticancer potential of the cortex of *Ulmus davidiana* var. *japonica***

Man-Jin In<sup>1</sup>, Sung Eun Kim<sup>2</sup>, Dong Chung Kim<sup>3\*</sup>

<sup>1</sup>*Department of Human Nutrition and Food Science, Chungwoon University, Hongseng, Korea, <sup>2</sup>Department of Biological Science, Purdue University, Indiana, USA, <sup>3</sup>Department of Integrated Materials Engineering, Chungwoon University, Incheon, Korea*

PNB-96

**Phellodendron amurense Extract Attenuates the UVB-Induced Expressions of Cytokines in Keratinocytes and Indirectly Inhibits Matrix Metalloproteinase-1 Expression**

Hwa Jin Suh<sup>1</sup>, Eun Sil Lee<sup>1</sup>, Su Jin Kim<sup>1</sup>, Oh Oun Kwan<sup>2\*</sup>

<sup>1</sup>*Bio Fusion Research Team, Gyeongbuk Natural Color Industry Institute, <sup>2</sup>Natural Color Research Team, Gyeongbuk Natural Color Industry Institute*

PNB-97

**Chalcones isolated from *Angelica keiskei* inhibit cysteine proteases of SARS-CoV**

Ji-Young Park, Jin-A Ko, Hyung Jae Jeong, Mina Kim, Su Hwan Lim, Kyoung Su Kim, Woo Song Lee, Young Bae Ryu\*

*Eco-friendly Biomaterial Research Center, Korea Research Institute of Bioscience and Biotechnology*

PNB-98

**Microwave treatment–accelerated solubilization of curcumin with steviol glycosides used as natural solubilizers**

Jin-A Ko, Hyung Jae Jeong, Ji-Young Park, Bang Hee Lee, Woo Song Lee, Young Bae Ryu\*  
*Eco-friendly Biomaterial Research Center, Korea Research Institute of Bioscience and Biotechnology*

PNB-99

**Identification of Secondary Metabolites from the twig of *Broussonetia kazinoki***

Jin Kyu Kim<sup>1</sup>, Jin Gwan Kwon<sup>1</sup>, Changon Seo<sup>1</sup>, Seong Su Hong<sup>1</sup>, Chun Whan Choi<sup>1</sup>, Wonsik Jeong<sup>1</sup>, Yun-Hyeok Choi<sup>1</sup>, Joa Sub Oh<sup>1,2\*</sup>  
<sup>1</sup>*Bio Center, Gyeonggi Institute of Science & Technology Promotion*, <sup>2</sup>*College of Pharmacy, Dankook University*

PNB-100

**Identification of Plebeian Herba as a Potential Therapeutic Agent for Gout**

Yongmun Choi<sup>1</sup>, Jin Gwan Kwon<sup>1</sup>, Jin Kyu Kim<sup>1</sup>, Changon Seo<sup>1</sup>, Seong Su Hong<sup>1</sup>, Chun Whan Choi<sup>1</sup>, Jung Mi Hyun<sup>1</sup>, Kyuhee Park<sup>1</sup>, Joa Sub Oh<sup>1,2\*</sup>  
<sup>1</sup>*Bio Center, Gyeonggi Institute of Science & Technology Promotion*, <sup>2</sup>*College of Pharmacy, Dankook University*

PNB-101

**Anti-Alzheimer Effect of Compound from *Eisenia bicyclis* on Beta-Amyloid Induced Toxicity in Neuroblast Cells**

Hee-Guk Byun\*, Jung Kwon Lee  
*Department of Marine Biotechnology, Gangneung-Wonju National University*

PNB-102

**Purification and Identification of  $\beta$ -secretase Inhibitor from Brown Algae, *Dictyota coriacea* Extract**

Yong-Jae Kim, Yong-Won Tak, Hee-Guk Byun\*  
*Department of Marine Biotechnology, Gangneung-Wonju National University*

PNB-103

**Neuroprotective effect of derivatative–chitooligosaccharide in BV-2 cell line**

Jeong-Wook Choi, Ji-Yoon Lee  
*Department of Marine Biotechnology, Gangneung-Wonju National University*

PNB-104

**Parthenocissin A displaying a potent  $\alpha$ -glucosidase inhibition from *parthenocissus tricuspidata***

Won Min Jeong, Yeong Hun Song, Soo Min Lee, Seung Heon Kong, Ki Hun Park\*  
*Division of Applied Life Science (BK21 plus), IALS, Gyeongsang National University, Jinju 660-701, Republic of Korea*

PNB-105

**Protective effects of kurarinone against *tert*-butyl hydroperoxide–induced hepatotoxicity in HepG2 Cells**

Sook Jahr Park<sup>1</sup>, Sang Chan Kim<sup>1</sup>, Jong Rok Lee<sup>2\*</sup>  
<sup>1</sup>*Medical Research Center for Globalization of Herbal Formulation, College of Korean Medicine, Daegu Haany University*, <sup>2</sup>*Department of Pharmaceutical Engineering, Daegu Haany University*

PNB-106

**Identification of Components from Juice and Organic Solvent Extracts of Water Dropwort (*Oenanthe javanica* DC)**

Hee Ju Lee<sup>1</sup>, Sang-bin Oh<sup>1,2</sup>, Sang Min Kim<sup>1\*</sup>

<sup>1</sup>Laboratory of Biomodulation, Natural Products Research Center, KIST Gangneung Institute of Natural Products, <sup>2</sup>Department of Marine biotechnology, Gangneung-Wonju National University

PNB-107

**Anti-inflammatory effects of fermented herbs in LPS-activated macrophage cells**

Sang Chan Kim<sup>1</sup>, Jong Rok Lee<sup>2</sup>, Gyu Pyo Noh<sup>1</sup>, Sook Jahr Park<sup>1\*</sup>

<sup>1</sup>Medical Research Center for Globalization of Herbal Formulation, College of Korean Medicine, Daegu Haany University, <sup>2</sup>Department of Pharmaceutical Engineering, Daegu Haany University

PNB-108

**Anti-neutrophil potential of flavonoids from *Campylotropis hirtella* and their kinetic study**

Zuopeng Li, Xuefei Tan, Jeong Yoon Kim, Yeong Jun Ban, Ki Hun Park<sup>\*</sup>

Division of Applied Life Science (BK21 plus), IALS, Gyeongsang National University, Jinju 660-701, Republic of Korea

PNB-109

**Antioxidant activity and Nitric oxide production inhibitory effect in LPS-induced RAW 264.7 Cells of *Rosa rugosa***

Li Nan, Hyeon Hwa Nam, Byung Kil Choo<sup>\*</sup>

Department of Agriculture and Life Sciences, Chonbuk National University

PNB-110

**Antioxidant activity and Nitric oxide production inhibitory effect in LPS-induced RAW 264.7 Cells of *Astilbe koreana***

Hyeon Hwa Nam, Byung Kil Choo<sup>\*</sup>

Department of Agriculture and Life Sciences, Chonbuk National University

PNB-111

**Antioxidant activity and Nitric oxide production inhibitory effect in LPS-induced RAW 264.7 Cells of *Sanguisorba tenuifolia***

Hyeon Hwa Nam, Byung Kil Choo<sup>\*</sup>

Department of Agriculture and Life Sciences, Chonbuk National University

PNB-112

**Isolation of neutrophils elastase inhibitory alkaloids from *Chelidonium majus* L**

Jeong Yoon Kim, Xuefei Tan, Yeong Hun Song, Su Bin Kim, Ki Hun Park<sup>\*</sup>

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PNB-113

**Antioxidant activity and Nitric oxide production inhibitory effect in LPS-induced RAW 264.7 Cells of *Sanguisorba longifolia***

Hyeon Hwa Nam, Byung Kil Choo<sup>\*</sup>

Department of Agriculture and Life Sciences, Chonbuk National University

- PNB–114** Antioxidant activity and Nitric oxide production inhibitory effect in LPS-induced RAW 264.7 Cells of *Viburnum opulus var. calvescens*  
Hyeon Hwa Nam, Byung Kil Choo\*  
*Department of Agriculture and Life Sciences, Chonbuk National University*
- PNB–115** A Lipidomic Platform Establishment for Structural Identification of Skin Ceramides with  $\alpha$ -Hydroxyacyl Chains  
Kwang-Hyeon Liu\*, Zhexue Wu, Jong Cheol Shon, Jung-Hoon Shin  
*College of Pharmacy and Research Institutes of Pharmaceutical Sciences, Kyungpook National University*
- PNB–116** In Vitro Metabolism of an Estrogen-related Receptor  $\gamma$  Modulator, GSK5182  
Kwang-Hyeon Liu\*, Jeongmin Joo, Zhexue Wu, Jong Cheol Shon, Taeho Lee  
*College of Pharmacy and Research Institute of Pharmaceutical Sciences, Kyungpook National University*
- PNB–117** Danazol Inhibits CYP2J2 Activity in a Substrate Independent Manner  
Kwang-Hyeon Liu\*, Eunyoung Lee, Chaegu Lim  
*College of Pharmacy and Research Institute of Pharmaceutical Sciences, Kyungpook National University*
- PNB–118** Development of screening method for five cytochrome P450 and four UGT enzyme activities using liquid chromatography–tandem mass spectrometry  
Kwang-Hyeon Liu\*, Boram Lee, Hyeon-Kyeong Ji, Taeho Lee  
*College of Pharmacy and Research Institute of Pharmaceutical Sciences, Kyungpook National University*
- PNB–119** CYP2J2 Inhibitor Screening from 240 Natural Compounds using Human Liver Microsomes  
Kwang-Hyeon Liu\*, Nguyen Minh Phuc, Eunyoung Lee, Zhexue Wu  
*College of Pharmacy and Research Institute of Pharmaceutical Sciences, Kyungpook National University*
- PNB–120** Lipidomic approach to evaluate the nutraceutical effect of borage oil on coconut oil diet-induced epidermal hyperproliferation in guinea pig skin  
Kwang-Hyeon Liu<sup>1\*</sup>, Jong Cheol Shon<sup>1</sup>, Choong Hwan Lee<sup>2</sup>, Jae Sung Hwang<sup>3</sup>, Yunhi Cho<sup>4</sup>  
<sup>1</sup>College of Pharmacy and Research Institute of Pharmaceutical Sciences, Kyungpook National University, <sup>2</sup>Division of Bioscience and Biotechnology, Konkuk University, <sup>3</sup>Department of Genetic Engineering, Graduate School of Biotechnology, Kyung Hee University, <sup>4</sup>Department of Medical Nutrition, Graduate School of East-West Medical Science, Kyung Hee University
- PNB–121** Skin lipidotyping from db/db and control mice using direct-infusion nano-electrospray–tandem mass spectrometry  
Kwang-Hyeon Liu<sup>1\*</sup>, Jong Cheol Shon<sup>1</sup>, Eung Ho Choi<sup>2</sup>

<sup>1</sup>College of Pharmacy and Research Institute of Pharmaceutical Sciences, Kyungpook National University,  
<sup>2</sup>Department of Dermatology, Yonsei University Wonju College of Medicine

PNB-122

**Inhibitor complexed structure of xoo1075, a peptide defromylase from *xanthomonas oryzae* pv. *Oryzae***

Ho-Phuong-Thuy Ngo<sup>1</sup>, Myoungki Hong<sup>1</sup>, Jeong-Gu Kim<sup>2</sup>, Byoung-Moo Lee<sup>2</sup>, Yeh-Jin Ahn<sup>3\*</sup>, Lin-Woo Kang<sup>1\*</sup>

<sup>1</sup>Department of Biological Sciences, Konkuk University, <sup>2</sup>Genomics Division, National Academy of Agricultural Science (NAAS), <sup>3</sup>Department of Life Science, Sangmyung University

PNB-123

**Ascorbyl coumarates inhibit melanogenesis in human epidermal melanocytes and enhance collagen synthesis in human dermal fibroblasts**

Jun Yup Kwak, Yong Chool Boo\*

Department of Molecular Medicine, Cell and Matrix Research Institute, BK21 Plus KNU Biomedical Convergence Program, School of Medicine, Kyungpook National University, Daegu, Republic of Korea

PNB-124

**Natural Polymers for Hydrogel Mask Packs**

Hyang-Yeol Lee\*

Department of Biotechnology, Korea National University of Transportation

PNB-125

**Aurantio-obtusin isolated from *Cassia tora* Inhibits UVB-induced MMP Expression and Promotes Type-1 Procollagen Production through Estrogen Receptor Activation in HaCaT Cells and Human Dermal fibroblasts**

Eui Jeong Nam, Ahmad Randy, Myungsuk Kim, Young Gyun Park, Chu Won Nho\*

Natural Products Research Center, Korea Institute of Science and Technology

PNB-126

**The branches of *Hovenia dulcis* Thunb. inhibit 2,4-dinitrochlorobenzene-induced atopic dermatitis-like skin lesions in NC/Nga mice and TNF- $\alpha$ /IFN- $\gamma$ -induced chemokine activation in HaCaT cells**

Sue Ji Lim, Ahmad Randy, Eui Jeong Nam, Myungsuk Kim, Chu Won Nho\*

Natural Products Research Center, Korea Institute of Science and Technology

PNB-127

**Mosquito larvicidal activities of constituents from Piper nigrum and P. longum against Culex pipiens larvae**

In-Kyung Bae, Eun-Sil Park, Sung-Eun Lee\*

School of Applied Biosciences, Kyungpook National University, Daegu 702-701, Korea

PNB-128

**Integrated skin, serum, and liver metabolome from ultraviolet B-exposed and green tea-administrated mice**

Eun Sung Jung<sup>1</sup>, Hye Min Park<sup>1</sup>, Seung Min Hyun<sup>2</sup>, Jae Sung Hwang<sup>2</sup>, Choong Hwan Lee<sup>1\*</sup>

<sup>1</sup>Bioscience and Biotechnology, Konkuk University, <sup>2</sup>Genetic Engineering, Kyung Hee University

PNB–129

**Urine and Serum Metabolite Profiling of Rats Fed a High-Fat Diet and the Anti-Obesity Effects of Caffeine Consumption**

Hyang Yeon Kim<sup>1</sup>, Mee Youn Lee<sup>1</sup>, Hye Min Park<sup>1</sup>, Yoo Kyoung Park<sup>2</sup>, Jong Cheol Shon<sup>3</sup>, Kwang-Hyeon Liu<sup>3</sup>, Choong Hwan Lee<sup>1\*</sup>

<sup>1</sup>Department of Bioscience and Biotechnology, Kon-Kuk University, <sup>2</sup>Department of Medical Nutrition, Kyung Hee University, <sup>3</sup>College of Pharmacy and Research Institute of Pharmaceutical Sciences, Kyungpook National University

PNB–130

**Metabolite Profiling of *Lespedeza maximowiczii* During the Growth Period and Correlation with Tyrosinase Inhibitory Activity**

Na Kyung Kim<sup>1</sup>, Hye Min Park<sup>1</sup>, Joongku Lee<sup>2</sup>, Choong Hwan Lee<sup>1\*</sup>

<sup>1</sup>Department of Bioscience and Biotechnology, Konkuk University, <sup>2</sup>International Biological Material Research Center, Korea Research Institute of Bioscience and Biotechnology

PNB–131

**Topical Application of Baby- and Adult-Aloe on Ultraviolet B Irradiated Mouse Skin with Metabolite Profiling**

Hey Min Park<sup>1</sup>, Eunjung Moon<sup>2</sup>, Sarah Lee<sup>3</sup>, Sun Yeou Kim<sup>2</sup>, Seon-Gil Do<sup>4</sup>, Jinwan Kim<sup>4</sup>, Kwang Hyeon Liu<sup>5</sup>, Choong Hwan Lee<sup>1\*</sup>

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PNB–132

**Evaluation of Biological activities of *Nigella sativa* L.**

Ga Hee Jang<sup>1,2</sup>, Dong Jin Lee<sup>2\*</sup>, Seon Young Im<sup>2</sup>, Jung Bong Kim<sup>1</sup>, Heon Wong Kim<sup>1</sup>, Min Ki Lee<sup>1</sup>, Jae Hyeong Shin<sup>1</sup>, A Ram Bak<sup>1</sup>, So Young Jeong<sup>1</sup>

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PNB–133

**Identification of 17 methoxyflavone glycosides from Korean spinach (*Spinacia oleracea* L.) using UPLC–DAD–QTOF/MS**

Heon Woong Kim, Jae Hyeong Shin, Min Ki Lee, Ga Hee Jang, Jin Sook Kim, Sung Hyun Lee, Hwan Hee Jang, Jeong Sook Choe, Jung Bong Kim<sup>\*</sup>

National Academy of Agricultural Science, Rural Development Adinistration, 166, Nongsaengmyeong-ro, Iseo-myeon, Wanju-gun, Jeollabuk-do

PNB–134

**Identification and quantification of anthocyanins in highbush blueberry (*Vaccinium corymbosum* L.) varieties**

Min Ki Lee, Heon Woong Kim, Jae Hyeong Shin, Ga Hee Jang, Hyung Jin Baek, Ho Cheol Ko, Jung Bong Kim<sup>\*</sup>  
National Academy of Agricultural Science, Rural Development Adinistration, 166, Nongsaengmyeong-ro, Iseo-myeon, Wanju-gun, Jeollabuk-do

PNB-135

**Estimation of Flavonoid Compositions and in edible Korean fatsia shoots (*Aralia elata* Seem) by UPLC/ToF/MS**

Jae Hyeong Shin, Heon Woong Kim, Min Ki Lee, Ga Hee Jang, Yu Jin Hwang, Sung Hyun Lee, Hwan Hee Jang, Jung Bong Kim\*

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PNB-136

**Detail characterization of lipid alterations in the autophagic cell death of cancer cells**

Jae-Won Lee<sup>1</sup>, Haruka Shinohara<sup>2</sup>, Yukihiro Akao<sup>2</sup>, Kwang-Pyo Kim<sup>3</sup>, Geum-Soog Kim<sup>1</sup>, Seung-Eun Lee<sup>1</sup>, Young-Sup Ahn<sup>1</sup>, Nam-In Baek<sup>4</sup>, Dae-Young Lee<sup>1\*</sup>

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PNB-137

**Metabolite profiling of saponins in different parts of Panax notoginseng using UPLC-QTOF-MS**

Yuan Qu, Hyung Won Ryu, Hyuk-Hwan Song, Heung Joo Yuk, Ju Hyeon An, Doo-Young Kim, Sei-Ryang Oh\*  
*Natural Medicine Research Center, Korea Research Institute of Bioscience & Biotechnology*

PNB-138

**Aqueous extraction of citrus unshiu peel induces pro-angiogenic effects via the FAK and ERK1/2 signaling pathway in human umbilical vein endothelial cells**

Jungwhoi Lee<sup>1</sup>, Song-I Han<sup>1</sup>, Dong-Shik Yang<sup>1</sup>, Jeong Hun Yun<sup>1</sup>, Il-Woong Kim<sup>1</sup>, Jae Hoon Kim<sup>1,2\*</sup>

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PNB-139

**Quercetin 3-O-glucoside suppresses epidermal growth factor-induced migration by inhibiting EGFR signaling in pancreatic cancer cells**

Jungwhoi Lee<sup>1</sup>, Song-I Han<sup>1</sup>, Jeong-Hun Yun<sup>1</sup>, Jae Hoon Kim<sup>1,2\*</sup>

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PNB-140

**Kaempferol inhibits the migration and growth of human pancreatic cancers through ERK1/2 and AKT pathway**

Jungwhoi Lee<sup>1</sup>, Song-I Han<sup>1</sup>, Jae Hoon Kim<sup>1,2\*</sup>

<sup>1</sup>Faculty of Biotechnology, College of Applied Life Science, SARI, Jeju National University, Jeju-do 690-756, Korea, <sup>2</sup>Subtropical Horticulture Research Institute, Jeju National University, Jeju 690-756, Korea

PNB-141

**Comparison of major secondary metabolite in *Curcuma longa* growth in different locations of Korea and Malaysia**

Dae Wook Kim<sup>1</sup>, Woo Hyun Sim<sup>2</sup>, Chi Yeol Park<sup>3</sup>, Kyeong Yeol Oh<sup>4</sup>, Byoung Sub Ko<sup>1\*</sup>

<sup>1</sup>KM Convergence Research Division, Korea Institute of Oriental Medicine 1672, Daejeon 305-811, <sup>2</sup>Division

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PNB-142

**Phenolic compounds from *Loranthus tanakae***

Eun-Ji Oh, Kyoung-Hwa Seo, Nam-In Baek\*

Graduate School of Biotechnology and Department of Oriental Medicine Biotechnology, Kyung Hee University, Yongin 446-701, Korea

PNB-143

**Antibacterial activity and Scanning Electron Microscope (SEM) treated with *Caesalpinia sappan* (Fang) extract**

Parichat Phalanisong<sup>1,2,3</sup>, Kanit Vichitphan<sup>2,3\*</sup>, Jaehong Han<sup>4</sup>, Sukanda Vichitphan<sup>2,3</sup>

<sup>1</sup>Graduate School, Khon Kaen University, Graduate School, Khon Kaen University, <sup>2</sup>Department of Biotechnology, Faculty of Technology, Khon Kaen University, Khon Kaen, 40002, Thailand, <sup>3</sup>Fermentation Research Center for Value Added Agricultural Products (FerVAAP), Khon Kaen University, Khon Kaen, 40002, Thailand, <sup>4</sup>College of Biotechnology and Natural Resources, Chung-Ang University, Korea

PNB-144

**The extract of Mongolian traditional plants inhibit TNF- $\alpha$ -and IFN- $\gamma$ -induced expression of chemokines and cytokines in human keratinocytes**

Myungsuk Kim, Sue Ji Lim, Ahmad Randy, Chu Won Nho\*

Natural Products Research Center, Korea Institute of Science and Technology

PNB-145

**Identification and Quantification of Polyphenol Profiles from Barley Sprouts at Different Growth Stages and Investigation of Their Antioxidative effects**

Woo Duck Seo<sup>1\*</sup>, Mi-Jin Park<sup>2</sup>, Kyung Hye Seo<sup>1</sup>, Mi-Ja Lee<sup>1</sup>, Hyeon Jung Kang<sup>1</sup>, Kwang-Sik Lee<sup>1</sup>, Song-Min Oh<sup>1</sup>, Young-Hwa Kang<sup>2</sup>, Sun Lim Kim<sup>1</sup>

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PNB-146

**Design of Bioconjugates for Targeted Delivery to Specific Cancer Cells**

Hyundong Yoo, Hee Sun Jung, Hyejung Mok\*

Department of Bioscience and Biotechnology, Konkuk University, Seoul 143-701, Korea

PNB-147

**The genome sequences of two *Monascus purpureus* strains lack a monacolin K biosynthesis locus**

Hyung-Jin Kwon\*

Division of Bioscience and Bioinformatics, Myongji University, Yongin 449-728, Korea

PNB-148

**Nano-sized Hydrogels as Selective Near-Infrared Fluorescence Probes**

Jihyun Kim, Kyung Hee Yoo, Hyejung Mok\*

*Department of Bioscience and Biotechnology, Konkuk University, Seoul 143-701, Korea*

PNB-149

**Polymeric Hydrogels for Selective Delivery of Cyclic Dinucleotides to Antigen Presenting Cells**

Eunjoon Lee, Heesun Jung, Hyejung Mok\*

*Department of Bioscience and Biotechnology, Konkuk University, Seoul 143-701, Korea*

PNB-150

**Nucleic Acid-based Fluorescent Probes for Selective Cellular MicroRNA Detection**

Jihyun Kim, Hyundong Yoo, Hyo-Eun Jang, Hyejung Mok\*

*Department of Bioscience and Biotechnology, Konkuk University, Seoul 143-701, Korea*

PNB-151

**Antioxidant and anti-melanogenic effect of *Paspalum thunbergii* Kunth**

Min-Joo Kang<sup>1</sup>, Seok-Jun Kim<sup>2</sup>, Hyo-Seop Shim<sup>2</sup>, Young-Seok Kim<sup>2</sup>, Hye-Ri Park<sup>2</sup>, Keon-Hyoung Song<sup>3</sup>,  
Mi-Young Lee<sup>1,2\*</sup>

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PNB-152

**Beneficial effects of sturgeon-derived extracts on skin aging**

Yu-Mi Jeon<sup>1</sup>, Min-Joo Kang<sup>1</sup>, Hun Cha<sup>2</sup>, Mi-Young Lee<sup>1,3\*</sup>

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PNB-153

**Co-production of Hydroxy Fatty Acid and Mono-rhamnolipid from *Pseudomonas aeruginosa* KACC 10186**

Hyun-Mi Park, Se-Rin Kim, Hak-Ryul Kim\*

*School of Food Science and Biotechnology, Kyungpook National University, daegu, Korea*

PNB-154

**Development of Benzimidazole Derivatives as JAK1 Selective Inhibitors for Rheumatoid Arthritis (RA)**

Hyungmi Kim, Mi Kyoung Kim, Youhoon Chong\*

*Department of Bioscience and Biotechnology, Bio/Molecular Informatics Center, Konkuk University, Hwayang-dong, Gwangjin-gu, Seoul 143-701, Korea*

PNB-155

**Nematicidal Activity of Plant Essential Oils against Second-stage Juveniles and Eggs of *Meloidogyne hapla* (Nematoda: Tylenchida)**

Ju-Hyun Jeon, Hyoung-Rai Ko, Se-Jong Kim, Jae-Kook Lee\*

*Crop Protection Division, National Academy of Agricultural Science, RDA, Wanju 565-851, Korea*

PNB-156

**Icariin metabolism by human intestinal bacteria**

Hailong Wu, Mihyang Kim, Jaehong Han\*

*Metalloenzyme Research Group and Department of Integrative Plant Science, Chung-Ang University, Anseong, 456-756, Korea*

PNB-157

**Inhibitory effect of isoliquiritigenin isolated from *Glycyrrhizae Radix* on  $\beta$ -amyloid production in Swedish mutant amyloid precursor protein-transfected Neuro2a cells**

Eun-Ju Yang<sup>1</sup>, Eun-A Choi<sup>1</sup>, Ju-Gyeong Lee<sup>1</sup>, Ju-Hee An<sup>1</sup>, Seo-Hyun Kim<sup>1</sup>, Taeho Lee<sup>1</sup>, Geum-Sook Kim<sup>2</sup>, Yu-Su Shin<sup>2</sup>, Kyung-Sik Song<sup>1\*</sup>

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PNB-158

**Comparison of Neuroprotective Effect among Isoliquiritigenin and Its Phase I Metabolites against Glutamate-induced HT22 Cell Death**

Jong-Hwa Jeong<sup>1</sup>, Eun-Ju Yang<sup>1</sup>, Ji Eun Woo<sup>2</sup>, Dae-Un Kim<sup>1</sup>, Taeho Lee<sup>1</sup>, Geum-Sook Kim<sup>3</sup>, Kyung-Sik Song<sup>1\*</sup>

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PNB-159

**Optimal Fermentation Conditions of *Glycyrrhizae Radix* to produce Liquiritigenin**

Eun-A Choi<sup>1</sup>, Ju-Gyeong Lee<sup>1</sup>, Ju-Hee An<sup>1</sup>, Joon-Hyok Moon<sup>1</sup>, Yu-Su Shin<sup>2</sup>, Geum-Sook Kim<sup>2</sup>, Kyung-Sik Song<sup>1\*</sup>

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PES

## Environmental Sciences

PES-1

**Light-Emitting Diodes as Potential Attractant for *Tyrophagus putrescentiae* Adults in Y-Maze Chamber**

Jun-Hwan Park<sup>1</sup>, Ji-Yeon Cheon<sup>1</sup>, Yejin Lee<sup>1</sup>, Ye-Jin Jeon<sup>1</sup>, Hoi-Seon Lee<sup>1</sup>, In-Deak Kim<sup>2</sup>, Sang-Hoon Kim<sup>2\*</sup>

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PES-2

**Phototactic Behavior 7: Phototactic Responses of Maize Weevil (*Sitotroga zeamais* motsch) to Light Emitting Diodes**

Jaeun Song, Hoi-Seon Lee\*

*Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University, Jeonju 561-756, Korea*

PES-3

**Phototactic Behavior 8: Phototactic Behavioral Responses of Western Flower Thrips to Light-Emitting Diodes**

Jaeun Song, Hoi-Seon Lee\*

*Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University, Jeonju 561-756, Korea*

PES-4

**Phototactic Responses of *Sitotroga cerealella* Adults to Six Light Emitting Diode Monochromatic Lights**

Jaeun Song, Hoi-Seon Lee\*

*Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University, Jeonju 561-756, Korea*

PES-5

**Evaluation of Detection Frequency and Concentration Using Simultaneous Analysis Method by GC-MS**

Sunhwa Park\*, Hyun-Koo Kim, Sang-Ho Jeon, Da-Hee Song, Deok-Hyun Kim, Moon-Su Kim, Hyoung-Seop Kim, Tae-Seung Kim

*National Institute of Environmental Research, Soil and Groundwater Research Division*

PES-6

**Monitoring Ammonia and Boron in Groundwater, South Korea and Evaluation of Human Risk**

Sunhwa Park\*, Hyun-Koo Kim, Da-Hee Song, Sang-Ho Jeon, Deok-Hyun Kim, Moon-Su Kim, Hyoung-Seop Kim, Tae-Seung Kim

*National Institute of Environmental Research, Soil and Groundwater Research Division*

PES-7

**Thermal stability of perfluorooctanesulfonic acid during biochar preparation**

Jin Hyo Kim\*, Geun-Hyoung Choi, Byong-Jun Park

*Chemical Safety Division, National Academy of Agricultural Science, RDA*

PES-8

**Stability of the insecticidal active ingredient in neem biopesticide in soil and water environment**

Jin Hyo Kim\*, Geun-Hyoung Choi, Byong-Jun Park

*Chemical Safety Division, National Academy of Agricultural Science, RDA*

PES-9

**Stability of the insecticidal active ingredient in *Sophora flavescens* biopesticide in soil and water environment**

Jin Hyo Kim\*, Geun-Hyoung Choi, Byong-Jun Park

*Chemical Safety Division, National Academy of Agricultural Science, RDA*

PES-10

**Establishment of Pre-Harvest Residue Limit (PHRL) of Acequinocyl and Hydroxyacequinocyl on Plum during cultivation**

Kyu-Won Hwang<sup>1</sup>, Hyeong-Wook Jo<sup>2</sup>, Joon-Kwan Moon<sup>1\*</sup>

<sup>1</sup>Department of plant life and environment science, Hankyong National University, Anseong 456-749, Korea,

<sup>2</sup>CRI Analysis Center, Croen Research Inc, Suwon 441-853, Korea

PES-11

**Establishment of Pre-Harvest Residue Limit (PHRL) of Cyenopyrafen on Plum during cultivation**

Kyu-Won Hwang<sup>1</sup>, Hyeong-Wook Jo<sup>2</sup>, Joon-Kwan Moon<sup>1\*</sup>

<sup>1</sup>Department of plant life and environment science, Hankyong National University, Anseong 456-749, Korea,

<sup>2</sup>CRI Analysis Center, Croen Research Inc, Suwon 441-853, Korea

PES-12

**Validation and Uncertainty Estimation for the Analysis of Nicotine in Cigarette Mainstream Smoke**

Hyoung-Joon Park, So-Hyun Cho, Jin-Hee Lee, Chang-Yong Yoon, Jung-Ah Do, Seok Heo, Jeong Hwa Jo, Jih-Yun Lee, Soo-Yeul Cho, Sun-Young Baek\*

Advanced Analysis Team, Ministry of Food and Drug Safety

PES-13

**Risk Assessment and Evaluation of Drought-tolerant Transgenic Rice : Responses of *Misgurnus anguillicaudatus* and *Cyprinus carpio* Fed on Drought-tolerant Transgenic Rice Variety**

Sung-Dug Oh<sup>1</sup>, Sang Jae Suh<sup>2</sup>, Doh-Won Yun<sup>1</sup>, Soo-In Sohn<sup>1</sup>, Hyun Suk Cho<sup>1</sup>, Tae-Hun Ryu<sup>1\*</sup>

<sup>1</sup>Biosafety division, National Academy of Agricultural Science, <sup>2</sup>School of Applied Biosciences, Kyungpook National University

PES-14

**Determination of Pesticide Residues in soil using with QuEChERS and GC-ECD**

Taek Kyum Kim\*, Su Myung Hong, Hye Young Kwon, Nam-Jun Cho

Department of Agro-Food Safety/Chemical safety division, NAAS, RDA

PES-15

**Physico-chemical properties of coir mediums with different particle ratio in *Capsicum annuum* L.**

Jae Taek Lee<sup>1\*</sup>, Chi Seon Kim<sup>1</sup>, Yun Hee Cho<sup>1</sup>, Jong Suk Park<sup>1</sup>, Yong Kyu Shin<sup>1</sup>, Young Ju Song<sup>2</sup>, Ji Hye Jang<sup>1</sup>, Jong Hyang Bae<sup>3</sup>

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<sup>2</sup>Jeonbuk Agricultural Research and Extension Services, Iksan, Korea, <sup>3</sup>Department of Horticulture Industry, Wonkwang University, Iksan, Korea

PES-16

**Soil Microbial Diversity and Community Analysis in Organic Peach Orchard in southern province**

Min-Gi Kim, Choong-Bae Park, Cho Rong Lee, Seung Gil Hong, Kwang Lai Park, Sang-Beom Lee, Won-A Choi, Jin Ho Kim\*

Organic Agriculture Division, National Academy of Agricultural Science, RDA, Wanju 565-851, Korea

PES-17

**OscYP21-4 is a novel Golgi resident cyclophilin and involved in environment stress tolerance by enhancing peroxidase enzyme activity in rice**

Sang Sook Lee<sup>1</sup>, Dae Hwa Yoon<sup>2</sup>, Hyun Ji Park<sup>1</sup>, Young Nim You<sup>1</sup>, A Reum Lee<sup>1</sup>, Won Yong Jeong<sup>1</sup>,  
Beom-Gi Kim<sup>3</sup>, Jun Cheul Ahn<sup>4</sup>, Hye Sun Cho<sup>1\*</sup>

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PES-18

**Comparative transcriptome profiling of three phenotypic Jerusalem artichoke (*Helianthus tuberosus* L.) cultivars in response to abiotic stress**

Won Yong Jung<sup>1,2</sup>, Sang Sook Lee<sup>1</sup>, Chul Wook Kim<sup>2</sup>, Hyun-Soon Kim<sup>1</sup>, Jae-Heung Jeon<sup>1</sup>, Hye Sun Cho<sup>1\*</sup>

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PES-19

**Residual Behavior of Flonicamid and its Metabolites in Pepper (*Capsicum annuum*) Plant using Liquid Chromatography – Tandem Mass Spectrometry**

Dong Yeol Lee<sup>1,2</sup>, Dong Kyu Jeong<sup>1</sup>, Kyu Young Kang<sup>1,2\*</sup>

<sup>1</sup>*Division of Applied Life Science (BK21 Plus), Gyeongsang National University, Jinju 660-701, Republic of Korea,* <sup>2</sup>*Institute of Agricultural and Life Science, Gyeongsang National University, Jinju 660-701, Republic of Korea*

PES-20

**Dissipation and Residual Behavior of Chlorfenapyr in Persimmon (*Diospyros kaki* Thumb.) Fruit and Leaf using Gas Chromatography–Electron Capture Detector**

Dong Kyu Jeong<sup>1</sup>, Dong Yeol Lee<sup>1,2</sup>, Kyu Young Kang<sup>1,2\*</sup>

<sup>1</sup>*Division of Applied Life Science (BK21 Plus), Gyeongsang National University, Jinju 660-701, Korea,* <sup>2</sup>*Institute of Agriculture and Life Science, Gyeongsang National University, Jinju 660-701, Korea*

PES-21

**Establishment of Pre-Harvest Residue Limit(PHRL) of Insecticide Lepimectin during Cultivation of Korean Cabbage**

Young Seock Song<sup>1</sup>, Dong Kyu Jeong<sup>2</sup>, Dong Yeol Lee<sup>2,3</sup>, Kyu Young Kang<sup>1,2,3\*</sup>

<sup>1</sup>*Department of Applied Life Chemistry, Gyeongsang National University, Jinju 660-701, Korea,* <sup>2</sup>*Division of Applied Life Science (BK21 Plus), Gyeongsang National University, Jinju 660-701, Korea,* <sup>3</sup>*Institute of Agriculture and Life Science, Gyeongsang National University, Jinju, 660-701, Korea*

PES-22

**Determination of Simultaneous Analysis of Spirotetramat and Its Metabolite in Korean Cabbage using LC-MS/MS**

I Je Jo<sup>1</sup>, Dong Kyu Jeong<sup>2</sup>, Dong Yeol Lee<sup>3,4</sup>, Kyu Young Kang<sup>1,3,5\*</sup>

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Gyeongsang National University, Jinju 660-701, Korea

PES-23

**Establishment of Pre-Harvest Residue Limit(PHRL) of Insecticide Fluopicolide during Cultivation of Korean Cabbage**

Min Ji Kim<sup>1</sup>, Dong Yeol Lee<sup>2,3</sup>, Dong Kyu Jeong<sup>3</sup>, Kyu Young Kang<sup>1,2,3\*</sup>

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PES-24

**Changes of EC during desalinization of reclaimed tideland soil**

Jae Young Cho<sup>1\*</sup>, Jae Gwon Son<sup>2</sup>, Gi Hwan Cho<sup>3</sup>, Jae Do Song<sup>2</sup>, Won Tae Shin<sup>1</sup>

<sup>1</sup>Department of Bio-environmental Chemistry, Chonbuk National University, Jeonju 561-756, Korea, <sup>2</sup>Department of Rural Construction Engineering, Chonbuk National University, Jeonju 561-756, Korea, <sup>3</sup>Division of Computer Science and Engineering, Chonbuk National University, Jeonju 561-756, Korea

PES-25

**Changes of hydraulic conductivity during desalinization of reclaimed tideland soil**

Jae Young Cho<sup>1\*</sup>, Jae Gwon Son<sup>2</sup>, Gi Hwan Cho<sup>3</sup>, Jae Do Song<sup>2</sup>, Won Tae Shin<sup>1</sup>

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PES-26

**Changes of ESP during desalinization of reclaimed tideland soil**

Jae Young Cho<sup>1\*</sup>, Jae Gwon Son<sup>2</sup>, Gi Hwan Cho<sup>3</sup>, Jae Do Song<sup>2</sup>, Won Tae Shin<sup>1</sup>

<sup>1</sup>Department of Bio-environmental Chemistry, Chonbuk National University, Jeonju 561-756, Korea, <sup>2</sup>Department of Rural Construction Engineering, Chonbuk National University, Jeonju 561-756, Korea, <sup>3</sup>Division of Computer Science and Engineering, Chonbuk National University, Jeonju 561-756, Korea

PES-27

**Changes of pH during desalinization of reclaimed tideland soil**

Jae Young Cho<sup>1\*</sup>, Jae Gwon Son<sup>2</sup>, Gi Hwan Cho<sup>3</sup>, Jae Do Song<sup>2</sup>, Won Tae Shin<sup>1</sup>

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**Estimation of leaching requirement water during desalinization of reclaimed tideland soil**

Jae Young Cho<sup>1\*</sup>, Jae Gwon Son<sup>2</sup>, Gi Hwan Cho<sup>3</sup>, Jae Do Song<sup>2</sup>, Won Tae Shin<sup>1</sup>

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PES-29

**Reuse of hydroponic waste solution**

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PES-30

**Compost characteristics of cow dung treated with composting beneficial microorganism**

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PES-31

**Properties of abiogenic/biogenic Fe minerals and their potential for natural attenuation of As**

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PES-32

**Chemical composition of hydroponic waste solution**

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PES-33

**Dissipation pattern of Diflubenzuron on Cucumber during Cultivation**

Hyeong-Wook Jo<sup>1</sup>, Kyu-Won Hwang<sup>2</sup>, Joon-Kwan Moon<sup>2\*</sup>

<sup>1</sup>CRI Analysis Center, Croen Research Inc., Suwon 441-853, Korea, <sup>2</sup>Department of plant life and environment science, Hankyong National University, Anseong 456-749, Korea

PES-34

**Dissipation pattern of Diflubenzuron on Spring Onion during Cultivation**

Hyeong-Wook Jo<sup>1</sup>, Kyu-Won Hwang<sup>2</sup>, Joon-Kwan Moon<sup>2\*</sup>

<sup>1</sup>CRI Analysis Center, Croen Research Inc., Suwon 441-853, Korea, <sup>2</sup>Department of plant life and environment science, Hankyong National University, Anseong 456-749, Korea

PES-35

**Adsorption of arsenic onto biogenic iron oxides formed from the anaerobic biogenic nitrite-driven iron oxidation by *Paracoccus denitrificans***

Sunhwa Park<sup>1</sup>, Youri Yang<sup>1</sup>, Taeyang Kim<sup>2</sup>, Jisoo Lee<sup>1</sup>, Hor-Gil Hur<sup>1\*</sup>

<sup>1</sup>School of Environmental Science and Engineering, Gwangju Institute of Science and Technology, <sup>2</sup>School of Environmental Science and Engineering, Gwangju Institute of Science and Technology

PES-36

**Understanding Phytoavailability of Soil Contaminants for Risk Assessment of Contaminated Sites**

Rog-Young Kim<sup>1</sup>, Jeong-Ki Yoon<sup>1</sup>, Ji In Kim<sup>1</sup>, Tae-Seung Kim<sup>1\*</sup>, Kwon-Rae Kim<sup>2</sup>

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PES-37

**Current Status of Pesticide-Originated Persistent Organic Pollutants and Some Organochlorine Pesticides in Asan and Jincheon Agricultural Soils**

Hwang-Ju Jeon<sup>1</sup>, Hwa-Sung Lee<sup>2</sup>, Bonhwa Ku<sup>3</sup>, Eun-Sil Park<sup>1</sup>, In-Kyung Bae<sup>1</sup>, Young-Sun Moon<sup>1</sup>, Sung-Eun Lee<sup>1\*</sup>

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PES-38

**Pesticide-originated Persistent Organic Pollutants and Some Organochlorine Pesticides Observed in Ansung Agricultural Environments**

Hwang-Ju Jeon<sup>1</sup>, Hwa-Sung Lee<sup>2</sup>, Bonhwa Ku<sup>3</sup>, Eun-Sil Park<sup>1</sup>, In-Kyung Bae<sup>1</sup>, Young-Sun Moon<sup>1</sup>, Sung-Eun Lee<sup>1\*</sup>

<sup>1</sup>*School of Applied Sciences, Kyungpook National University, Daegu 702-701, Korea,* <sup>2</sup>*Quality Control Department, Korea Good Herbs Distribution Center, Andong 760-801, Korea,* <sup>3</sup>*Research Station, Nanotoxtech Inc., Gyeongsangbuk-do, Korea*

PES-39

**Chlorpyrifos-induced toxicities on zebrafish (*Danio rerio*)**

Hwang-Ju Jeon, Sung-Eun Lee<sup>\*</sup>

*School of Applied Biosciences, Kyungpook National University, Daegu 702-701, Korea*

PES-40

**iTRAQ-based proteomics approach to find potential marker proteins, which is associated with preharvest sprouting tolerance in wheat**

Dea-Wook Kim<sup>1\*</sup>, Jai Singh Rohila<sup>2</sup>

<sup>1</sup>*Crop Production & Physiology Division, National Institute of Crop Science,* <sup>2</sup>*Department of Biology and Microbiology, South Dakota State University*

PES-41

**Risk assessment and evaluation of *Misgurnus anguillicaudatus* and *Cyprinus carpio* fed on Carotenoid-biofortified rice variety**

Sung-Dug Oh, Si Myung Lee, Soo-In Sohn, Hyun Suk Cho, Doh-Won Yun<sup>\*</sup>

*National Academy of Agricultural Science, Jeonju, 560-500, Korea*

PES-42

**Analysis of active components and detection on growth characteristics in different stage of Italian Ryegrass**

Xiaoqian Tao<sup>1</sup>, Hyo-Shim Han<sup>2</sup>, Dong-Kwan Kim<sup>3</sup>, Kyung Dong Lee<sup>1\*</sup>

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PES-43

**Identification and Characterization of Microbial Metabolites against Green Peach Aphid**

Si Young Yang, In Seon Kim<sup>\*</sup>

*Department of Agricultural Chemistry, Institute of Environmentally Friendly Agriculture, Chonnam National University, Gwangju 500-757, Korea*

PES-44

**Isolation, Purification of Insecticidal Metabolites Produced by *Pseudomonas* sp. against Green Peach Aphid**

Da-Jung Lim, In-Seon Kim\*

*Department of Agricultural Chemistry, Institute of Environmentally Friendly Agriculture, Chonnam National University, Gwangju 500-757*

PES-45

**Isolation of Actinomycetes for Multiple Control of Pest Insect and Plant Pathogen**

Dong Hyun Yoo<sup>1</sup>, Kyung Ae Kim<sup>1</sup>, Jeong Eun Lee<sup>1</sup>, Si Young Yang<sup>2</sup>, In Seon Kim<sup>2\*</sup>

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**PFS**

**Food Sciences**

PFS-1

**Phenolics Profiling of Rice using Gas Chromatography–time–of–flight Mass Spectrometry**

Soo-Yun Park<sup>1</sup>, Jae Kwang Kim<sup>2</sup>, So Young Lee<sup>1</sup>, Seonwoo Oh<sup>1</sup>, Si Myung Lee<sup>1</sup>, Yunsoo Yeo<sup>1\*</sup>

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PFS-2

**Environmental Impact and Nutritional Quality Assessment of the Genetically Modified Rice and Its Non-transgenic Comparators**

Yunsoo Yeo<sup>1\*</sup>, Soo-Yun Park<sup>1</sup>, So Young Lee<sup>1</sup>, Seonwoo Oh<sup>1</sup>, Si Myung Lee<sup>1</sup>, Jae Kwang Kim<sup>2</sup>

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PFS-3

**Comparison of reference standard plasmid and genomic DNA calibrators for quantification of genetically modified Roundup Ready Soybean**

Saet-Byul Park, Jae-Hwan Kim, Hae-Yeong Kim\*

*Department of Food Science and Biotechnology, Kyung Hee University, Yongin, Korea*

PFS-4

**Inhibition of Melanogenesis Synthesis of Seed Oil from *Ginkgo biloba***

Yoonsuk Kim, Jaeyoung Kim, Yonghwa Lee, Yongsu Yi\*

*Department of Herbal Cosmetic Science, Hoseo University*

PFS-5

**Comparative analysis of nutritional composition of resveratrol-enriched rice with stilbene synthase**

**gene and its non-transgenic counterpart**

Min Sung Kim<sup>1</sup>, Seung-A Baek<sup>1</sup>, So-Hyeon Baek<sup>2</sup>, Soon-Jong Kweon<sup>2</sup>, Yunsoo Yeo<sup>3</sup>, Soo-Yun Park<sup>3</sup>,  
Sung-Dug Oh<sup>3</sup>, Tae-Hun Ryu<sup>3</sup>, Kyung-Hoan Im<sup>1</sup>, Jae Kwang Kim<sup>1\*</sup>

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PFS-6

**Multiplex PCR system for screening of genetically modified maize events**

Saet-Byul Park, Jae-Hwan Kim\*

Department of Food Science and Biotechnology, Kyung Hee University, Yongin, Korea

PFS-7

**Metabolite Profiling of Soybean Fermented by *Bacillus subtilis* with/without *Lonicera caerulea* and *Cudrania tricuspidata* for Enhancing Bioactivity**

Dong Ho Suh<sup>1</sup>, Sarah Lee<sup>2</sup>, Gayoung Jung<sup>3</sup>, Seon-Gil Do<sup>3</sup>, Yang Hee Jo<sup>4</sup>, Mi Kyeong Lee<sup>4</sup>, Choong Hwan Lee<sup>1\*</sup>

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PFS-8

**Evaluation of cholesterol-lowering activity of probiotic *Pediococcus pentosaceus* strain KID7: an *in vitro* findings and *in vivo* studies**

Karthiyaini Damodharan<sup>1,2</sup>, Young Sil Lee<sup>3</sup>, Sasikumar Arunachalam Palaniyandi<sup>3,4</sup>, Seung-Hwan Yang<sup>3,4\*</sup>,  
Joo-Won Suh<sup>3,5\*</sup>

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PFS-9

**Functional probiotic characterization of lactic acid bacteria isolated from fermented radish and their anti-adherence activity against intestinal pathogens**

Karthiyaini Damodharan<sup>1,2</sup>, Sasikumar Arunachalam Palaniyandi<sup>1,3</sup>, Seung-Hwan Yang<sup>1,3\*</sup>, Joo-Won Suh<sup>1,2\*</sup>

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PFS-10

**Effect of low temperature on ethanolic fermentation in Korean traditional Yakju**

Dong-Jun Seo, Seong Yeol Baek\*, Ji-Young Mun, Soo-Hwan Yeo

Department of agrofood resources, Fermented food science division, National Academy of Agricultural Science, Rural Development Administration

PFS-11

Preparation of *Panax ginseng* extract enriched with ginsenoside Rd using a combination of enzyme treatment and high hydrostatic pressure

Sasikumar Arunachalam Palaniyandi<sup>1,2</sup>, Karthiyaini Damodharan<sup>3,4</sup>, Seung-Hwan Yang<sup>3,5\*</sup>, Joo-Won Suh<sup>3,4\*</sup>

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PFS-12

Construction of a LC-Q-TOF-MS Library for Screening of 25 Obesity control drugs in Dietary Supplements

Jung-Ah Do, Eunyoung Noh, Soon Byung Yoon, Sung-Kwan Park, Hyoung-Joon Park, Seok Heo, Jeong-Hwa Cho, Ji-Hyun Lee, Chang-Yong Yoon, Soo-Yeul Cho, Sun-Young Baek\*

Advanced Analysis Team, Ministry of Food and Drug Safety

PFS-13

Fermentation of *Sorghum bicolor* (L.) Moench with *Lactobacillus brevis* strain GODL1 increases quercetin and kaempferol contents

Jungeun Kim<sup>1,2</sup>, Sung-Kwon Lee<sup>2</sup>, A Rom Geum<sup>1,2</sup>, Karthiyaini Damodharan<sup>2,3</sup>, Seung Hwan Yang<sup>1,2\*</sup>, Joo-Won Suh<sup>2,3\*</sup>

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PFS-14

Increasing of antioxidant activities and the phenolic acid contents via fermentation with lactic acid bacteria

Sung-Kwon Lee<sup>1</sup>, Jungeun Kim<sup>2,3</sup>, Karthiyaini Damodharan<sup>1</sup>, Seung Hwan Yang<sup>1,3\*</sup>, Joo-Won Suh<sup>1,4\*</sup>

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PFS-15

Evaluation of textural and sensorial characteristics of peppermint oil-loaded calcium-alginate macrocapsules

Moojoong Kim<sup>1</sup>, Donghwa Chung<sup>2\*</sup>

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PFS-16

Anti-tumor, anti-inflammatory, antioxidant activity screening of extracts from subtropical vegetables grown in Korea

Woo-Woung Yang<sup>1</sup>, Kyu-Won Hwang<sup>1</sup>, Hyeong-Wook Jo<sup>2</sup>, Ki Cheol Seong<sup>3</sup>, Joon-Kwan Moon<sup>1\*</sup>

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Research Center for Climate Change, National Institute of Horticultural and Herbal Science, Jeju, Jeju, 651-150, Republic of Korea

PFS-17

**Anti-Inflammatory Effect of Ethanolic Extract from *Zostera marina* in LPS-Stimulated RAW 264.7 Cells**  
Nan-Young Bae<sup>1</sup>, Koth-Bong-Woo-Ri Kim<sup>2</sup>, Min-Ji Kim<sup>2</sup>, Na-Kyung Ahn<sup>1</sup>, Yeon-Uk Choi<sup>1</sup>, Ji-Hye Park<sup>1</sup>, Sun-Hee Park<sup>1</sup>, Won-Min Pak<sup>1</sup>, Si-Woo Bark<sup>1</sup>, Dong-Hyun Ahn<sup>1\*</sup>

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PFS-18

**Development and validation of an ultra-performance liquid chromatography for simultaneous analysis of 28 narcotic drugs in dietary supplements**

Seok Heo, Ji Yeon Choi, Geum Joo Yoo, Hyoung-Joon Park, Jung-Ah Do, Jeong-Hwa Cho, Ji Hyun Lee, Chang-Yong Yoon, Sung-Kwan Park, Soo Yeul Cho, Sun Young Baek\*

Advanced Analysis Team, Toxicological Evaluation and Research Department, National Institute of Food and Drug Safety Evaluation, Ministry of Food and Drug Safety

PFS-19

**Development and validation of LC-MS/MS and Q-TOF/MS method for three aconitum alkaloids in food**

Jeong-Hwa Cho, Ji Yeon Choi, Hyoung-Joon Park, Jung-Ah Do, Seok Heo, Ji Hyun Lee, Sooyeul Cho, Chang-Yong Yoon, Sung-Kwan Park, Sun Young Baek\*

Advanced Analysis Team, Toxicological Evaluation and Research Department, National Institute of Food and Drug Safety Evaluation, Ministry of Food and Drug Safety

PFS-20

**Investigation of Factors Which Cause Allergic Problems in Domestic and Imported International Wheat Species, and Comparison of Their Characteristics**

Ju Hee Kim<sup>1</sup>, Pyo June Pak<sup>1</sup>, Yong Hoon Joo<sup>1</sup>, Min Hee Hwang<sup>1</sup>, Nam Teak Lee<sup>2\*</sup>, Namhyun Chung<sup>1\*</sup>

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PFS-21

**Comparative proteomic analyses in artificially aged *Glycine max* seeds and whey**

Chul Woo Min<sup>1</sup>, Ravi Gupta<sup>1</sup>, So Wun Kim<sup>1</sup>, Won Young Han<sup>2</sup>, Won Byong Yoon<sup>3,4</sup>, Myoung Gun Jung<sup>5</sup>, Sun Tae Kim<sup>1\*</sup>

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PFS-22

**Metabolite Profiling of Three Types of Garlic Added *Cheonggukjang* (fermented soybean paste)**

**and Its Correlation with Bioactivities**

Dong Gu Oh<sup>1</sup>, Yu Kyung Jang<sup>1</sup>, Jong Sang Kim<sup>2</sup>, Choong Hwan Lee<sup>1\*</sup>

<sup>1</sup>Bioscience and Biotechnology, Konkuk University, <sup>2</sup>School of Food Science and Biotechnology, Kyungpook National University

PFS-23

**Primary and Secondary Metabolite Profiling of Korean Fermented Red Pepper Paste (*gochujang*) according to Industrial Manufacturing Process**

Gi Ru Shin<sup>1</sup>, Sarah Lee<sup>1</sup>, Eun Seok Jang<sup>2</sup>, Dong Joo Shin<sup>2</sup>, Hye-Jin Kim<sup>2</sup>, Hye Won Shin<sup>2</sup>, Byoung Seok Moon<sup>2</sup>, Choong Hwan Lee<sup>1\*</sup>

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PFS-24

**The effect of pre-fermentation periods on preventing pressure build-up/volume expansion of Kimchi packages**

Seungran Yoo, Hyejin Lee, Eung Soo Han \*

Industrial Technology Research Group, World Institute of Kimchi

PFS-25

**MS-based metabolomic analysis of industrial *gochujang* (Korean fermented red pepper paste) containing different kinds of raw material**

Da Eun Lee<sup>1</sup>, Gi Ru Shin<sup>1</sup>, Sun Min Lee<sup>1</sup>, Sarah Lee<sup>1</sup>, Seok Eun Jang<sup>2</sup>, Dong Joo Shin<sup>2</sup>, Hye Jin Kim<sup>2</sup>, Hye Won Shin<sup>2</sup>, Byoung Seok Moon<sup>2</sup>, Choong Hwan Lee<sup>1\*</sup>

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PFS-26

**Identification and Quantification of Carotenoids in Paprika Fruits and Cabbage, Kale, and Lettuce Leaves**

Soo-Yun Park<sup>1</sup>, Yunsoo Yeo<sup>1</sup>, Sun-Hyung Lim<sup>1</sup>, Sun-Hwa Ha<sup>2</sup>, Sang Un Park<sup>3</sup>, Seung-A Baek<sup>4</sup>, Jae Kwang Kim<sup>4\*</sup>

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PFS-27

**Metabolite Profiling of the *Lonicera caerulea* Fruits during Ripening and Its Relationship with Antioxidant Activity**

Heon Joong Lee<sup>1</sup>, Dong Ho Suh<sup>1</sup>, Eun Sung Jung<sup>1</sup>, Hye Min Park<sup>1</sup>, Seon-Gil Do<sup>2</sup>, Ga-Young Jung<sup>2</sup>, Choong Hwan Lee<sup>1\*</sup>

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PFS-28

**Polymethoxy flavonoids ameliorate ethanol-induced liver injury through modulation of AMPK and Nrf2-related signals in binge drinking mice model**

Hae Jin Lee<sup>1</sup>, Bong-Keun Choi<sup>2,3</sup>, Dong-Ryung Lee<sup>2</sup>, Seung Hwan Yang<sup>1,3\*</sup>, Joo-Won Suh<sup>1,3\*</sup>

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PFS-29

**Bioavailability Investigation of Fucoxanthin Contained in Milk Products and Orange Juice : In Vitro Simulated Digestion and Caco-2 Assays**

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PFS-30

**A Survey on GMO recognition of the members of Korean national assembly**

Hyang-Gi Lee<sup>1</sup>, Min-Kyoung Song<sup>1</sup>, Bok-Eum Shin<sup>2</sup>, Ji-Yeon Song<sup>2</sup>, Yeun Hong<sup>2</sup>, Jae-Hwan Kim<sup>2</sup>, Hae-Yeong Kim<sup>2\*</sup>

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PFS-31

**Effect of Magnolia Flower Extracts on Obesity Mice: Hepatotoxicity and Antioxidant Capacity**

Min Hee Hwang<sup>1</sup>, Yong Hoon Joo<sup>1</sup>, Ji Young Lee<sup>1</sup>, Yong Kwon Lee<sup>2</sup>, Namhyun Chung<sup>1\*</sup>

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PFS-32

**A comparison of antioxidant activity from *Angelica gigas* water extracts depending on stir-frying and stir-frying with liquids process**

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Department of Agriculture and Life Sciences, Chonbuk National University

PFS-33

**A comparison of antioxidant activity from *Lycium chinense* water extracts depending on stir-frying and stir-frying with liquids process**

Hyeon Hwa Nam, Byung Kil Choo<sup>\*</sup>

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PFS-34

**Reference standard plasmids for detecting genetically modified maize**

Ye-Seul Park<sup>1</sup>, Saet-Byul Park<sup>1</sup>, Jae-Hwan Kim<sup>1</sup>, Min-Ki Shin<sup>2</sup>, Gui Im Moon<sup>2</sup>, In-Gyun Hwang<sup>2</sup>, Hae-Yeong Kim<sup>1\*</sup>

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PFS-35

Comparison of electrospray ionization (ESI) and atmospheric chemical ionization (APCI) for the liquid chromatography–tandem mass spectrometry (LC–MS/MS) analysis of cholesteryl esters

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PFS-36

Optimization and validation of HPLC–MS method to identify and quantify triacylglycerols in human milk

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Non-targeted Metabolite Profiling of Hot Pepper (*Capsicum annuum* L.) Fruit Development

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Comprehensive Metabolic Profiles of *Doenjang* between Existing Industrial Process and Time Reduced Industrial Process

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Comparison of analytical methods for the determination of acetaldehyde and methanol in alcoholic beverage model systems

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The possible growth–retardation effect of herbicide tolerant gene *bar* in transgenic rice cultivar Dongjin

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Physicochemical characteristics of roasted Arabica and Robusta coffee beans

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Anti-diabetic effects of herb–combined extracts supplement in db/db mouse

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**Antioxidant activities and SDS-PAGE pattern of freeze-thaw tofu during the fermentation by *Bacillus subtilis***

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**Functional properties of freeze-thaw tofu with different enzyme concentration and hydrolysis time**

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PFS-45

**The Effect of Chlorine Dioxide Treatment on Mushroom Quality During Postharvest Handling and Transportation**

MiAe Cho<sup>1\*</sup>, Ji-Weon Choi<sup>2</sup>, Jongkee Kim<sup>3</sup>, YoungSeop Lee<sup>3</sup>, Kyoung Ju Song<sup>1</sup>, and Jong Rak Kim<sup>1</sup>

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