



2014

International Symposium and  
Annual Meeting of

THE **KSABC**

June 19 >> 21, 2014

Haeundae Grand Hotel, Busan, Korea

**Organized by**

- The Korean Society for Applied Biological Chemistry
- Institute of Agricultural Life Sciences, Dong-A University
- Institute of Agricultural Science & Technology, Chonbuk National University
- CNU Industrialization Center for Biological Resources
- CNU BK21 Plus Global Plant Healthcare Education Team
- Bio/Molecular Informatics Center, Konkuk University
- BK21plus Graduate Program for Next Generation Agrobiotech Industry, Gyeongsang National University

**Supported by**

- Korean Federation of Science and Technology Societies
- Gyeonggi Institute of Science & Technology Promotion
- Next-generation Biogreen21 : Center for Nutraceutical & Pharmaceutical Materials
- Rural Development Administration
- Miev Life Science
- Heuksalim



한국응용생명화학회  
The Korean Society for Applied Biological Chemistry

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## Timetable

### June 19 (Thu)

| Time        | Grand Ballroom (2F)                        |        |        | Nam-won (2F) | Choong-won (2F) | Private room (22F) |
|-------------|--|--------|--------|--------------|-----------------|--------------------|
|             | Hall A                                     | Hall B | Hall C |              |                 |                    |
| 09:00–09:30 | Registration                               |        |        |              |                 |                    |
| 09:30–11:40 | YS1  | YS2    | YS3    | –            | S6              | S7                 |
| 11:40–13:00 | Lunch / Luncheon Seminar                   |        |        |              |                 |                    |
| 13:00–13:20 | Opening Ceremony (Hall A)                  |        |        |              |                 |                    |
| 13:20–14:05 | PL-1 (Hall A)                              |        |        |              |                 |                    |
| 14:05–14:20 | Break                                      |        |        |              |                 |                    |
| 14:20–16:00 | IS1  | IS2    | IS3    | S5           |                 |                    |
| 16:00–17:00 | Poster Session I (Convention Hall, 2F)     |        |        |              |                 |                    |
| 17:00–17:50 | Workshop (Hall B)                          |        |        |              |                 |                    |
| 18:00–20:00 | Welcome Reception (Hall A+C, Emerald Hall) |        |        |              |                 |                    |

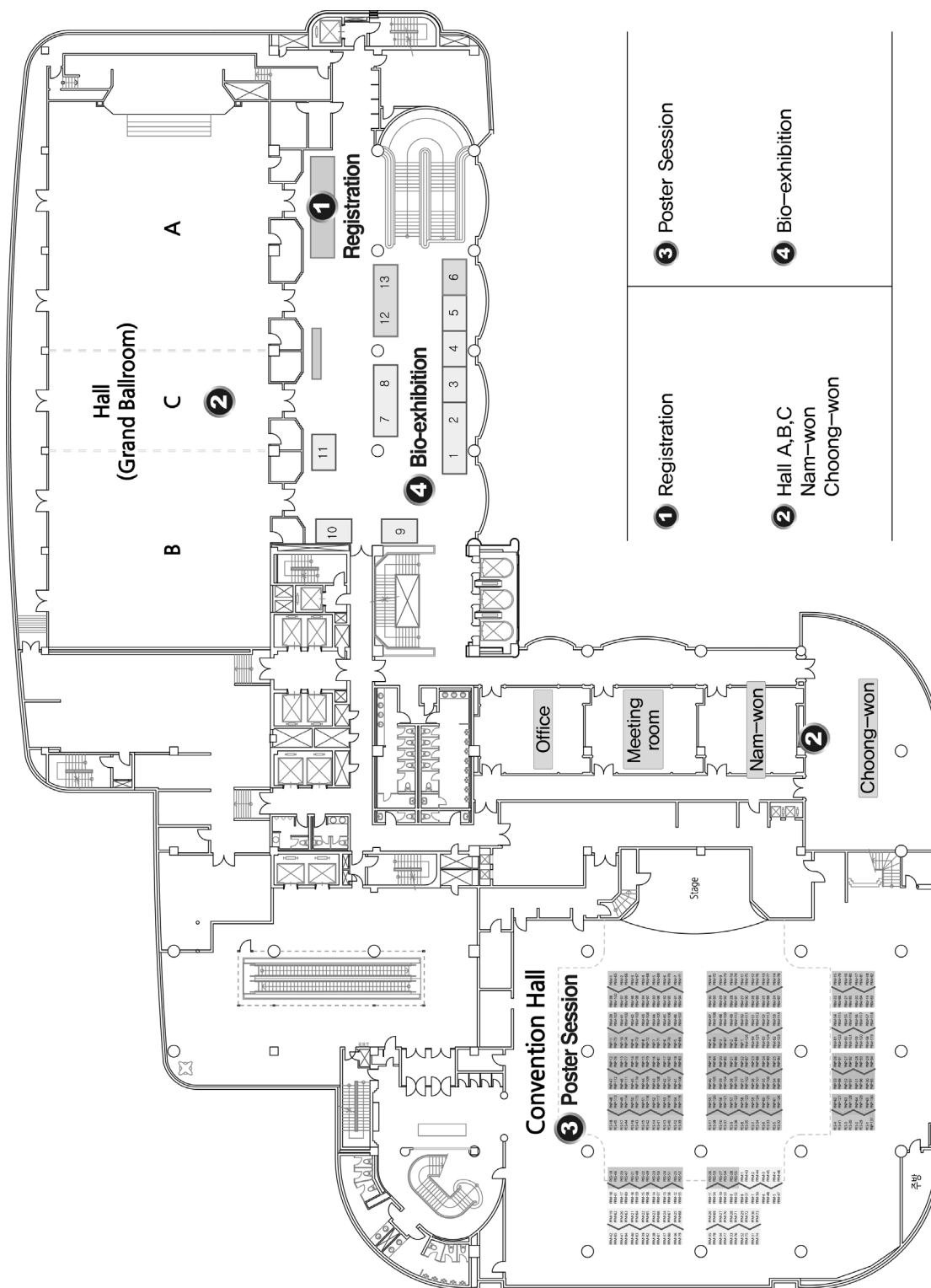
### June 20 (Fri)

| Time        | Grand Ballroom (2F)  |        |         | Choong-won (2F) |  |
|-------------|--|--------|---------|-----------------|--|
|             | Hall A   | Hall B | Hall C  |                 |  |
| 09:00–10:00 | Registration   |        |         |                 |  |
| 10:00–11:00 | IS1  | IS2    | IS4     | S6              |  |
| 11:00–11:45 | PL-2 (Hall A)  |        |         |                 |  |
| 11:45–13:00 | Lunch  |        |         |                 |  |
| 13:00–14:00 | S1   | S2     | S3 / S4 |                 |  |
| 14:00–15:00 | Poster Session II (Convention Hall, 2F)                      |        |         |                 |  |
| 15:00–16:00 | AL (Hall A)  |        |         |                 |  |
| 16:00–16:30 | General Assembly Members Meeting & Closing Ceremony (Hall A) |        |         |                 |  |

### June 21 (Sat)

| 09:00– |                               | Research Institute Tour |                                      |
|--------|-------------------------------|-------------------------|--------------------------------------|
| PL     | Plenary Lectures              |                         |                                      |
| AL     | Award Lectures                |                         |                                      |
| IS     | International Symposia        | IS1                     | Biochemistry · Molecular Biology     |
|        |                               | IS2                     | Natural Products                     |
|        |                               | IS3                     | Environmental Science                |
|        |                               | IS4                     | Food Science · Microbiology          |
| S      | Symposia                      | S1                      | Biochemistry · Molecular Biology     |
|        |                               | S2                      | Natural Products                     |
|        |                               | S3                      | Environmental Science                |
|        |                               | S4                      | Food Science · Microbiology          |
|        |                               | S5                      | Biologics                            |
|        |                               | S6                      | Next-generation Biogreen21 : CNPM    |
|        |                               | S7                      | Bio/Molecular Informatics Center     |
| YS     | Young Scientists Presentation | YS1                     | Biochemistry · Molecular Biology     |
|        |                               | YS2                     | Natural Products                     |
|        |                               | YS3                     | Environmental Science · Food Science |
| W      | Workshop                      |                         |                                      |
| P      | Poster Session                | PBM                     | Biochemistry · Molecular Biology     |
|        |                               | PNP                     | Natural Products                     |
|        |                               | PES                     | Pesticide · Environmental Science    |
|        |                               | PFM                     | Food Science · Microbiology          |

# Floor Plan



## Program Schedule

### Plenary Lectures

**June 19 (Thu), Hall A**

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

PL-1

13:20–14:05

**Differentiation and Ultrastructure of Rigid Cuticle of a Beetle**

Mi Young Noh and Yasuyuki Arakane\*

*Department of Applied Biology, Chonnam National University, Gwangju 500-757, Korea*

**June 20 (Fri), Hall A**

*Chair: Namhyun Chung (Korea University)*

PL-2

11:00–11:45

**CNPM**

**Interactions of human diet (case study, Chocolate) and its influence on metabolism deciphered by metabolomics**

Sunil Kochhar

*Nestlé Research Center, Vers-chez-les-Blanc, CH-1000 Lausanne 26, Switzerland*

### Award Lectures

**June 20 (Fri), Hall A**

*Chair: Joong-Hoon Ahn (Konkuk University)*

AL-1

15:00–15:20

**Plant Derived Polyphenols**

Yoongho Lim

*Division of Bioscience and Biotechnology, Molecular Structure Lab., Konkuk University, Seoul 143-701, Korea*

AL-2

15:20–15:40

**Mite Indicator: Color Alteration and Changes in Acaricidal Potency by Introducing Functional Radicals and Bio-Functional Compounds against *Dermatophagoides* spp. and *Tyrophagus putrescentiae***

Hoi-Seon Lee

*Department of Bioenvironmental Chemistry, Chonbuk National University, Jeonju, Korea*

AL-3

15:40-16:00

Development of Bio-functional Materials Isolated from Natural Products for Management of Hygienic Insects

Min-Gi Kim and Hoi-Seon Lee\*

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

## International Symposia

IS1

Biochemistry · Molecular Biology

June 19 (Thu), Hall A

*Chair: Young Yang (Sookmyung Women's University)*

IS1-1

14:20-14:50

Fast screening method for determination of an efficient probiotic strain by comparative study of mucosal adherence, aggregation and biofilm formation

Jugal Kishore Das and Mrutyunjay Suar\*

*School of Biotechnology, KIIT University, Bhubaneswar, India*

IS1-2

14:50-15:20

Nodulation Outer Proteins (Nops) and Soybean-*Sinorhizobium fredii* Interactions

Hari B. Krishnan

*Plant Genetics Research Unit, USDA-Agricultural Research Service, University of Missouri, Columbia, MO 65211, USA*

IS1-3

15:20-15:50

New Families of Carboxyl Peptidases: Serine-carboxyl peptidases and Glutamic peptidases

Kohei Oda

*Kyoto Institute of Technology, Matsugasaki, Sakyo-ku, Kyoto 606-8585, Japan*

June 20 (Fri), Hall A

*Chair: Do-Young Yoon (Konkuk University)*

IS1-4

10:00-10:30

*In situ* quantitative imaging of cellular lipids using molecular sensors

Youngdae Yoon

*Environmental Health Science, Konkuk University, Seoul 143-701, Korea*

IS1-5

10:30-11:00

**Molecular Mechanisms and Functions of Keap1–Nrf2 system**

Keiko Taguchi<sup>\*</sup>, Hozumi Motohashi, Masayuki Yamamoto

*Department of Gene Expression Regulation, Institute of Development, Aging and Cancer, Tohoku University,  
Department of Medical Biochemistry, Graduate School of Medicine, Tohoku University, Japan*

**IS2 Natural Products**

**June 19 (Thu), Hall B**

*Chair: Young-Won Chin (Dongguk University)*

**IS2-1**

**14:20–14:50**

**Search for Potent Bioactive Compounds from Ethnobotanically–Selected Plants in Indonesia**

Irawan W. Kusuma<sup>1\*</sup>, Enos Tangke Arung<sup>1</sup>, Farida Aryani<sup>2</sup>, Syafrizal<sup>3</sup>, Sanro Tachibana<sup>4</sup>, Yong-Ung Kim<sup>5</sup>

*<sup>1</sup>Laboratory of Forest Products Chemistry, Faculty of Forestry, Mulawarman University, Jl. Ki Hajar Dewantara, Samarinda-75116, East Kalimantan, Indonesia, <sup>2</sup>Polytechnic of Agriculture, Kampus Sei Keledang, Jl. Sam Ratulangi, Samarinda-75117, East Kalimantan, Indonesia, <sup>3</sup>Department of Biology, Faculty of Mathematic and Natural Sciences, Mulawarman University, Jl. Kuaro, Samarinda-75116, East Kalimantan, Indonesia, <sup>4</sup>Department of Applied Bioresource Sciences, Faculty of Agriculture, Ehime University, Tarumi 3-5-7, Matsuyama 790-8566, Japan, <sup>5</sup>Department of Pharmaceutical Engineering, College of Biomedical Science, Daegu Haany University, 1 Hanuidae-ro, Gyeongsan-si, Gyeongsangbuk-do 712-715, Korea*

**IS2-2**

**14:50–15:20**

**Food Allergens: Current Analytical Status, Challenges and Future Needs**

Nanju Alice Lee

*School of Chemical Engineering, University of New South Wales, Sydney 2052 NSW, Australia*

**IS2-3**

**15:20–15:50**

**Understanding the mode of action of genotoxic agents from natural products using a human disease model**

Yonghwan Kim

*Department of Life Systems, Sookmyung Women's University, Seoul 140-742, Korea*

**June 20 (Fri), Hall B**

*Chair: Yongsoo Choi (Korea Institute of Science and Technology (KIST))*

**IS2-4**

**10:00–10:30**

**Direction of Natural Products and Thai Traditional Medicine Research in Thailand**

Arunporn Itharat<sup>1</sup> and Maitree Suttajit<sup>2\*</sup>

*<sup>1</sup>School of Medicine, Thammasat University, <sup>2</sup>School of Medical Sciences, University of Phayao, Thailand*

IS2-5

10:30-11:00

LC-MS based high throughput screening of natural products: one step screening without fractionization

Yongsoo Choi

*Natural Medicine Center, Korea Institute of Science and Technology, Gangneung, Korea*

IS3

## Environmental Science

June 19 (Thu), Hall C

Chair: *Yeon Soo Han (Chonnam National University)*

IS3-1

14:20-14:50

Development of a new biocontrol agent using the combination of *Bacillus velezensis* G341 and *Lysinibacillus sphaericus* TC1 for the control of tomato wilt caused by *Ralstonia solanacearum*

Mi-Young Yoon, Gyung Ja Choi, Yong Ho Choi, Kyoung Soo Jang, and Jin-Cheol Kim\*

*Eco-friendly New Materials Research Group, Division of Convergence Chemistry, Korea Research Institute of Chemical Technology, Korea*

IS3-2

14:50-15:20

The scent of love and hate: Induced resistance by gaseous compounds

Choong-Min Ryu

*Molecular Phytobacteriology Laboratory, Systems and Synthetic Biology Research Center, KRIBB, Daejeon 305-806, Korea, Biosystems and Bioengineering Program, School of Science, University of Science and Technology, Daejeon 305-333, Korea*

IS3-3

15:20-15:50

Construction of insect cuticle through oxidation reactions of phenolic compounds by laccase system: its physiological significance and application to industrial usage

Tsunaki Asano

*Cellular genetics laboratory, Department of Biological Sciences, Tokyo Metropolitan University, Hachioji, Tokyo, Japan*

IS4

## Food Science · Microbiology

June 20 (Fri), Hall C

Chair: *Soon-Mi Shim (Sejong University)*

IS4-1

10:00-10:30

The importance of glycemic index in the management of diabetes and obesity

Jeyakumar Henry

*Clinical Nutrition Research Centre (CNRC), Singapore Institute for Clinical Sciences, A\*STAR, Singapore 117599*



IS4-2

10:30-11:00

**Antioxidant and Antigenotoxic Activity of Commonly Consumed Fruits and Vegetables in Korea**  
Eunju Park  
*Department of Food and Nutrition, Kyungnam University, Changwon 631-701, Korea*

## Symposia

### S1 Biochemistry · Molecular Biology

**June 20 (Fri), Hall A**

*Chair: Kwang-Hyun Baek (Yeungnam University)*

S1-1

13:00-13:30

**Epigenetic regulation of gene expression in plant seedling development**  
Pil Joong Chung  
*Seed Biotechnology Institute, Green Bio Science & Technology, Seoul National University, Kangwon-do 232-916, Korea*

S1-2

13:30-14:00

**Chitinase 7 (TcCHT7) is required for cuticle lamina organization and chitin deposition in *Tribolium***  
Mi Young Noh and Yasuyuki Arakane\*  
*Department of Applied Biology, Chonnam National University, Gwangju 500-757, Korea*

S1-3

14:00-14:30

**RNAseq and expressed sequence tag based identification of autophagy-related genes and expression analysis of TmTOR gene in the coleopteran model insect, *Tenebrio molitor***  
Yong Hun Jo<sup>1</sup>, Bharat Bhusan Patnaik<sup>1</sup>, Yong Seok Lee<sup>2</sup>, Bok Ruel Lee<sup>3</sup> and Yeon Soo Han<sup>1\*</sup>  
<sup>1</sup>*Division of Plant Biotechnology, Institute of Environmentally-Friendly Agriculture (IEFA), College of Agriculture and Life Sciences, Chonnam National University, Gwangju 500-757, Korea,* <sup>2</sup>*Department of Life Science and Biotechnology, College of Natural Sciences, Soonchunhyang University, Asan 336-745, Korea,* <sup>3</sup>*The National Research Laboratory of Defense Proteins, College of Pharmacy, Pusan National University, Busan 609-735, Korea*

### S2 Natural Products

**June 20 (Fri), Hall B**

*Chair: Jun Lee (Korea Institute of Oriental Medicine (KIOM))*

S2-1

13:00-13:30

**Gamma-mangostin, a novel c-Met inhibitor, suppresses cell proliferation of gastric cancer**  
Hee-sung Chae and Young-Won Chin\*  
*College of Pharmacy and RFIND-BKplus Team, Dongguk University-Seoul, 32 Dongguk-lo, Ilsandong-gu, Goyang, Gyeonggi-do 410-820, Korea*

S2-2

13:30-14:00

**Biological active materials from the roots of *Oryza sativa* L.**

Jin-Gyeong Cho<sup>1</sup>, Byeong-Ju Cha<sup>1</sup>, Rak-Hun Jeong<sup>1</sup>, Ji-Young Kim<sup>1</sup>, Woo-Duck Seo<sup>2</sup>, Hee-Cheol Kang<sup>3</sup>, and Nam-In Baek<sup>1\*</sup>

<sup>1</sup>Graduate School of Biotechnology & Department of Oriental Medicinal Materials & Processing, Kyung Hee University, Yongin 446-701, Korea, <sup>2</sup>Department of Functional Crop, National Institute of Crop Science, RDA, Milyang 627-830, Korea, <sup>3</sup>R&D center, GFC Co., Ltd., Suwon 443-813, Korea

## S3 Environmental Science

June 20 (Fri), Hall C

Chair: Bongkeun Choi (Myongji University)

S3-1

13:00-13:30

**Analyses and Decreasing Patterns of Veterinary Antianxiety Medications in Soils**

Jeong-Heui Choi<sup>1</sup>, Marc Lamshöft<sup>2</sup>, Michael Spiteller<sup>2</sup>, A. M. AbdEl-Aty<sup>3</sup>, and Jae-Han Shim<sup>1\*</sup>

<sup>1</sup>Biotechnology Research Institute, Chonnam National University, Gwangju 500-757, Korea, <sup>2</sup>Institut für Umweltforschung, Technische Universität Dortmund, Dortmund 44227, Germany, <sup>3</sup>Department of Pharmacology, Cairo University, Giza 12211, Egypt

## S4 Food Science · Microbiology

June 20 (Fri), Hall C

Chair: Bongkeun Choi (Myongji University)

S4-1

13:30-14:00

**Preliminary survey on the worrisome organic contaminants in Korean sundried salt**

Jin Hyo Kim<sup>1\*</sup>, So-Young Kim<sup>2</sup>

<sup>1</sup>Chemical Safety Division, <sup>2</sup>Functional Food Division, National Academy of Agricultural Science, Suwon 441-707, Korea

## S5 Biologics

June 19 (Thu), Nam-won

Chair: Se-Ho Kim (Kangwon National University)

S5-1

14:20-14:50

**Production of Antibodies using Synthetic Peptide Formulated with CpG-DNA-Liposome Complex without Carriers**

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

<sup>1</sup>Center for Medical Science Research, Hallym University, Chuncheon 200-702, Korea, <sup>2</sup>Department of Biochemistry, Chungbuk National University, Cheongju 361-763, Korea, <sup>3</sup>Department of Microbiology, Hallym University College of Medicine, Chuncheon 200-702, Korea

S5-2

14:50-15:20

**In vivo Protein Fitness Filter for Directed Evolution of Inherently Unstable Proteins**

Dong-Sik Kim<sup>1†</sup>, Hyung-Nam Song<sup>2‡</sup>, Hyo Jung Nam<sup>1</sup>, Sung-Geun Kim<sup>1</sup>, Young-Seoub Park<sup>1</sup>, Jae-Chan Park<sup>1</sup>, Eui-Jeon Woo<sup>2</sup> and Hyung-Kwon Lim<sup>1\*</sup>

<sup>1</sup>Antibody Engineering, Mogam Biotechnology Research Institute, 341 Bojeong-dong, Keehung-gu, Yongin, Kyunggi 449-913, Korea, <sup>2</sup>BioMedical Proteomics Research Center, Korea Research Institute of Bioscience & Biotechnology, 125 Gwahak-ro, Yuseong-gu, Daejeon 306-809, Korea

S5-3

15:20-15:50

**Plasmid Based Gene Medicine: Next Generation Biopharmaceuticals**

Moonsup Jeong

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

**S7**

**Bio/Molecular Informatics Center**

**June 19 (Thu), Private room**

Chair: Youhoon Chong (Konkuk University)

S7-1

09:30-10:35

**Flavonoids? : Chemistry and Biology**

Yoongho Lim

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

S7-2

10:35-11:35

**On effects of quercetin flavonoid on ligand-gated ion channel activities**

Byung-Hwan Lee, Sun-Hye Choi, Hyeon-Joong Kim, Seok-Won Jung, Hyun-Sook Kim, and Seung-Yeol Nah<sup>\*</sup>

Department of Physiology, College of Veterinary Medicine and Bio/Molecular Informatics Center, Konkuk University, Seoul 143-701, Korea

Chair: Do-Young Yoon (Konkuk University)

S7-3

13:15-14:15

**Flavonoids with antibacterial and anti-inflammatory activities and their target proteins**

Eunjung Lee, Ki-Woong Jeong, Areum Shin, Hum Nath Jnawali, and Yangmee Kim<sup>\*</sup>

Department of Bioscience and Biotechnology, Bio-Molecular Informatics Center, Konkuk University, Seoul 143-701, Korea

S7-4

14:15-15:15

**A strategy to overcome low aqueous solubility and racemic mixtures of flavonoids: Complexation with microbial carbohydrates**

Seunho Jung

*Department of Bioscience and Biotechnology, Bio/Molecular Informatics Center (BMIC), Institute for Ubiquitous Information Technology and Applications (CBRU), Konkuk University, Seoul 143-701, Korea*

Chair: Woon-Seok Yeo (Konkuk University)

S7-5

15:30-16:30

**Health Functionality and Industrial Application of Flavonoids in Food and Bioindustry**

Hyun-Dong Paik<sup>\*</sup>, Kyung-Ah Lee, Sun-Hee Moon, and Kee-Tae Kim

*Department of Food Science and Biotechnology of Animal Resources and Bio/Molecular Informatics Center, Konkuk University, Seoul 143-701, Korea*

S7-6

16:40-17:30

**From Biotransformation to Metabolic Engineering and more; Biological synthesis of flavonoids for 10 years**

Joong-Hoon Ahn

*Department of Convergence Bioscience and Biotechnology, Bio/Molecular Informatics Center, Konkuk University, Seoul 143-701, Korea*

## Young Scientists Presentation

YS1

**Biochemistry · Molecular Biology**

June 19 (Thu), Hall A

Chair: Sun Chul Kang (Daegu University)

YS1-1

09:30-09:45

**Shotgun Lipidomics Platform Development and its application to disease study**

Jong-Cheol Shon and Kwang-Hyeon Liu<sup>\*</sup>

*College of Pharmacy and Research Institute of Pharmaceutical Sciences, Kyungpook National University, Daegu 702-701, Korea*

YS1-2

09:45-10:00

**Crystal structures and endonuclease activity of two CRISPR-associated proteins, Cas5d**

Donghyun Ka<sup>1</sup>, Yoon Koo<sup>1</sup>, Nayoung Suh<sup>3,4</sup> and Euiyoung Bae<sup>1,2\*</sup>

*<sup>1</sup>Department of Agricultural Biotechnology, Seoul National University, Seoul 151-921, Korea, <sup>2</sup>Center for Food and Bioconvergence, Seoul National University, Seoul 151-921, Korea, <sup>3</sup>Asan Institute for Life Sciences, Asan Medical Center, Seoul 138-736, Korea, <sup>4</sup>Department of Medicine, University of Ulsan College of Medicine, Seoul 138-736, Korea*

YS1-3

10:00-10:15

**Functional Studies of *OsPBS1* Involved in Resistance to Rice Stripe Disease**

Byeori Kim<sup>1</sup>, Yong-Jae Yoo<sup>1</sup>, Kui-Jae Lee<sup>1,2</sup>, and Kangmin Kim<sup>1,2\*</sup>

<sup>1</sup>*Division of Biotechnology, Chonbuk National University, Iksan 570-752, Korea,* <sup>2</sup>*Advanced Institute of Environment and Bioscience, Chonbuk National University, Iksan 570-752, Korea*

YS1-4

10:15-10:30

**Adiponectin deficiency suppresses tumor growth in C57BL/6 by modulating NK cells, CD8 T cells, and myeloid-derived suppressor cells**

Sora Han, Young Yang<sup>\*</sup>

*Department of Life Science, Sookmyung Women's University, Seoul 140-742, Korea*

YS1-5

10:30-10:45

**IL-32 $\alpha$  modulates PLZF gene and BCL6 gene activity by inhibiting protein kinase C $\epsilon$ -dependent SUMO-2 modification**

Yun Sun Park, Jeong-Woo Kang, Dong Hun Lee, Man Sub Kim, Yesol Bak, and Do-Young Yoon<sup>\*</sup>

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

YS1-6

10:45-11:00

**A Pepper *MSRB2* Gene Confers Drought Tolerance in Rice through the Protection of Chloroplast-Targeted Genes**

Joung Sug Kim<sup>1†</sup>, Hyang-Mi Park<sup>3†</sup>, Songhwa Chae<sup>2</sup>, Tae-Ho Lee<sup>2</sup>, Duk-Ju Hwang<sup>4</sup>, Sung-Dug Oh<sup>4</sup>, Jong-Sug Park<sup>4</sup>, Dae-Geun Song<sup>6</sup>, Cheol-Ho Pan<sup>6</sup>, Doil Choi<sup>5</sup>, Yul-Ho Kim<sup>3</sup>, Baek Hie Nahm<sup>1,2\*</sup>, Yeon-Ki Kim<sup>2\*</sup>

<sup>1</sup>*Division of Bioscience and Bioinformatics, Myongji University, Yongin, Kyonggido 449-728, Korea,* <sup>2</sup>*Genomics Genetics Institute, GreenGene BioTech Inc., Yongin, Kyonggido 449-728, Korea,* <sup>3</sup>*Rice research division, National Institute of Crop Science, Suwon 441-857, Korea,* <sup>4</sup>*National Academy of Agricultural Science, Rural Development Administration, Suwon 441-707, Korea,* <sup>5</sup>*College of Agriculture and Life Sciences and Plant Genomics & Breeding Institute, Seoul National University, Seoul 151-742, Korea,* <sup>6</sup>*Functional Food Center, Korea Institute of Science and Technology (KIST), Gangneung, Gangwon-do 210-340, Korea*

YS1-7

11:00-11:15

**Transcriptome analysis of leaf and root of rice seedling to acute dehydration**

Pham-Thi Minh-Thu<sup>1</sup>, Duk-Ju Hwang<sup>2</sup>, Jong-Seong Jeon<sup>3</sup>, Baek Hie Nahm<sup>1,4\*</sup> and Yeon-Ki Kim<sup>4\*</sup>

<sup>1</sup>*Division of Bioscience and Bioinformatics, Myongji University, Yongin, Kyonggido 449-728, Korea,* <sup>2</sup>*Rural Development Administration, National Academy of Agricultural Science, Suwon, Kyonggido 441-707, Korea,* <sup>3</sup>*Graduate School of Biotechnology, Kyung Hee University, Yongin, Kyonggido 446-701, Korea,* <sup>4</sup>*Genomics Genetics Institute, GreenGene BioTech Inc., Yongin, Kyonggido 449-728, Korea*

YS1-8

11:15-11:30

Interleukin-32 $\beta$  stimulates VEGF-STAT3 signaling in breast cancer cell lines

Jeong Su Park and Young Yang\*

*Department of Life systems, Sookmyung Women's University, Seoul 140-472, Korea*

YS2

Natural Products

June 19 (Thu), Hall B

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

YS2-1

09:30-09:45

Acaricidal Effects of Peppermint Oil and Their Major Components against Stored Food Mite, *Tyrophagus putrescentiae*

Jun-Hwan Park, Hwa-Won Lee, and Hoi-Seon Lee\*

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

YS2-2

09:45-10:00

Environmental Stability of the bioactive ingredients in commercial biopesticide from neem extract

Cho-Long Jin, Du-Yun Jeong, Geun-Hyoung Choi, Byung-Jun Park, Nam-Jun Cho, and Jin Hyo Kim\*

*Chemical Safety Division, National Academy of Agricultural Science, RDA, Suwon 441-707, Korea*

YS2-3

10:00-10:15

Separation of resveratrol chemotypes from *Paeonia lactiflora* using high-speed counter-current chromatography

Yhun-Jung Park<sup>1</sup>, Hyung Won Ryu<sup>1</sup>, Hyuk-Hwan Song<sup>1</sup>, Seong-Hun Jeong<sup>2</sup>, Doo-Young Kim<sup>1</sup>, Sei-Ryang Oh<sup>1\*</sup>

<sup>1</sup>Natural Medicine Research Center, KRIBB, 30-Yeongudanji-ro, Ochang-eup, Cheongwon 363-883, Korea,

<sup>2</sup>Namhae Garlic Research Institute, Namhae 668-812, Korea

YS2-4

10:15-10:30

UPLC-PDA-QTOF-MS analysis of phytochemicals and antioxidant properties of *Euphorbia supina* outdoor cultivation and wild-growing plants

Ki Ohk Kim, Hyuk-Hwan Song, Hyung Won Ryu, Jung Hee Kim, Sei-Ryang Oh\*

*Natural Medicine Research Center, Korea Research Institute of Bioscience & Biotechnology, Cheongwon 363-883, Korea*

YS2-5

10:30-10:45

Inhibitory effects of *Artemisia capillaris* extract on melanogenesis in B16F10 melanoma cells

Dong-Ryung Lee<sup>1</sup>, Bong-Keun Choi<sup>2</sup>, Young-Sil Lee<sup>2</sup>, Hae Jin Lee<sup>3</sup>, Joo-Won Suh<sup>1,2\*</sup>

<sup>1</sup>Division of Bioscience and Bioinformatics, College of Natural Science, Myongji University, Yongin, Korea,

<sup>2</sup>Center for Nutraceutical and Pharmaceutical Materials, Myongji University, Cheoin-gu, Yongin, Korea,

<sup>3</sup>Interdisciplinary program of Biomodulation, College of Natural Science, Myongji University, Yongin, Korea

YS2-6

10:45-11:00

**Antioxidant and anti-inflammatory activities of isolated polyphenol compounds from barley sprouts**  
Mi Jin Park<sup>1,2</sup>, Kyung Hye Seo<sup>1</sup>, Sang-Ik Han<sup>1</sup>, Ji-Eun Ra<sup>1</sup>, Ji-young Park<sup>1</sup>, Young-Hwa Kang<sup>2</sup>, Min Hee Nam<sup>1</sup>,  
and Woo Duck Seo<sup>1\*</sup>

<sup>1</sup>Department of Functional crops, National Institute of Crop Science (NICS), Rural Development Administration (RDA), Miryang 627-803, Korea, <sup>2</sup>Division of Applied Biosciences, College of Agriculture & Life Sciences, Kyungpook National University, Daegu 702-701, Korea

YS2-7

11:00-11:15

**Chikusetsusaponin IVa methyl ester (CME) induces cell cycle arrest and apoptosis by regulation of Wnt signaling pathway via differential mechanisms**

Kyung-Mi Lee<sup>1,2</sup>, Ji Ho Yun<sup>2</sup>, Dong Hwa Lee<sup>3</sup>, Young Gyun Park<sup>2</sup>, Kun Ho Son<sup>3</sup>, Chu Won Nho<sup>2\*</sup>, Yeong Shik Kim<sup>1\*</sup>

<sup>1</sup>Natural Products Research Institute, College of Pharmacy, Seoul National University, Seoul 140-742, Korea, <sup>2</sup>Natural Products Research Center, Korea Institute of Science and Technology, Gangneung 210-340, Korea, <sup>3</sup>Department of Food Science and Nutrition, Andong National University, Andong 760-749, Korea

YS2-8

11:15-11:30

**Chloramphenicol Acetyltransferase Activity Assay on Biochips Using MALDI-TOF MS**

Inseong Choi, Joong-Hoon Ahn, and Woon-Seok Yeo<sup>\*</sup>

Department of Bioscience and Biotechnology, Bio/Molecular Informatics Center, Konkuk University, Seoul 143-701, Korea

**YS3**

**Environmental Science · Food Science**

**June 19 (Thu), Hall C**

Chair: Hong-Kyu Choi (Dong-A University)

YS3-1

09:30-09:45

**Production of Insecticidal Rhamnolipids using tangerine peel by *Pseudomonas* sp. EP-3 for control of green peach aphid**

Tae Hyun Park, Si Young Yang, and In Seon Kim<sup>\*</sup>

Department of Agricultural Chemistry, Chonnam National University, Gwangju 500-757, Korea

YS3-2

09:45-10:00

**Functional analysis of GacS regulated oxidative stress related genes in a biocontrol bacterium *Pseudomonas chlororaphis* O6**

Ji Soo Kim, Young Cheol Kim<sup>\*</sup>

Institute of Environmentally-Friendly Agriculture, Chonnam National University, Gwangju 500-757, Korea

YS3-3

10:00-10:15

**Cellular uptake of Sulfur-Methyl-L-Methionine (SMM) in Caco-2 human intestinal cell line**

Hae-Rim Lee, Soon-Mi Shim \*

*Department of Food Science and Technology, Sejong University, 98 Gunja-dong, Seoul 143-747, Korea*

YS3-4

10:15-10:30

Isolation and Determination of the Aphicidal Metabolites Produced by *Bacillus* sp. MS-1 against *Myzus Persicae*

Si Young Yang, In Seon Kim \*

*Department of Agricultural Chemistry, Chonnam National University, Gwangju 500-757, Korea*

YS3-5

10:30-10:45

Biocontrol Potential of an Extracellular Proteolytic Enzyme from *Pseudomonas* sp. against Aphids and Diamondback Moths

Thuong Thi Thuong Nguyen and Hyang Burm Lee \*

*Division of Applied Bioscience & Biotechnology, College of Agriculture & Life Sciences, Chonnam National University, Gwangju 500-757, Korea*

YS3-6

10:45-11:00

Probiotic characterization of a potential cholesterol-lowering *Pediococcus pentosaceus* strain KID7

Karthiyaini Damodharan<sup>1,2</sup>, Sasikumar Arunachalam Palaniyandi<sup>1</sup>, Seung Hwan Yang<sup>1</sup>, and Joo-Won Suh<sup>1,2\*</sup>

<sup>1</sup>*Center for Nutraceutical and Pharmaceutical Materials, Myongji University, Cheoin-gu, Yongin-si,*

*Gyeonggi-do 449-728, Korea,* <sup>2</sup>*Division of Bioscience and Bioinformatics, College of Natural Science, Myongji University, Cheoin-gu, Yongin-si, Gyeonggi-do 449-728, Korea*

YS3-7

11:00-11:30

The role of lytic enzymes produced by *Lysobacter capcisi* YS1215 in biocontrol of root-knot nematode in tomato

Yong Seong Lee, Xuan Hoa Nguyen, Kyaw Wai Naing, and Kil Yong Kim \*

*Division of Applied Bioscience and Biotechnology, Institute of Environment-Friendly Agriculture (IEFA), Chonnam National University, Gwangju 500-757, Korea*

## Workshop

June 19 (Thu), Hall B

W-1

17:00-17:50

English Learning in the Global World in the Digital Age

David Park

*Dr. David English Lyceum*



## Poster Session

### ▶ Poster Category

|            |                                   |
|------------|-----------------------------------|
| <b>PBM</b> | Biochemistry · Molecular Biology  |
| <b>PNP</b> | Natural Products                  |
| <b>PES</b> | Pesticide · Environmental Science |
| <b>PFM</b> | Food Science · Microbiology       |

### ▶ Poster Session I & II

| Date                           | Session             | PBM     | PNP     | PES    | PFM    |
|--------------------------------|---------------------|---------|---------|--------|--------|
|                                | <b>I</b>            |         |         |        |        |
| June 19 (Thu)<br>16:00 - 17:00 |                     | #1-64   | #1-65   | #1-28  | #1-42  |
|                                | <b>II</b>           |         |         |        |        |
| June 20 (Fri)<br>14:00 - 15:00 |                     | #65-126 | #66-131 | #29-55 | #43-85 |
| Place                          | Convention Hall, 2F |         |         |        |        |

## **PBM** Biochemistry · Molecular Biology

**PBM-1**

**CCL5 expression is suppressed by IL-32 $\theta$  mediated via Interactions between IL-32 and PKC $\delta$  and STAT3**

Yesol Bak, Jeong-Woo Kang, Man Sub Kim, Yun Sun Park, Sun Young Ham, Taeho Kwon, Jintae Hong, Do-Young Yoon\*

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

**PBM-2**

**IL-32 $\theta$  attenuates TNF- $\alpha$  production through inhibitory effect on MAPK and NF- $\kappa$ B signaling in PMA-treated human monocyte cells**

Man Sub Kim, Jeong-Woo Kang, Yun Sun Park, Dong Hun Lee, Yesol Bak, Do-Young Yoon\*

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

**PBM-3**

**Monitoring and Identification of *Cynanchum wilfordii* and *Cynanchum auriculatum* by Using Molecular Markers and Real-Time Polymerase Chain Reaction**

Jin Ah Ryuk, Hiroe Go, In Sil Park, Dae Wook Kim, Su Ran Kim, Byoung Seob Ko\*

*KM-Based Herbal Drug Development, Korea Institute of Oriental Medicine*

PBM-4

**Isolation and functional characterization of a PISTILLATA-1 promoter from Brassica napus**

Kyung Hee Roh<sup>\*</sup>, Soo Bok Choi, Han-Chul Kang, Jong-Bum Kim, Hyun Uk Kim, Kyeong-Ryeol Lee  
*Department of Agricultural Biotechnology, National Academy of Agricultural Science, RDA*

PBM-5

**Isolation and functional characterization of cruciferin gene cru4 promoter from Brassica napus**

Kyung Hee Roh<sup>\*</sup>, Soo Bok Choi, Jong-Bum Kim, Han-Chul Kang, Hyun Uk Kim, Kyeong-Ryeol Lee  
*Department of Agricultural Biotechnology, National Academy of Agricultural Science, RDA*

PBM-6

**Production of Epitope-specific Antibodies using Synthetic Peptide Formulated with CpG-DNA-Liposome Complex without Carriers and their Application**

Dongbum Kim<sup>1</sup>, Guang Wu<sup>1</sup>, Byoung Kwon Park<sup>2</sup>, Te Ha Kim<sup>2</sup>, Song Hee Choi<sup>2</sup>, Jae-Wook Lee<sup>2</sup>, Avishek Gautam<sup>2</sup>, Younghee Lee<sup>3</sup>, Hyung-Joo Kwon<sup>2\*</sup>

<sup>1</sup>*Center for Medical Science Research, Hallym University College of Medicine,* <sup>2</sup>*Department of Microbiology, Hallym University College of Medicine,* <sup>3</sup>*Department of Biochemistry, Chungbuk National University*

PBM-7

**Effect of CpG-DNA-Liposome Complex on UNC93A Expression in Mice**

Te Ha Kim<sup>1</sup>, Dongbum Kim<sup>2</sup>, Guang Wu<sup>2</sup>, Byoung Kwon Park<sup>3</sup>, Song Hee Choi<sup>3</sup>, Jae-Wook Lee<sup>3</sup>, Avishek Gautam<sup>3</sup>, Younghee Lee<sup>4</sup>, Hyung-Joo Kwon<sup>3\*</sup>

<sup>1</sup>*Department of Microbiology, Hallym University,* <sup>2</sup>*Center for Medical Science Research, Hallym University College of Medicine,* <sup>3</sup>*Department of Microbiology, Hallym University College of Medicine,* <sup>4</sup>*Department of Biochemistry, Chungbuk National University*

PBM-8

**Chrysanthemum microarray analysis to reveal mRNAs involved in virus infection**

Yeonhwa Jo, Hoseong Choi, Sen Lian, Jung Min Yoon, Hangil Kim, Kyoung-Min Jo, Won Kyong Cho<sup>\*</sup>  
*Department of Agricultural Biotechnology, Seoul National University*

PBM-9

**Monitoring of Genetically Modified Zoysiagrass (*zoysia japonica* Steud.) around Confined Field Trials**

Bumkyu Lee<sup>1\*</sup>, Kee Woong Park<sup>2</sup>, Hyo-Yeon Lee<sup>3</sup>, Soon Ki Park<sup>1</sup>, Tae-Hun Ryu<sup>1</sup>

<sup>1</sup>*Biosafety Division, Rural Development Administration,* <sup>2</sup>*Department of Crop Science, Chungnam National University,* <sup>3</sup>*Faculty of Biotechnology, Cheju National University*

PBM-10

**Synergistic anti-cancer effects of herbal mixture H9 extract with vemurafenib against human melanoma cell A375**

Ga-Wan Park<sup>1</sup>, Hee Kyong Lim<sup>1</sup>, Kyeng-Min Kim<sup>1</sup>, Jae-Hyuk Pyo<sup>1</sup>, Min-Gi Kim<sup>1</sup>, Doo-Young Song<sup>1</sup>, Bong-Kyu Song<sup>1</sup>, Myoung-Jun Kim<sup>1</sup>, Eun-Ji Hong<sup>1</sup>, Do-Young Yoon<sup>2</sup>, Seungyun Chung<sup>3</sup>, Young Yang<sup>4</sup>, Kang-Duk Choi<sup>1\*</sup>

<sup>1</sup>*Genomic Informatics Center, Hankyong National University, Anseong, Gyeonggi-do, Korea,* <sup>2</sup>*Department of Bioscience and Biotechnology, Bio/Molecular Informatics Center, Konkuk University, Seoul, Korea,* <sup>3</sup>*School of Oriental Medicine, Dongguk University, Siksa-dong, Ilsan, Korea,* <sup>4</sup>*Department of Life Science, Research Center*

*for Women's Disease, Sookmyung Women's University, Seoul 140-742, Korea*

**PBM-11**

**Fucoxanthin Isolated from Sargassum Siliquastrum Inhibits Migration in HT1080 Cells by Suppressing the MMP-2 and MMP-9 Expression**

Won-Kyo Jung<sup>\*</sup>, Van-Tinh Nguyen

*Department of Biomedical Engineering, and Center for Marine-Integrated Biomedical Technology (BK21 Plus), Pukyong National University*

**PBM-12**

**Inhibition of melanogenesis by a tetrameric peptide purified from fermented microalgae Pavlova lutheri on murine B16F10 melanoma cells**

Won-Kyo Jung<sup>\*</sup>, Gun-Woo Oh

*Department of Biomedical Engineering, and Center for Marine-Integrated Biomedical Technology (BK21 Plus), Pukyong National University*

**PBM-13**

**Beneficial effects of phlorotannin isolated from Ecklonia cava conjugated PCL/ $\beta$ -TCP Composite scaffolds for bone tissue regeneration**

Won-Kyo Jung<sup>1\*</sup>, Geunhyung Kim<sup>2</sup>

*<sup>1</sup>Department of Biomedical Engineering, and Center for Marine-Integrated Biomedical Technology (BK21 Plus), Pukyong National University, <sup>2</sup>Department of Biomechatronic Engineering, College of Biotechnology and Bioengineering, Sungkyunkwan University*

**PBM-14**

**Inhibition of ACE and angiotensin II induced NO production by Spirulina gastrointestinal hydrolysate regulate via p38 MAPK in endothelial cell**

Won-Kyo Jung<sup>\*</sup>, Seong-Yeong Heo

*Department of Biomedical Engineering, and Center for Marine-Integrated Biomedical Technology (BK21 Plus), Pukyong National University*

**PBM-15**

**Inhibitory effect of Peptide Isolated from Marine Microalgae Pavlova Lutheri on MMP-2 and MMP-9 in human fibrosarcoma cells**

Won-Kyo Jung<sup>\*</sup>, Seong-Yeong Heo

*Department of Biomedical Engineering, and Center for Marine-Integrated Biomedical Technology (BK21 Plus), Pukyong National University*

**PBM-16**

**Effects of Photosynthetic Efficiency and Yield by Low Light Intensity on Ripening Stage in Japonica Rice**

Minhee Lee<sup>\*</sup>, Shin-Gu Kang, Wan-Gyu Sang, Bon-Il Ku, Young-Doo Kim, Hong-Kyu Park, Jeom-Ho Lee

*Department of Rice and Cereal Crop, NICS, RDA*

**PBM-17**

**Chitosan coated multi-layered poly (3-caprolactone) scaffolds fabricated via combination of melt-plotting/in situ plasma treatment**

Won-Kyo Jung<sup>1\*</sup>, Geunhyung Kim<sup>2</sup>

<sup>1</sup>*Department of Biomedical Engineering, and Center for Marine-Integrated Biomedical Technology (BK21 Plus), Pukyong National University,* <sup>2</sup>*Department of Biomechatronic Engineering, College of Biotechnology and Bioengineering, Sungkyunkwan University*

**PBM-18**

**Improved fidelity and PCR performance of Neq DNA polymerase by the A523R/N540R double mutation**

Seung Hyun Kim, Hyewoo Pyun, Man Hui Youn, Sung Suk Cho, Kyung-Min Kwon, Suk-Tae Kwon\*  
*Department of Biotechnology and Bioengineering, Sungkyunkwan University*

**PBM-19**

**Enhanced PCR Efficiency of Twa DNA Polymerase by changing His 633 to Arg in the Thumb Domain**

Seung Hyun Kim, Sung Suk Cho, Mi Yu, Suk-Tae Kwon\*  
*Department of Biotechnology and Bioengineering, Sungkyunkwan University*

**PBM-20**

**Fabrication and characterization of nonfibrous polycaprolactone (PCL)/Fucoidan scaffolds for osteoblastic differentiation on osteoblast like cell (MG-63)**

Won-Kyo Jung<sup>1\*</sup>, Geunhyung Kim<sup>2</sup>  
<sup>1</sup>*Department of Biomedical Engineering, and Center for Marine-Integrated Biomedical Technology (BK21 Plus), Pukyong National University,* <sup>2</sup>*Department of Biomechatronic Engineering, College of Biotechnology and Bioengineering, Sungkyunkwan University*

**PBM-21**

**High Sensitive Tissue Imaging by LDI- TOF MS using AuNPs**

Sung Ryung Kim, In Seong Choi, Woon-Seok Yeo\*  
*Department of Bioscience and Biotechnology, Bio/Molecular Informatics Center, Konkuk University, Seoul 143-701, Korea*

**PBM-22**

**Molecular and functional characterization of the gOsLTP2, 3 promoters in response to wounding**

Eun Jung Suh<sup>\*</sup>, Seong-Kon Lee, Kyung Hwan Kim, Hye Jin Yoon, Yeon-Hee Lee  
*Molecular Breeding Division, National Academy of Agricultural Science, RDA*

**PBM-24**

**Expression in E.coli and characterization of FatB5 gene originated from Cuphea**

Han-Chul Kang<sup>\*</sup>, Kyung Hee Roh, Jong-Bum Kim, Hyun Uk Kim, Kyeong-Ryeol Lee, Sun Hee Kim  
*Department of Metabolic Engineering, National Academy of Agricultural Science, Rural Development Administration*

**PBM-25**

**Extracellular production of lipids in E.coli using FatB2 gene originated from Cuphea**

Han-Chul Kang<sup>\*</sup>, Kyung Hee Roh, Jong-Bum Kim, Hyun Uk Kim, Kyeong-Ryeol Lee, Sun Hee Kim  
*Department of Metabolic Engineering, National Academy of Agricultural Science, Rural Development Administration*

**PBM-26**

**Biological synthesis of pinocembrin from glucose using engineered *Escherichia coli***

Hyejin Lee<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, Seoul 143-701, Korea, <sup>2</sup>Department of Forest Resource, Gyeongnam National University of Science and Technology, 33 Dongjin-ro, Jinju-si, Gyeongsangman-do 660-758, Korea

**PBM-27**

**Synthesis of flavonoid O-pentosides by *Escherichia coli* through engineering nucleotide sugar synthesis pathway and glycosyltransferase**

So Hyun Han<sup>1</sup>, Jeong-A Yoon<sup>1</sup>, Bong-Gyu Kim<sup>2</sup>, Youhoon Chong<sup>1</sup>, Joong-Hoon Ahn<sup>1\*</sup>

<sup>1</sup>Department of Bioscience and Biotechnology, Bio/Molecular Informatics Center, Konkuk University, 120 Neungdong-ro, Gwangjin-gu, Seoul 143-701, Korea, <sup>2</sup>Department of Forest Resource, Gyeongnam National University of Science and Technology, 33 Dongjin-ro, Jinju-si, Gyeongsangman-do 660-758, Korea

**PBM-28**

**Metabolic Engineering of *Escherichia coli* for the Biosynthesis of Flavonoid O-Glucuronids and O-Galactoside**

So Yeon Kim<sup>1</sup>, Jeong-A Yoon<sup>1</sup>, Hye Rin Lee<sup>1</sup>, Kwang-Su Park<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, Seoul 143-701, Korea, <sup>2</sup>Department of Forest Resource, Gyeongnam National University of Science and Technology, 33 Dongjin-ro, Jinju-si, Gyeongsangman-do 660-758, Korea

**PBM-29**

**Production of kaempferol 3-O-rhamnoside from glucose using engineered *Escherichia coli***

So-Mi Yang<sup>1</sup>, So Hyun Han<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, 120 Neungdong-ro, Gwangjin-gu, Seoul 143-701, Korea, <sup>2</sup>Department of Forest Resource, Gyeongnam National University of Science and Technology, 33 Dongjin-ro, Jinju-si, Gyeongsangman-do 660-758, Korea

**PBM-30**

**Synthesis of bisdemethoxycurcumin from glucose using *Escherichia coli***

Mi Na Cha, Joong-Hoon Ahn<sup>\*</sup>

Department of Bioscience and Biotechnology, Bio/Molecular Informatics Center, Konkuk University, 120 Neungdong-ro, Gwangjin-gu, Seoul 143-701, Korea

**PBM-31**

**Synthesis of Chlorogenic acid and *p*-Coumaroyl Shikimate from Glucose Using Engineered *Escherichia coli***

Mi Na Cha<sup>1</sup>, Hyeon Jeong Kim<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, 120 Neungdong-ro, Gwangjin-gu, Seoul 143-701, Korea, <sup>2</sup>Department of Forest Resource, Gyeongnam National University of Science and Technology, 33 Dongjin-ro, Jinju-si, Gyeongsangman-do 660-758, Korea

**PBM-32**

**Allergen profiling of Korea in rice**

Na Rae Hwang, Si Myung Lee\*, Yun Soo Yeo, Sun Woo Oh, Soo Youn Park, Sun Gi Park  
 Division of Biosafety, NAAS, RDA

PBM-33

**Characterization of intact form of *Thermotoga maritima* pectinase TmPecN expressed in *E. coli***

Chung Ho Kim<sup>1\*</sup>, Ju-Hee Ahn<sup>1</sup>, Jong-Joo Cheong<sup>2</sup>

<sup>1</sup>Department of Food and Nutrition, Seowon University, <sup>2</sup>Center for Food and Bioconvergence, Seoul National University

PBM-34

**Origin of the *w1* genes from white-flowered landrace soybeans and diversity of the *W1* gene from purple-flowered soybeans**

Gyu Tae Park<sup>1</sup>, Jong-Beum Park<sup>1</sup>, Jeong-Dong Lee<sup>1</sup>, Hak Soo Seo<sup>2,3</sup>, Soon Ki Park<sup>1</sup>, Jong Tae Song<sup>1\*</sup>

<sup>1</sup>School of Applied Biosciences, Kyungpook National University, Daegu 702-701, Korea, <sup>2</sup>Department of Plant Bioscience, Seoul National University, Seoul 151-742, Korea, <sup>3</sup>Bio-MAX Institute, Seoul National University, Seoul 151-818, Korea

PBM-36

**Molecular cloning and characterization of (-)- $\alpha$ -bisabolol synthase in *Matricaria recutita***

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

<sup>1</sup>Department of Agricultural Biotechnology, Seoul National University, <sup>2</sup>Department of Biological Sciences, University of Calgary, Calgary AB, Canada

PBM-37

**The Wavy and Curly Arabidopsis Mutant Caused by Activation of a novel E3 Ubiquitin Ligase**

Gyu Tae Park<sup>1</sup>, Jong-Beum Park<sup>1</sup>, Jeong Hoe Kim<sup>2</sup>, Hak Soo Seo<sup>3,4</sup>, Soon Ki Park<sup>1</sup>, Jong Tae Song<sup>1\*</sup>

<sup>1</sup>School of Applied Biosciences, Kyungpook National University, Daegu 702-701, Korea, <sup>2</sup>Department of Biology, Kyungpook National University, Daegu 702-701, Korea, <sup>3</sup>Department of Plant Bioscience, Seoul National University, Seoul 151-921, Korea, <sup>4</sup>Bio-MAX Institute, Seoul National University, Seoul 151-818, Korea

PBM-38

**Non-steroidal anti-inflammatory drugs (NSAIDs) have the inhibitory potential on UDP-glucuronosyltransferases (UGTs) activities**

Zhexue Wu, Jeongmin Joo, Jong Cheol Shon, Boram Lee, Chaegu Lim, Eun Young Lee, Nguyen Minh Phuc, Kwang-Hyeon Liu\*

College of Pharmacy, Kyungpook National University

PBM-39

**Screening of synthetic compounds to inhibit the human cytochrome P450 2J2**

Chaegu Lim, Eunyong Lee, Nguyen Mhin Phuc, Zhexue Wu, Tea-Ho Lee, Kwang-Hyeon Liu\*

College of Pharmacy, Kyungpook National University

PBM-41

**Coexpression of multiple genes reconstitutes two pathways of very-long-chain polyunsaturated fatty acid biosynthesis in *Pichia pastoris***

Sun Hee Kim<sup>1</sup>, Kyung Hee Roh<sup>1</sup>, Kwang-Soo Kim<sup>2</sup>, Hyun Uk Kim<sup>1</sup>, Kyeong-Ryeol Lee<sup>1</sup>, Han-Chul Kang<sup>1</sup>,  
Jong-Bum Kim<sup>1\*</sup>

<sup>1</sup>National Academy of Agricultural Science, Rural Development Administration, <sup>2</sup>National Institute of Crop  
Science, Rural Development Administration

**PBM-42**

**Genetic analysis and characterization of a dihydroflavanone reductase1 gene in the *w3* soybean accessions**

Jong-Beum Park<sup>1</sup>, Gyu Tae Park<sup>1</sup>, Jeong-Dong Lee<sup>1</sup>, Hak Soo Seo<sup>2,3</sup>, Soon Ki Park<sup>1</sup>, Jong Tae Song<sup>1\*</sup>

<sup>1</sup>School of Applied Biosciences, Kyungpook National University, Daegu 702-701, Korea, <sup>2</sup>Department of Plant  
Bioscience, Seoul National University, Seoul 151-742, Korea, <sup>3</sup>Bio-MAX Institute, Seoul National University,  
Seoul 151-818, Korea

**PBM-43**

**Isolation of new *w1* alleles from wild soybean and EMS mutants of cultivated soybean**

Jong-Beum Park<sup>1</sup>, Gyu Tae Park<sup>1</sup>, Jeong-Dong Lee<sup>1</sup>, Hak Soo Seo<sup>2,3</sup>, Soon Ki Park<sup>1</sup>, Jong Tae Song<sup>1\*</sup>

<sup>1</sup>School of Applied Biosciences, Kyungpook National University, Daegu 702-701, Korea, <sup>2</sup>Department of Plant  
Bioscience, Seoul National University, Seoul 151-742, Korea, <sup>3</sup>Bio-MAX Institute, Seoul National University,  
Seoul 151-818, Korea

**PBM-44**

**Screening of Flooding Tolerance in Soybean Germplasm Collection**

Man-Soo Choi<sup>\*</sup>, Sung-Cheol Koo, Hyun-Tae Kim, Beom-Kyu Kang, Young-Hoon Lee, Ki-Won Oh, Hong-Tai  
Yun, In-Youl Baek

*Legume and Oil Crop Research Division, National Institute of Crop Science*

**PBM-45**

**Growth Characteristics of Sprouts and Changes of Antioxidant Activities in Common bean (*Phaseolus vulgaris* L.) with Cultivated Temperature**

Man-Soo Choi<sup>\*</sup>, Hyun-Young Kim, Sung-Cheol Koo, Beom-Kyu Kang, Yeong-Hoon Lee, Hyun-Tae Kim,  
Hong-Tae Yun, In-Youl Baek

*Legume and Oil Crop Research Division, National Institute of Crop Science*

**PBM-46**

**Analysis microorganism community alteration treated with ammonia and toluene by using metagenomics and DGGE**

Beom Soo Kim<sup>1</sup>, Seong Ryul Park<sup>1</sup>, Jun Ho Park<sup>1\*</sup>, Dae Keun Kim<sup>2</sup>

<sup>1</sup>Division of Fine Chemistry, Seoul National University of Science and Technology, Seoul 139-740, Korea,

<sup>2</sup>Division of Environmental Engineering, Seoul National University of Science and Technology, Seoul 139-740,  
Korea

**PBM-47**

**Production of Gamma-Linolenic Acid in Transgenic Rapeseeds**

Jong-Bum Kim<sup>1\*</sup>, Kyung-Hee Roh<sup>1</sup>, Han-Cheol Kang<sup>1</sup>, Hyun Uk Kim<sup>1</sup>, Kyeong-Ryeol Lee<sup>1</sup>, Sun-Hee Kim<sup>1</sup>,  
Eun-Young Lee<sup>1</sup>, Jung-Bong Kim<sup>2</sup>, Kwang-Soo Kim<sup>3</sup>

<sup>1</sup>Department of Agricultural Biotechnology, National Academy of Agricultural Science, <sup>2</sup>Department of

*Agro-food Resources, National Academy of Agricultural Science, <sup>3</sup>Bioenergy Crop Research Center, National Institute of Crop Science*

PBM-48

**The ethyl acetate extract of CopA3 suppresses B16F10 melanoma cell proliferation through inducing cellular differentiation and apoptosis**

Eun-Su Lee<sup>1</sup>, Hyeon-Jeong Kim<sup>1</sup>, Jae-Myo Yu<sup>1</sup>, Yong-Hun Cho<sup>1</sup>, Dong-In Kim<sup>1</sup>, Jae-Yoon Jang<sup>1</sup>, Seul-Ah Seo<sup>1</sup>, Yu-Hyeon Shin<sup>2</sup>, Young-Jae Cho<sup>3</sup>, Bong-Jeun An<sup>1\*</sup>

<sup>1</sup>*Dept. of Cosmeceutical Science, Daegu Haany University, <sup>2</sup>Institute of Techonology, Herbnoori, <sup>3</sup>School of Food Science & Biotechonology / Food & Bio-Industry Research Institute, Kyungpook National University*

PBM-49

**Protective effects of CopA3 on UVB-induced production of MMP-1, MMP-3, MMP-9, Pro-COL1A2 in Human skin fibroblast**

Yong-Hun Cho<sup>1</sup>, Hyeon-Jeong Kim<sup>1</sup>, Jae-Myo Yu<sup>1</sup>, Eun-Su Lee<sup>1</sup>, Dong-In Kim<sup>1</sup>, Jae-Yoon Jang<sup>1</sup>, Seul-Ah Seo<sup>1</sup>, Yu-Hyeon Shin<sup>2</sup>, Young-Jae Cho<sup>3</sup>, Bong-Jeun An<sup>1\*</sup>

<sup>1</sup>*Dept. of Cosmeceutical Science, Daegu Haany University, <sup>2</sup>Institute of Techonology, Herbnoori, <sup>3</sup>School of Food Science & Biotechonology / Food & Bio-Industry Research Institute, Kyungpook National University*

PBM-50

**High-level Expression of Subunit Proteins of Porcine Reproductive and Respiratory Syndrome Virus (PRRSV) in Plants**

Chul Han An, Yu Jeong Jeong, Su Gyeong Woo, Cha Young Kim<sup>\*</sup>

*Eco-friendly Bio-material Research Center, Korea Research Institute of Bioscience and Biotechnology (KRIBB)*

PBM-51

**Production of pinostilbene compounds by the expression of resveratrol O-methyltransferase genes in *Escherichia coli***

Yu Jeong Jeong, Chul Han An, Su Gyeong Woo, Cha Young Kim<sup>\*</sup>

*Eco-friendly Bio-material Research Center, Korea Research Institute of Bioscience and Biotechnology (KRIBB)*

PBM-52

**Isolation and Characterization of UGT Mutants in Response to Environmental Stress in *Arabidopsis***

Su Gyeong Woo, Yu Jeong Jeong, Chul Han An, Cha Young Kim<sup>\*</sup>

*Eco-friendly Bio-material Research Center, Korea Research Institute of Bioscience and Biotechnology (KRIBB)*

PBM-53

**Metabolic engineering for resveratrol derivative biosynthesis in *Escherichia coli***

Yu Jeong Jeong, Su Gyeong Woo, Chul Han An, Cha Young Kim<sup>\*</sup>

*Eco-friendly Bio-material Research Center, Korea Research Institute of Bioscience and Biotechnology (KRIBB)*

PBM-54

**Comparative transcriptome analysis of two chrysanthemum species**

Jin-Hee Jang, Chang-Ho Eun, Seong-Han Sohn, Soo-Jin Kwon, Mina Jin, Jung Sun Kim, So Youn Won<sup>\*</sup>

*National Academy of Agricultural Science, RDA*



PBM-55

Transcriptome sequencing of *Prunus persica* to develop simple sequence repeat markers

Yeonhwa Jo, Sen Lian, Jung Min Yoon, Hangil Kim, Won Kyong Cho\*

*Department of Agricultural Biotechnology, Seoul National University*

PBM-56

Ethyl caffeate suppresses proliferation and progression of human ovarian cancer SKOV-3 cells through down-regulation of receptor tyrosine kinases and integrin  $\alpha 3 \beta 1$

Changon Seo<sup>1</sup>, Jin Kyu Kim<sup>1</sup>, Jin Gwan Kwon<sup>1</sup>, You Jin Hong<sup>1</sup>, Sun Young Kim<sup>2</sup>, Wook Hyun Oh<sup>2</sup>, Ha Neul Lee<sup>2</sup>, Jae Hyeon Kim<sup>2</sup>, Joa Sub Oh<sup>1,2</sup>, Dong-Wan Seo<sup>2\*</sup>

<sup>1</sup>Natural Products Research Institute, Gyeonggi Institute of Science & Technology Promotion, <sup>2</sup>College of Pharmacy, Dankook University

PBM-57

A novel doubled population for genome study for yellow seed coat and seed yields in *Brassica rapa*

Jung Sun Kim\*, Kyung Hee Yu, Mina Jin, So Youn Won, Mi-Sook Seo, Seong-Han Sohn

*Department of Agricultural Biotechnology, National Academy of Agricultural Science*

PBM-58

Development of Dwarf *Echinacea* Plants Using RNA Interference Construct to Suppress the Expression of *Constitutive Photomorphogenesis and Dwarfism (CPD)* Gene Related to Brassinosteroid (BR) Biosynthesis

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, Yongin 446-701, Korea, <sup>2</sup>Department of Horticultural Biotechnology, Kyung Hee University, Yongin 446-701, Korea, <sup>3</sup>URISEED Inc., Icheon 467-872, Korea

PBM-59

Immunological Analysis of Human Colorectal Cancer Antigen GA733-2 Retained in Endoplasmic Reticulum and/or Produced in *Nicotiana benthamiana* Leaves Overexpressing  $\beta(1,4)$  Galactosyltransferase

Yuan-Yuan Fu<sup>1</sup>, Hyun Ho Lee<sup>1</sup>, Jong-Hwa Park<sup>1</sup>, Ki Sung Ko<sup>2</sup>, Hyung Sik Kang<sup>3</sup>, Young Hee Joung<sup>3</sup>, In Sik Chung<sup>1\*</sup>

<sup>1</sup>Department of Genetic Engineering and Graduate School of Biotechnology, Kyung Hee University, Yongin 446-701, Korea, <sup>2</sup>Department of Medicine, Medical Research Institute, College of Medicine, Chung-Ang University, Seoul 156-756, Korea, <sup>3</sup>School of Biological and Science and Technology, Chonnam National University, Gwangju 500-757, Korea

PBM-60

Enhanced Biosynthesis of Vanillin from Ferulic acid by *Escherichia coli* BL21 co-expressing Ferulic acid Decarboxylase and *Trans*-anethole Oxygenase

Hyunji Lee, Jiyoung Park, Chaewon Jung, Hor-Gil Hur\*

*School of Environmental Science and Engineering, Gwangju Institute of Science and Technology, Gwangju 500-712, Korea*

PBM-61

Production of Influenza A/Korea/01-2-9/2009 (H1N1) Universal Vaccine Material using

***Trichoplusia ni* BT1 Tn 5B1-4 and Baculovirus Expression System**Hyun Ho Lee<sup>1</sup>, Geun Pyo Hong<sup>1</sup>, Jong-Hwa Park<sup>1</sup>, Dae Kyun Chung<sup>1,2</sup>, Wonyong Kim<sup>3</sup>, In Sik Chung<sup>1\*</sup><sup>1</sup>Department of Genetic Engineering and Graduate School of Biotechnology, Kyung Hee University, Yongin 446-701, Korea, <sup>2</sup>RNA Inc., Yongin 446-701, Korea, <sup>3</sup>Department of Microbiology & Research Institute for Translational System Biomics, College of Medicine, Chung-Ang University, Seoul 156-756, Korea

PBM-62

**Development of Influenza A/Korea/01-2-9/2009 (H1N1) Virus-like Particles using *Trichoplusia ni* BT1 Tn 5B1-4 and Baculovirus Expression System**Geun Pyo Hong<sup>1</sup>, Hyun Ho Lee<sup>1</sup>, Jong-Hwa Park<sup>1</sup>, Dae Kyun Chung<sup>1,2</sup>, Wonyong Kim<sup>3</sup>, In Sik Chung<sup>1\*</sup><sup>1</sup>Department of Genetic Engineering and Graduate School of Biotechnology, Kyung Hee University, Yongin 446-701, Korea, <sup>2</sup>RNA Inc., Yongin 446-701, Korea, <sup>3</sup>Department of Microbiology & Research Institute for Translational System Biomics, College of Medicine, Chung-Ang University, Seoul 156-756, Korea

PBM-63

**Production of Rotavirus Capsid Protein VP7 from Transgenic Tomato Plants**Yuan-Yuan Fu<sup>1</sup>, Jong-Hwa Park<sup>1</sup>, Wonyong Kim<sup>2</sup>, Jong Bum Kim<sup>3</sup>, In Sik Chung<sup>1\*</sup><sup>1</sup>Department of Genetic Engineering and Graduate School of Biotechnology, Kyung Hee University, Yongin 446-701, Korea, <sup>2</sup>Department of Microbiology & Research Institute for Translational System Biomics, College of Medicine, Chung-Ang University, Seoul 156-756, Korea, <sup>3</sup>Department of Agricultural Biotechnology, National Academy of Agricultural Science, Suwon 441-707, Korea

PBM-64

**Effect of Canstatin on VEGF-A-induced Lymphangiogenesis in an Oral Squamous Cell Carcinoma Animal Model**

Jeon Hwang-Bo, Mun Gyeong Bae, Jong-Hwa Park, In Sik Chung\*

Department of Genetic Engineering and Graduate School of Biotechnology, Kyung Hee University, Yongin 446-701, Korea

PBM-65

**Epitope Mapping and Application of *Deinococcus radiodurnas* Bacteriophytochrome Using New Monoclonal Antibodies**

Tae-Lim Kim, Kanidta Sangsawang, Kaewta Rattanapisit, Man-Ho Cho, Tae-Ryong Hahn, Seong Hee Bhoo\*

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

PBM-66

**Identification of anti-microbial phenylamides from UV-treated rice extract**Hye Lin Park<sup>1</sup>, Youngchul Yoo<sup>2</sup>, Sang-Won Lee<sup>2</sup>, Seong Hee Bhoo<sup>1</sup>, Tae-Ryong Hahn<sup>1</sup>, Man-Ho Cho<sup>1\*</sup><sup>1</sup>Graduate School of Biotechnology, Kyung Hee University, Yongin 446-701, Korea, <sup>2</sup>Department of Plant Molecular Systems Biotechnology and Crop Biotech Institute, Kyung Hee University, Yongin 446-701, Korea

PBM-67

**Study of the light-induced degradation of phytochrome A**

Kaewta Rattanapisit, Tae-Lim Kim, Hye Lin Park, Kanidta Sangsawang, Man-Ho Cho, Tae-Ryong Hahn, Seong Hee Bhoo\*

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

**PBM-68**

**Role of Plastidic Sugar Transporters in Photoassimilate Partitioning and Source Capacity of Plants**

Hye Lin Park, Man-Ho Cho, Seong Hee Bhoo, Tae-Ryong Hahn\*

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

**PBM-69**

**Efficient depletion method of high abundant storage proteins in ginseng main root**

So Wun Kim<sup>1</sup>, Chul Woo Min<sup>1</sup>, Soon Jae Kwon<sup>1</sup>, Kyoung Hwan Bang<sup>2</sup>, Young Chang Kim<sup>2</sup>, Sun Tae Kim<sup>1\*</sup>

*<sup>1</sup>Department of Plant Bioscience, Pusan National University, Miryang 627-706, Korea, <sup>2</sup>Department of Herbal Crop Research, Rural Development Administration, Eumseong 369-873, Korea*

**PBM-70**

**The combination of glycitin and 38 inhibit the UV-induced fibroblast damage in proliferation and wrinkle formation**

Manhtin Ho, Youngmee Kim, Moonjae Cho\*

*Department of Biochemistry, School of Medicine, Jeju National University*

**PBM-71**

**The protective effect of Glycitin on UV-induced skin photoageing in human primary dermal fibroblast**

Ga Young Seo<sup>1</sup>, Young Mee Kim<sup>1</sup>, Moon Jae Cho<sup>2\*</sup>

*<sup>1</sup>Department of Biochemistry, School of Medicine, Jeju National University, <sup>2</sup>Institute of Medical Science, Jeju National University*

**PBM-72**

**iTRAQ-based proteomics approaches for analyzing embryo protein expression of two wheat cultivars differing in dormancy state**

Dea-Wook Kim\*, Yu-Young Lee, Gun-Ho Jung, Ja-Hwan Ku, Sun-Lim Kim, Ouk-Kyu Han, Chang-Hwan Park, Jong-Jin Hwang

*Upland Crop Research Division, Rural Development Administration*

**PBM-73**

**Novel Naphthochalcone Derivative Promotes HaCaT Migration Via EMT Pathway**

Sophors Phorl, Youngmee Kim, Moonjae Cho\*

*Department of Biochemistry, School of Medicine, Jeju National University*

**PBM-74**

**Microarray Analysis of Early Responsive Genes in *Arabidopsis* on Treatment with 2, 3-Butadienol**

Anupama Shrestha<sup>1</sup>, Kangmin Kim<sup>1,2</sup>, Kui-Jae Lee<sup>1,2</sup>, Jong-Chan Chae<sup>1,2\*</sup>

*<sup>1</sup>Division of Biotechnology, Chonbuk National University, Iksan 570-752, Korea, <sup>2</sup>Advanced Institute of Environment and Bioscience, Chonbuk National University, Iksan 570-752, Korea*

PBM-75

**Regulation of Phyto-Auxin Signaling Pathways in *Arabidopsis* by *Enterobacter* sp. EB1**

Eunbyeul Go<sup>1</sup>, Kangmin Kim<sup>1,2</sup>, Kui-Jae Lee<sup>1,2</sup>, Jong-Chan Chae<sup>1,2\*</sup>

<sup>1</sup>*Division of Biotechnology, Chonbuk National University, Iksan 570-752, Korea,* <sup>2</sup>*Advanced Institute of Environment and Bioscience, Chonbuk National University, Iksan 570-752, Korea*

PBM-76

**Dependency of EAE induction on MOG<sub>35-55</sub> properties by affecting MMP-9, IL-6, VCAM-1 and IFN- $\gamma$**

Ji-Eun Seo<sup>1,2</sup>, Mahbub Hasan<sup>1,2</sup>, Joon-Seung Han<sup>1,3</sup>, Nak-Kyoon Kim<sup>4</sup>, Ji Eun Lee<sup>5</sup>, Kang Mi Lee<sup>6</sup>, Ju-Hyung Park<sup>6</sup>, Ho Jun Kim<sup>6</sup>, Junghyun Son<sup>6</sup>, Jaecik Lee<sup>6</sup>, Oh-Seung Kwon<sup>1,2\*</sup>

<sup>1</sup>*Toxicology Lab, Doping Control Center, Korea Institute of Science Technology, Seoul 136-791, Korea,*

<sup>2</sup>*Department of Biological Chemistry, Korea University of Science Technology, Daejeon 305-333, Korea,*

<sup>3</sup>*Department of Pharmaceutical Biochemistry, College of Pharmacy, Kyunghee University, Seoul 130-701,*

*Korea,* <sup>4</sup>*Advanced Analysis Center, Korea Institute of Science Technology, Seoul 136-791, Korea,* <sup>5</sup>*Biomedical*

*Research Institute, Korea Institute of Science Technology, Seoul 136-791, Korea,* <sup>6</sup>*Doping Control Center, Korea Institute of Science Technology, Seoul 136-791, Korea*

PBM-77

**TcCP30, non-RR structural cuticular protein, is required for morphogenesis of beetle's exoskeleton**

Seulgi Mun, Mi Young Noh, Yasuyuki Arakane\*

*Department of Applied Biology, Chonnam National University*

PBM-78

**Generation and molecular assessment of marker-free Bt transgenic rice by using non-selection method**

Hee-Jong Woo<sup>1\*</sup>, Seung Bum Lee<sup>2</sup>, Myung-Ho Lim<sup>1</sup>, Jin-Hyoung Lee<sup>1</sup>, Kong-Sik Shin<sup>1</sup>, Soon-Ki Park<sup>1</sup>

<sup>1</sup>*Biosafety Division, National Academy of Agricultural Science, Rural Development Administration (RDA),*

<sup>2</sup>*Molecular Breeding Division, National Academy of Agricultural Science, Rural Development Administration (RDA)*

PBM-79

**Identification of cytochrome P450 genes in spinach based on RNA-sequencing**

Jungmin Lee<sup>1</sup>, Dang Viet Cao<sup>1</sup>, Jiwon Kim<sup>1</sup>, Reniel S. Pamplona<sup>1</sup>, Seungtae Kang<sup>1</sup>, Sreyhak Sruong<sup>1</sup>, Kyung Hwan Boo<sup>1,2</sup>, Dong Sun Lee<sup>1,2</sup>, Key Zung Riu<sup>1,2\*</sup>

<sup>1</sup>*College of Applied Life Science, Jeju National University, Jeju 690-756, Korea,* <sup>2</sup>*Subtropical Horticulture*

*Research Institute, Jeju National University, Jeju 690-756, Korea*

PBM-80

**Identification of hormone signalling genes in insect-induced rosette gall based on RNA-sequencing**

Jiwon Kim<sup>1</sup>, Reniel Pamplona<sup>1</sup>, Jungmin Lee<sup>1</sup>, Dang Viet Cao<sup>1</sup>, Seungtae Kang<sup>1</sup>, Sreyhak Sruong<sup>1</sup>, Kyung Hwan Boo<sup>1,2</sup>, Key Zung Riu<sup>1,2</sup>, Dong Sun Lee<sup>1,2\*</sup>

<sup>1</sup>*College of Applied Life Science, Jeju National University, Jeju 690-756, Korea,* <sup>2</sup>*Subtropical Horticulture*

*Research Institute, Jeju National University, Jeju 690-756, Korea*

PBM-81

**Analysis of genes responding to insect feeding in *Aster scaber***

Reniel S. Pamplona<sup>1</sup>, Jiwon Kim<sup>1</sup>, Dang Viet Cao<sup>1</sup>, Jungmin Lee<sup>1</sup>, Seungtae Kang<sup>1</sup>, Sreyhak Sruong<sup>1</sup>, Kyung

Hwan Boo<sup>1,2</sup>, Key Zung Riu<sup>1,2</sup>, Dong Sun Lee<sup>1,2\*</sup>

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

**PBM-82**

**Analysis of genes responding to insect feeding in spinach**

Dang Viet Cao<sup>1</sup>, Jungmin Lee<sup>1</sup>, Reniel S. Pamplona<sup>1</sup>, Jiwon Kim<sup>1</sup>, Seungtae Kang<sup>1</sup>, Sreyhak Sruong<sup>1</sup>, Kyung Hwan Boo<sup>1,2</sup>, Dong Sun Lee<sup>1,2</sup>, Key Zung Riu<sup>1,2\*</sup>

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

**PBM-83**

**Plant regeneration of *Aster scaber* via somatic embryogenesis**

Dang Viet Cao<sup>1</sup>, Reniel S. Pamplona<sup>1</sup>, Jiwon Kim<sup>1</sup>, Jungmin Lee<sup>1</sup>, Seungtae Kang<sup>1</sup>, Sreyhak Sruong<sup>1</sup>, Kyung Hwan Boo<sup>1,2</sup>, Key Zung Riu<sup>1,2</sup>, Dong Sun Lee<sup>1,2\*</sup>

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

**PBM-84**

**The Putative Extracytoplasmic Function Sigma Factor *fujE* Gene is a New Member of FK506 Biosynthetic Gene Cluster**

Sung-Kwon Lee<sup>1</sup>, Seung Hwan Yang<sup>1</sup>, Choong-Min Kang<sup>2</sup>, Sangjoon Mo<sup>3</sup>, Joo-Won Suh<sup>1,4\*</sup>

<sup>1</sup>Center for Neutraceutical and Pharmaceutical Materials, Myongji University, Yongin, Gyeonggi-Do, Korea, <sup>2</sup>Department of Biological Sciences, California State University, Stanislaus, One University Circle, CA, USA, <sup>3</sup>Biosafety & Validation Center, Clinical Trial Institute, Dankook University, Cheonan, Korea, <sup>4</sup>Division of Bioscience and Bioinformatics, Myongji University, Youngin, Gyeonggi-Do, Korea

**PBM-85**

**Effect of Rice Seedling Growth Under Diverse Light Quality**

Sang-Kyu Park<sup>1</sup>, Jae Kwang Kim<sup>2</sup>, Jong-Yeol Lee<sup>1</sup>, Young-Mi Kim<sup>1</sup>, Sun-Hwa Ha<sup>3\*</sup>, Sun-Hyung Lim<sup>1\*</sup>

<sup>1</sup>National Academy of Agricultural Science, Rural Development Administration, Suwon 441-707, Korea, <sup>2</sup>Division of Life Sciences, Incheon National University, Incheon 406-772, Korea, <sup>3</sup>Department of Genetic Engineering and Crop Biotech Institute, Kyung Hee University, Yongin, Korea

**PBM-86**

**Analysis of Gene Expression Profile Related on Rice Seed Color**

Sun-Hyung Lim<sup>1\*</sup>, Jae Kwang Kim<sup>2</sup>, Jong-Yeol Lee<sup>1</sup>, Young-Mi Kim<sup>1</sup>, Sun-Hwa Ha<sup>1</sup>

<sup>1</sup>National Academy of Agricultural Science, Rural Development Administration, Suwon 441-707, Korea, <sup>2</sup>Division of Life Sciences, Incheon National University, Incheon 406-772, Korea

**PBM-87**

**RNAi-mediated down-regulation of  $\alpha$ -GLOBULIN can alter accumulation of seed storage proteins in rice seeds**

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

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

PBM-88

**Expression analysis of novel *Brassica rapa* promoters in transgenic Arabidopsis**

Yeo-Jin Lee, Hye-Jung Lee, Jong-Yeol Lee, Sun-Hyung Lee, Young-Mi Kim\*

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

PBM-89

**5,7,4'-Trimethoxyflavone from *Kaempferia paviflora* ethanolic extract induced apoptosis in human gastric cancer cells SNU-16**

Hyeonji Kim<sup>1</sup>, Jeong Yong Moon<sup>1</sup>, Ho Bong Hyun<sup>2</sup>, Gyeong-A Ko<sup>2</sup>, Linh Thi Thao Nguyen<sup>2</sup>, Jeahong Han<sup>3</sup>, Somi Kim Cho<sup>1,2\*</sup>

<sup>1</sup>*Subtropical Horticulture Research Institute, Jeju National University, Jeju 690-756, Korea*, <sup>2</sup>*Faculty of Biotechnology, College of Applied Life Sciences, Jeju National University, Jeju 690-756, Korea*, <sup>3</sup>*Metalloenzyme Research Group and Department of Biotechnolgy, Chung-Ang University, Anseong 456-756, Korea*

PBM-90

**Phytol Induces Apoptosis and Autophagy in Human Gastric Adenocarcinoma AGS Cells**

Yeon Woo Song<sup>1</sup>, Ho Bong Hyun<sup>1</sup>, Gyeong-A Ko<sup>1</sup>, Thao Anh Tran<sup>2</sup>, Linh Thi Thao Nguyen<sup>1</sup>, Somi Kim Cho<sup>1,3\*</sup>

<sup>1</sup>*Faculty of Biotechnology, College of Applied Life Sciences, Jeju National University*, <sup>2</sup>*Faculty of Advanced Convergence Technology and Science, Jeju National University*, <sup>3</sup>*Subtropical Horticulture Research Institute, Jeju National University*

PBM-91

**Induction of Apoptosis in Anoikis-Resistant Breast Cancer Stem Cells by Supercritical CO<sub>2</sub> Extracts from *Citrus hassaku* Hort ex Tanaka**

Linh Thi Thao Nguyen<sup>1</sup>, Yeon Woo Song<sup>1</sup>, Thao Anh Tran<sup>2</sup>, Moonjae Cho<sup>3</sup>, Ki-Seok Kim<sup>3</sup>, Somi Kim Cho<sup>1,4\*</sup>

<sup>1</sup>*Faculty of Biotechnology, College of Applied Life Sciences, Jeju National University*, <sup>2</sup>*Advanced Convergence Technology and Science, Jeju National University*, <sup>3</sup>*Department of Medicine, School of Medicine, Jeju National University*, <sup>4</sup>*Subtropical Horticulture Research Institute, Jeju National University*

PBM-92

**Inhibition of NF- $\kappa$ B translocation and iNOS expression by *Chrysanthemum burbankii* and *Metasequoia glyptostroboides* extracts in LPS treated C57BL6 mice**

Jehun Choi<sup>\*</sup>, Seung-Eun Lee, Jeong-Hoon Lee, Geum-Sook Kim, Hyung-Jun Noh, Seung Yu Kim

*National Institute of Horticultural & Herbal Science, RDA, Korea*

PBM-93

**2-DE Analysis of Glutenin Subunits in Korean Common Wheat Cultivars**

Jong-Yeol Lee<sup>\*</sup>, Min-Suk Kim, Sun-Hyung Lim, Young-Mi Kim

*National Academy of Agricultural Science, RDA, Suwon 441-707, Korea*

PBM-94

**Anti-obesity effect of *Hovenia dulcis* Thunb extract in 3T3-L1 cells**

Kyeng-Min Kim, Myoung-Jun Kim, Bong-Kyu Song, Kang-Duk Choi<sup>\*</sup>

*Genomic Informatics Center, Hankyong National University, Anseong, Gyeonggi-do, Korea*

**PBM-95**

**Peroxisome biogenesis & a resistance to *Xanthomonas oryzae* pv. *oryzae* in rice**

Sang-Won Lee\*

*Plant Molecular Systems Biotechnology & Crop Biotech Institute, Kyung Hee University*

**PBM-96**

**Genetic Analysis of Hydrolytic Dehalogenation of 4-Chlorobenzoate in *Arthrobacter* sp. Strain J2**

Weonhwa Jheong<sup>1</sup>, Jong-Chan Chae<sup>2,3\*</sup>

<sup>1</sup>*Water Supply and Sewerage Research Division, National Institute of Environmental Research, Incheon 404-708, Korea,* <sup>2</sup>*Division of Biotechnology, Chonbuk National University, Iksan 570-752, Korea,* <sup>3</sup>*Advanced Institute of Environment and Bioscience, Chonbuk National University, Iksan 570-752, Korea*

**PBM-97**

**The Pulmonary Toxicity of Various Aluminum Oxides In Vivo Is Affected by Their Size and Shape**

Yong Hoon Joo<sup>1</sup>, Pyo June Pak<sup>1</sup>, Sung Hyo Park<sup>2</sup>, Ji Hyun Sung<sup>3</sup>, Jae Eun Ju<sup>1</sup>, Beob Hwa Kang<sup>1</sup>, Do Hun Lee<sup>4</sup>, Namhyun Chung<sup>2\*</sup>

<sup>1</sup>*Department of Biosystems Engineering, College of Life Sciences & Biotechnology, Korea University, Seoul 136-713, Korea,* <sup>2</sup>*Department of Biotechnology, College of Life Sciences & Biotechnology, Korea University, Seoul 136-713, Korea,* <sup>3</sup>*Department of Biomedical Research Institute, Seoul National University Hospital, Seoul 110-744, Korea,* <sup>4</sup>*Division of Life Science, College of Life Sciences & Biotechnology, Korea University, Seoul 136-713, Korea*

**PBM-98**

**Herbal Extracts Induce Apoptosis via G1 Phase Arrest in Human Pancreatic Cancer Cell Line(PANC-1)**

Beob Hwa Kang<sup>1</sup>, Sung Hyo Park<sup>2</sup>, Ji Hyun Sung<sup>3</sup>, Pyo June Pak<sup>1</sup>, Jae Eun Ju<sup>1</sup>, Yong Hoon Joo<sup>1</sup>, Do Hun Lee<sup>4</sup>, Namhyun Chung<sup>2</sup>

<sup>1</sup>*Department of Biosystems Engineering, College of Life Sciences & Biotechnology, Korea University, Seoul 136-713, Korea,* <sup>2</sup>*Department of Biotechnology, College of Life Sciences & Biotechnology, Korea University, Seoul 136-713, Korea,* <sup>3</sup>*Department of Biomedical Research Institute, Seoul National University Hospital, Seoul 110-744, Korea,* <sup>4</sup>*Division of Life Science, College of Life Sciences & Biotechnology, Korea University, Seoul 136-713, Korea*

**PBM-99**

**Inflammatory Effects of Silver Nanoparticles with Different Size and Shape on Pulmonary System in Mice**

Do Hun Lee<sup>1</sup>, Beob Hwa Kang<sup>2</sup>, Sung Hyo Park<sup>3</sup>, Pyo June Pak<sup>2</sup>, Jae Eun Ju<sup>2</sup>, Yong Hoon Joo<sup>2</sup>, Namhyun Chung<sup>3\*</sup>

<sup>1</sup>*Division of Life Science, College of Life Sciences & Biotechnology, Korea University, Seoul 136-713, Korea,* <sup>2</sup>*Department of Biosystems Engineering, College of Life Sciences & Biotechnology, Korea University, Seoul 136-713, Korea,* <sup>3</sup>*Department of Biotechnology, College of Life Sciences & Biotechnology, Korea University, Seoul 136-713, Korea*

**PBM-100**

**Size- and Shape-Dependent Toxicological Responses Are Observed by Intratracheal Instillation of Iron Oxide Nanomaterials**

Jae Eun Ju<sup>1</sup>, Sung Hyo Park<sup>2</sup>, Pyo June Pak<sup>1</sup>, Yong Hoon Joo<sup>1</sup>, Beob Hwa Kang<sup>1</sup>, Do Hun Lee<sup>3</sup>, Namhyun Chung<sup>2\*</sup>

<sup>1</sup>*Department of Biosystems Engineering, College of Life Sciences & Biotechnology, Korea University, Seoul 136-713, Korea,* <sup>2</sup>*Department of Biotechnology, College of Life Sciences & Biotechnology, Korea University,*

Seoul 136-713, Korea, <sup>3</sup>Division of Life Science, College of Life Sciences & Biotechnology, Korea University, Seoul 136-713, Korea

PBM-101

Characterization of the *MybS* transcription factor involved in the regulation of anthocyanins biosynthesis in *Arabidopsis*

Jun Hyeok Kim, Hojoung Lee\*

College of Life Sciences and Biotechnology, Korea University

PBM-102

*Arabidopsis MybK*, encoding R2R3 MYB transcription factor, plays a negative role in the accumulation of flavonoids in response to sucrose

Chan Young Jeong, Hojoung Lee\*

College of Life Sciences and Biotechnology, Korea University

PBM-103

Expression of *Arabidopsis* dihydroflavonol 4-reductase gene in *Brassica napus* to increase Anthocyanin accumulation

Tien Thanh Vu, Hojoung Lee\*

College of Life Sciences and Biotechnology, Korea University

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Characterization of the *MybD* transcription factor involved in the regulation of anthocyanins biosynthesis in *Arabidopsis*

Nguyen Nguyen, Hojoung Lee\*

College of Life Sciences and Biotechnology, Korea University

PBM-105

A study to evaluate antioxidant and anti-microbial effects of *Vaccinium corymbosum*(Blueberry)

Yong-Jin Kwon<sup>1</sup>, Eun-Hee Kim<sup>1</sup>, Eun-Young Choi<sup>1</sup>, Young-Hun Kim<sup>2,3</sup>, San-Soo Yoo<sup>4</sup>, Stephen Lee<sup>4</sup>, Young-Woo Jang<sup>4</sup>, Jin-Tae Lee<sup>1\*</sup>

<sup>1</sup>Department of Cosmeceutical Science, Daegu Haany University, <sup>2</sup>Business Management Department, Gennolab, <sup>3</sup>Business Management Department, YSM Trade Company, <sup>4</sup>Business Management Department, Cosmo F&B Crop

PBM-106

Association of Phosphatidylinositol 4-kinase(PI4K) with longitudinal growth of young *Pinus densiflora* trees

Mi-Na Choi, Hye-Joon Joo, Eung-Jun Park\*

Division of Forest Biotechnology, Korea Forest Research Institute, Suwon 441-847, Korea

PBM-107

Gamma ray-mediated enhancement of chaperone activity by inducing conformational changes in plant-specific thioredoxin

Seung Sik Lee, Hyoung-Woo Bai, Sung Beom Lee, Jin-Hong Kim, Byung Yeoup Chung\*

Research Division for Biotechnology, Advanced Radiation Technology Institute (ARTI), Korea Atomic Energy



*Research Institute (KAERI)*

**PBM-108**

**Two ascorbate peroxidases (OsAPX1 and OsAPX2) play a significant role in scavenging H<sub>2</sub>O<sub>2</sub> in a salt-sensitive rice cultivar (*Oryza sativa* L. cv. 'IR-29')**

Moon-Soo Chung, Sungbeom Lee, Gun Woong Lee, Yeon Sim Jeong, Sung Hyun Hong, Seung Sik Lee, Hyoung-Woo Bai, Jin-Hong Kim, Byung Yeoup Chung\*

*Research Division for Biotechnology, Advanced Radiation Technology Institute, Korea Atomic Energy Research Institute*

**PBM-109**

**Identification of novel genes up-regulated in the brain tissue of experimental autoimmune encephalomyelitis (EAE) mice fed in normal and high fat diet**

Mahbub Hasan<sup>1,2</sup>, Ji-Eun Seo<sup>1,2</sup>, Joon-Seung Han<sup>1,3</sup>, Min-Jung Kang<sup>2,4</sup>, Byung-Hwa Jung<sup>2,4</sup>, Suk Woo Nam<sup>5</sup>, Won Sang Park<sup>5</sup>, Ho-Youn Kim<sup>6</sup>, Oh-Seung Kwon<sup>1,2\*</sup>

<sup>1</sup>Toxicology Lab, Doping Control Center, Korea Institute of Science and Technology, Seoul, Korea, <sup>2</sup>Biological Chemistry, Korea University of Science and Technology, Daejeon, Korea, <sup>3</sup>College of Pharmacy, Kyunghee University, Seoul, Korea, <sup>4</sup>Molecular Recognition Research Center, Korea Institute of Science and Technology, Seoul, Korea, <sup>5</sup>Department of Pathology, College of Medicine and Functional RNomics Research Center, The Catholic University of Korea, Seoul, Korea, <sup>6</sup>Rheumatism Research Center of Catholic Research Institute of Medical Science, The Catholic University of Korea, Seoul, Korea

**PBM-110**

**H1 receptor antagonist induces cell death in human lung cancer cell via mitochondria dependent apoptosis**

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

*Department of Biotechnology, Daegu University*

**PBM-111**

**Study of toxic effect of acrylamide by subcutaneous administration in male ICR mice**

Mahendra Pal Singh, Monika Bhardwaj, Anil Kumar Chauhan, Rekha Jakhar, Sun Chul Kang\*

*Department of Biotechnology, Daegu University*

**PBM-112**

**Heat stress induces apoptosis through ER stress pathway in human lung cancer cell**

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

*Department of Biotechnology, Daegu University*

**PBM-113**

**Cigarette smoke induced acute lung inflammation and oxidative stress in rat**

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

*Department of Biotechnology, Daegu University*

**PBM-114**

**Bacteriophage-Specific Polyclonal Antibody Formation and Its Cross Reactivity to Various Phages**

Soo-Jin Park, Ji-Hye Han, Young-Kee Kim\*  
*Department of Environmental and Biological Chemistry, Chungbuk National University*

**PBM-115**      **Effects of Tolaasin and Various Anti-Fungal Peptide Toxins on the Growth of Green Mold**  
Hyung-Jin Lee, Soo-Jin Park, Young-Kee Kim\*  
*Department of Environmental and Biological Chemistry, Chungbuk National University*

**PBM-116**      **Rapid and efficeint random mutagenesis of newly optimized 2-deoxyribose-5-phosphate aldolase from *Haemophilus influenza* Rd KW20**  
Mi Hee Woo, Joong Su Kim\*  
*Eco-Friendly Material Research Center, Korea Research Institute of Bioscience and Biotechnology*

**PBM-117**      **Gene module based identification of plant hormone responsive genes involved in crosstalk component**  
Hye Joon Joo<sup>1</sup>, Hyun Tae Kim<sup>1</sup>, Wi Young Lee<sup>1</sup>, Dong Hee Lee<sup>2\*</sup>  
<sup>1</sup>*Department of Forest Genetic Resources, Korea Forest Research Institute,,* <sup>2</sup>*Department of Biological Sciences,, Ewha Womans University*

**PBM-118**      **Natural variation in *Early flowering1* contributes to Early flowering in japonica rice under long days**  
Soo-Cheul Yoo<sup>1</sup>, Choon-Tak Kwon<sup>2</sup>, Bon-Hyuk Koo<sup>2</sup>, Nam-Chon Paek<sup>2\*</sup>  
<sup>1</sup>*Department of Plant Life and Environmental Science, Hankyong National University, Anseong 456-749, Korea,* <sup>2</sup>*Department of Plant Science, Seoul National University, Seoul 151-921, Korea*

**PBM-119**      **Differentially Expressed Proteins with Exposure to Deltamethrin in Human Dopaminergic Neuronal Cells**  
Min-Joo Kang, A-Reum Ryu, Mi-Young Lee\*  
*Department of Medical Biotechnology, Soonchunhyang University*

**PBM-120**      **Antimicrobial effect of some natural products against oral pathogen**  
Joo-Won Bang, Soo-Yeon Lee, Min-Joo Kang, Mi-Young Lee\*  
*Department of Medical Biotechnology, Soonchunhyang University*

**PBM-121**      **In vitro Ce6-mediated photodynamic therapy for skin inflammation**  
Yoon-Young Wang<sup>1</sup>, Yu-Mi Jeon<sup>1</sup>, Seongmoon Jo<sup>1</sup>, Hwan-Suk Lee<sup>2</sup>, Hae-Keun Oh<sup>3</sup>, Kyu-Hwan Ra<sup>4</sup>, Mi-Young Lee<sup>1\*</sup>  
<sup>1</sup>*Department of Medical Biotechnology, Soonchunhyang University,* <sup>2</sup>*R&D Center, Dong Sung Lumax Co. Ltd,* <sup>3</sup>*Chung Nam Technopark Bio Center, Nonsan, Chungnam,* <sup>4</sup>*R&D Center, Dong Sung Bio Pharm Co, Ltd*

PBM-122

**Antibacterial Activity of Some Phytochemicals against *Porphyromonas gingivalis***

Ji-Hae Kim<sup>1</sup>, Do-Hyun Kim<sup>2</sup>, Hyung-Sun Youn<sup>3</sup>, Mi-Young Lee<sup>1\*</sup>

<sup>1</sup>Department of Medical Biotechnology, Soonchunhyang University, <sup>2</sup>Taejon Christian International School, Yongsan 2 Ro, Daejeon, <sup>3</sup>Department of Biomedical Laboratory Science, Soonchunhyang University

PBM-123

**Nox2 and Nox4 mediate EMT response in HeLa cells**

Youngmee Kim, Moonjae Cho<sup>\*</sup>

Department of Biochemistry, School of Medicine, Jeju National University

PBM-124

**Functional genomics of *N-acetyltransferase 1* gene in the red flour beetle, *Tribolium castaneum***

Bon Woo Koo, Mi Young Noh, Yasuyuki Arakane<sup>\*</sup>

Department Applied Biology, Chonnam National University

PBM-125

**Sub-chronic treatment of human chorionic gonadotropin affects severity of experimental autoimmune encephalomyelitis in mice**

Joon-Seung Han<sup>1,2</sup>, Ji-Eun Seo<sup>1,3</sup>, Mahbub Hasan<sup>1,3</sup>, Kyung-Tae Lee<sup>2</sup>, Kang Mi Lee<sup>4</sup>, Ju-Hyung Park<sup>4</sup>, Ho Jun Kim<sup>4</sup>, Jaeick Lee<sup>4</sup>, Jungyun Son<sup>4</sup>, Oh-Seung Kwon<sup>1,3\*</sup>

<sup>1</sup>Toxicology Laboratory of Doping Control Center, Korea Institute of Science Technology, Seoul 136-791, Korea,

<sup>2</sup>Department of Pharmaceutical Biochemistry, College of Pharmacy, Kyung Hee University, Seoul 130-701,

Korea, <sup>3</sup>Department of Biological Chemistry, Korea University of Science Technology, Daejeon 305-333, Korea,

<sup>4</sup>Doping Control Center, Korea Institute of Science Technology, Seoul 136-791, Korea

PBM-126

**Bioanalysis of a flavonoid glucosyltransferase, *bGT1884*, from *Citrus platymamma*, Hort. ex. Tanaka**

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

<sup>1</sup>College of Applied Life Science, Jeju National University, <sup>2</sup>Research Institute for Subtropical Horticulture, College of Applied Life Science, Jeju National University

**PNP**

**Natural Products**

PNP-1

**Antimicrobial Activities of Essential Oils from *Platycladus orientalis* against Human Intestinal Bacteria and Its Chemical Analysis**

Hwa-Won Lee, Hoi-Seon Lee<sup>\*</sup>

Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University

PNP-2

**Mite-control Activities of Bioactive Compounds Isolated from *Psidium cattleianum* Oil and Structure-activity Relationships against *Dermatophagoides* spp.**

Hwa-Won Lee, Hoi-Seon Lee<sup>\*</sup>

Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University

PNP-3

**Growth-inhibiting Effects of 4-Methylquinoline Derived from *Citrullus colocynthis* Fruits and Structure-activity Relationships against Food-borne Bacteria**

Hoi-Seon Lee\*

*Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University*

PNP-4

**Acaricidal Effects of Active Monoterpene Ketones Isolated from *Rosmarinus officinalis* Oil against Stored Food Mite, *Tyrophagus putrescentiae***

Hwa-Won Lee, Ju-Hyun Jeon, Hoi-Seon Lee\*

*Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University*

PNP-5

**Acaricidal Effects of Active Compound Isolated from Gmelin Wormwood and Its Structural Analogues against House Dust Mites**

Hwa-Won Lee, Ji-Yeon Yang, Hoi-Seon Lee\*

*Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University*

PNP-6

**Antimicrobial Effects of Myrtenol Derivatives Isolated from *Thymus tosevii* against Human Intestinal Bacteria**

Hwa-Won Lee, Ji-Yeon Yang, Hoi-Seon Lee\*

*Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University*

PNP-7

**Acaricidal Activities of Constituent Derived from Essential oil of Spearmint against *Dermatophagoides farinae* and *D. pteronyssinus***

Hwa-Won Lee, Hoi-Seon Lee\*

*Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University*

PNP-8

**Acaricidal Activity of Peppermint oil and Its Main Components against the Stored Food Mite, *Tyrophagus putrescentiae***

Hoi-Seon Lee\*

*Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University*

PNP-9

**Inhibitory Activities of (-)-Menthol and Related Compounds from Peppermint Oil on Rat Prostate Testosterone 5 $\alpha$ -Reductase**

Hyesol Im<sup>1</sup>, Soyun Bae<sup>1</sup>, Myohyeon Park<sup>1</sup>, Yeon Soo Jeon<sup>1</sup>, Eunseon Kim<sup>1</sup>, Enos Tangke Arung<sup>2</sup>, Irawan Wijaya Kusuma<sup>2</sup>, Jong Rok Lee<sup>1</sup>, Jong Pil Park<sup>1</sup>, Seong-Soo Roh<sup>3</sup>, Yu-Hong Min<sup>4</sup>, Jung-Ae Kim<sup>5</sup>, Yong-Ung Kim<sup>1\*</sup>

<sup>1</sup>Department of Pharmaceutical Engineering, College of Biomedical Science, Daegu Haany University, Gyeongsangbuk-do, Korea, <sup>2</sup>Department of Forest Products, Faculty of Forestry, Mulawarman University, Samarinda, Indonesia, <sup>3</sup>Department of Oriental Medicine, College of Oriental Medicine, Daegu Haany University, Gyeongsangbuk-do, Korea, <sup>4</sup>Department of Herbal Skin Care, College of Herbal Bio-industry, Daegu Haany University, Gyeongsangbuk-do, Korea, <sup>5</sup>School of Pharmacy, College of Pharmacy, Yeungnam University, Gyeongsangbuk-do, Korea

PNP-10

**Herb Mixture C5E enhances Doxorubicin-induced Apoptosis**

Sunyi Lee, Young Yang\*

*Life Systems, Sookmyung Women's University*

PNP-11

**Inhibitory effects of flavonoids on TNF- $\alpha$ -mediated MMP-9 expression**

Hyeryoung Jung<sup>1</sup>, Soon Young Shin<sup>2</sup>, Dongsoo Koh<sup>3\*</sup>, Young Han Lee<sup>2</sup>, Yoongho Lim<sup>1\*</sup>

<sup>1</sup>Division of Bioscience and Biotechnology, Konkuk University, <sup>2</sup>Department of Biological Sciences, Konkuk University, <sup>3</sup>Department of Applied Chemistry, Dongduk Women's University

PNP-12

**Fruit of Lai (*Durio kutejensis*) as antioxidant and antimelanogenesis source**

Enos Tangke Arung<sup>1\*</sup>, Irawan Wijaya Kusuma<sup>1</sup>, Hiroya Ishikawa<sup>2</sup>, Kuniyoshi Shimizu<sup>3</sup>, Yong-Ung Kim<sup>4</sup>

<sup>1</sup>Faculty of Forestry, Mulawarman University, Samarinda, Indonesia, <sup>2</sup>Faculty of Human Environmental Science, Fukuoka Women's University, Fukuoka, Japan, <sup>3</sup>Faculty of Agriculture, Kyushu University, Fukuoka, Japan, <sup>4</sup>College of Biomedical Science, Daegu Haany University, Gyeongsan, Korea

PNP-13

**Flavonoids as inhibitors of aurora B kinase and QSAR and in silico docking**

Yearam Jung<sup>1</sup>, Soon Young Shin<sup>2</sup>, Hyeryoung Jung<sup>1</sup>, Seunghyun Ahn<sup>1</sup>, Jihyun Im<sup>1</sup>, Dongsoo Koh<sup>3\*</sup>, Young Han Lee<sup>2</sup>, Yoongho Lim<sup>1\*</sup>

<sup>1</sup>Division of Bioscience and Biotechnology, Konkuk University, <sup>2</sup>Department of Biological Sciences, Konkuk University, <sup>3</sup>Department of Applied Chemistry, Dongduk Women's University

PNP-14

**Synthesis of naphthalenylpropenones and their NMR data**

Seunghyun Ahn<sup>1</sup>, Dongsoo Koh<sup>2</sup>, Yoongho Lim<sup>1\*</sup>

<sup>1</sup>Division of Bioscience and Biotechnology, Konkuk University, <sup>2</sup>Department of Applied Chemistry, Dongduk Women's University

PNP-15

**Flavonoids promoting HaCaT migration : Hologram quantitative structure-activity relationships**

Moonjae Cho<sup>1</sup>, Hyuk Yoon<sup>2</sup>, Mijoo Park<sup>2</sup>, Yoongho Lim<sup>2\*</sup>

<sup>1</sup>Department of Biochemistry, Jeju National University, <sup>2</sup>Division of Bioscience and Biotechnology, Konkuk University

PNP-16

**3D-QSAR study of flavone derivatives as inhibitors of human cervical carcinoma**

Yeonjoong Yong<sup>1</sup>, Eunil Cho<sup>1</sup>, Hyeonji Kim<sup>2</sup>, Yearam Jung<sup>1</sup>, Dongsoo Koh<sup>3</sup>, Somi Kim Cho<sup>2</sup>, Yoongho Lim<sup>1\*</sup>  
<sup>1</sup>*Division of Bioscience and Biotechnology, Konkuk University,* <sup>2</sup>*Faculty of Biotechnology, Jeju National University,* <sup>3</sup>*Department of Applied Chemistry, Dongduk Women's University*

PNP-17

**Compounds showing antitumor activity in HCT116 human colon cancer cells from Piper auritum (Yerba Santa)**

Yeonjoong Yong<sup>1</sup>, Soon Young Shin<sup>2</sup>, Hyeok Lee<sup>1</sup>, Young Han Lee<sup>2</sup>, Yoongho Lim<sup>1\*</sup>

<sup>1</sup>*Division of Bioscience and Biotechnology, Konkuk University,* <sup>2</sup>*Department of Biological Sciences, Konkuk University*

PNP-18

**Downregulation of pro-inflammatory mediators by fucoidan in lipopolysaccharide-stimulated RAW 264.7 macrophage cells**

Ji-Ye Lim, Seung-Mi Hwang, Jea-Ran Kang, Su-Beom Han, Mi-Rae Choi, Eun-Sil Ko, Jeong-Dan Cha<sup>\*</sup>

*Department of Research Development, Institute of Jinan Red Ginseng*

PNP-19

**Effects of ethanol extract of Tribulus terrestris on anti-osteoarthritic activities in vivo**

Young Jin Park<sup>1</sup>, Eun-Kyung Ahn<sup>1</sup>, Joa Sub Oh<sup>2\*</sup>

<sup>1</sup>*Drug Evaluation Team, Gyeonggi Institute of Science & Technology Promotion,* <sup>2</sup>*College of Pharmacy, Dankook University*

PNP-20

**Molecular target of anti-cancer activity by silymarin in human colorectal cancer cells**

Hyun Ji Eo<sup>1</sup>, Gwang Hun Park<sup>1</sup>, Hun Min Song<sup>1</sup>, So Hee Woo<sup>1</sup>, Jin Wook Lee<sup>1</sup>, Mi Kyoung Kim<sup>1</sup>, Su Bin Park<sup>1</sup>, Jin Suk Koo<sup>2</sup>, Jin Boo Jeong<sup>2\*</sup>

<sup>1</sup>*Department of Bioresource Sciences, Andong National University,* <sup>2</sup>*Department of Bioresource Sciences, Institute of Agricultural Science and Technology, Andong National University*

PNP-21

**Protocatechualdehyde, a naturally occurring phenolic compound induces apoptosis and reduction of cell viability through ATF3 activation in human colorectal cancer cells**

Hyun Ji Eo<sup>1</sup>, Gwang Hun Park<sup>1</sup>, Hun Min Song<sup>1</sup>, So Hee Woo<sup>1</sup>, Jin Wook Lee<sup>1</sup>, Mi Kyoung Kim<sup>1</sup>, Su Bin Park<sup>1</sup>, Jin Suk Koo<sup>2</sup>, Jin Boo Jeong<sup>2\*</sup>

<sup>1</sup>*Department of Bioresource Sciences, Andong National University,* <sup>2</sup>*Department of Bioresource Sciences, Institute of Agricultural Science and Technology, Andong National University*

PNP-22

**Biological Activities of Auraptene Separated from 'Hagyul (*C. natsudaoidai* Hayata)' Supercritical Fluid Extract**

Ju Mi Hyun<sup>\*</sup>, Suk Man Park, Sang Suk Kim, Kyung Jin Park, Hyun Joo An, Young Hun Choi

*Citrus Research Station, National Institute of Horticultural & Herbal Science, RDA*

PNP-23

**Antioxidant activity and nitric oxide production inhibitory effect in LPS-induced RAW 264.7 cells of ethanol extract from different parts of *Geranium koreanum***

Hyeon Hwa Nam, Byung Kil Choo\*

*Department of Agriculture and Life Sciences, Chonbuk National University*

PNP-24

**Antioxidant and anti-inflammatory effect in LPS-induced RAW 264.7 cells of ethanol extract *Sigesbeckia glabrescens***

Hyeon Hwa Nam, Byung Kil Choo\*

*Department of Agriculture and Life Sciences, Chonbuk National University*

PNP-25

**Anti-inflammatory effect of a sesquiterpene lactone compound isolated from *Inula japonica* in RAW 264.7 cells**

Hyo-Hyun Park<sup>1</sup>, Sun-Gun Kim<sup>1</sup>, Jiean Lee<sup>2</sup>, Eujin Lee<sup>1</sup>, Maria Florida Cueto<sup>2</sup>, Bong-Keun Choi<sup>2</sup>, Mei-Hua Jin<sup>3</sup>, Eunkyung Lee<sup>1\*</sup>

<sup>1</sup>*Research and Development Division, Korea Promotion Institute for Traditional Medicine Industry, Gyeongsan 712-210, Korea,* <sup>2</sup>*Center for Nutraceutical and Pharmaceutical Materials, Myongji University, Yongin 449-728, Korea,* <sup>3</sup>*Tianjin Medical University, Tianjin 300070, PR China*

PNP-26

**Antioxidant activity and nitric oxide production inhibitory effect in LPS-induced RAW 264.7 cells of ethanol extract from different parts of *Thalictrum uchiyamae***

Hyeon Hwa Nam, Byung Kil Choo\*

*Department of Agriculture and Life Sciences, Chonbuk National University*

PNP-27

**Antioxidant and anti-inflammatory effect in LPS-induced RAW 264.7 cells of ethanol extract *Agrimonia pilosa***

Hyeon Hwa Nam, Byung Kil Choo\*

*Department of Agriculture and Life Sciences, Chonbuk National University*

PNP-28

**Antioxidant activity and nitric oxide production inhibitory effect in LPS-induced RAW 264.7 cells from ethanol extract of *Corylopsis coreana* fruit**

Hyeon Hwa Nam, Byung Kil Choo\*

*Department of Agriculture and Life Sciences, Chonbuk National University*

PNP-29

**Isolation and identification of flavonolignans from *Zizania latifolia* (Griseb) Turcz**

Yoon-Su Baek<sup>1</sup>, Myun-Ho Bang<sup>2</sup>, Rak-Hun Jeong<sup>1</sup>, Dae-Kyun Chung<sup>2</sup>, Nam-In Baek<sup>1\*</sup>

<sup>1</sup>*Department of Oriental Medicinal and Processing, College of Life Science, Kyung Hee University, Yongin, Gyeonggi 446-701, Korea,* <sup>2</sup>*Skin Biotechnology Center, Kyung Hee University, Suwon, Gyeonggi 443-766, Korea*

PNP-30

**Anticancer and antimicrobial activity of medicinal plants from East Africa**

Kyung Mi Yun<sup>1</sup>, Tae Eun Guon<sup>1</sup>, Min Ju Ryu<sup>1</sup>, Younhee Lee<sup>2</sup>, Eunju Shin<sup>2</sup>, Minyoung Lee<sup>2</sup>, Ho Lim Lee<sup>1</sup>,  
Hyochoon Bang<sup>1</sup>, Myung Wha Kim<sup>1</sup>, Ha Sook Chung<sup>1\*</sup>

<sup>1</sup>College of Natural Sciences, Duksung Women's University, <sup>2</sup>Culture Collection of Antimicrobial Resistant  
Microbes, Department of Biology, Seoul Women's University

PNP-31

**Rapid profiling and identification of saponins in ginseng extract by UHPLC-MS/MS and saponin tandem mass spectral library**

Jong Suk Lee<sup>1\*</sup>, Hye-Min Lee<sup>1</sup>, Jae-Min Lee<sup>1</sup>, Joonseok Lee<sup>2</sup>

<sup>1</sup>Gyeonggi Biocenter, Gyeonggi Institute of Science and Technology Promotion (GSTEP), Suwon, Gyeonggi-do,  
Korea, <sup>2</sup>Chromatography & Mass Spec Division, Thermo Fisher Scientific, Seoul, Korea

PNP-32

**Simultaneous Determination of Nine Saponins in *Codonopsis lanceolata* Root by HPLC-ESI-MS**

Dal Seong Gong, Hui Kim, Kwan Su Kim, Si Hyung Park\*

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

PNP-33

**Studies on Cosmeceutical Effect of *Calendula officinalis* based on Various Extraction Methods**

Seul-Ah Seo<sup>1</sup>, Jae-Myo Yu<sup>1</sup>, Eun-Su Lee<sup>1</sup>, Yong-Hun Cho<sup>1</sup>, Dong-In Kim<sup>1</sup>, Jae-Yoon Jang<sup>1</sup>, Yu-Hyeon Shin<sup>2</sup>,  
Young-Jae Cho<sup>3</sup>, Bong-Jeun An<sup>1\*</sup>

<sup>1</sup>Dept. of Cosmeceutical Science, Daegu Haany University, <sup>2</sup>Institute of Techonology, Herbnoori, <sup>3</sup>School of Food  
Science & Biotechonology / Food & Bio-Industry Research Institute, Kyungpook National University

PNP-34

**Identification of New Saponins in *Codonopsis lanceolata* Root by High Resolution Orbitrap MS**

Jung Chan Song, Si Hyung Park\*

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

PNP-35

**Antioxidant, anti-inflammatory effect of the *Melaleuca Alternifolia* Leaf Extracts**

Jae-Yoon Jang<sup>1</sup>, Hyeon-Jeong Kim<sup>1</sup>, Jae-Myo Yu<sup>1</sup>, Eun-Su Lee<sup>1</sup>, Yong-Hun Cho<sup>1</sup>, Dong-In Kim<sup>1</sup>, Seul-Ah Seo<sup>1</sup>,  
Yu-Hyeon Shin<sup>2</sup>, Young-Jae Cho<sup>3</sup>, Bong-Jeun An<sup>1\*</sup>

<sup>1</sup>Dept. of Cosmeceutical Science, Daegu Haany University, <sup>2</sup>Institute of Techonology, Herbnoori, <sup>3</sup>School of Food  
Science & Biotechonology / Food & Bio-Industry Research Institute, Kyungpook National University

PNP-36

**Inhibitory Efficacy of *Prunella Vulgaris* Gamisoyosan on Pro-collagen Type-1 Activity MMP-1 and MMP-3 gene Expression in Fibroblasts (CCD-986sk)**

Jae-Myo Yu<sup>1</sup>, Hyeon-Jeong Kim<sup>1</sup>, Eun-Su Lee<sup>1</sup>, Yong-Hun Cho<sup>1</sup>, Dong-In Kim<sup>1</sup>, Jae-Yoon Jang<sup>1</sup>, Seul-Ah Seo<sup>1</sup>,  
Yu-Hyeon Shin<sup>2</sup>, Young-Jae Cho<sup>3</sup>, Bong-Jeun An<sup>1\*</sup>

<sup>1</sup>Dept. of Cosmeceutical Science, Daegu Haany University, <sup>2</sup>Institute of Techonology, Herbnoori, <sup>3</sup>School of Food



PNP-37

**Antioxidant Activity and Melanogenesis Inhibitory Effect of Water Extract of *Weigela subsessilis***

In Young Choi\*, Ji Hyun Kim, Jung Hee Cho, Hyun Woo Cho

*R&D Team, Jeonnam Development Institute for Korean Traditional Medicine*

PNP-38

**Neuroprotective Effect of Natural Dyes against Glutamate-induced Oxidative Stress in Mouse Hippocampal Neuronal Cells**

Seong Soon Kim<sup>1,2</sup>, Hwa-Jin Suh<sup>1</sup>, Oh-Oun Kwon<sup>1</sup>, Sang-Wook Kim<sup>1</sup>, Jong-Sang Kim<sup>2\*</sup>

<sup>1</sup>*R&D Team, Gyeongbuk Natural Color Industry Institute*, <sup>2</sup>*School of Food Science and Biotechnology, Kyungpook National University*

PNP-39

**Antioxidant Activities of Floral Water and Extract of Natural Colorants from Medicinal Plants**

Hwa-Jin Suh<sup>1,2</sup>, Yeon-Soon Kim<sup>2</sup>, Eun-Sil Lee<sup>1</sup>, Su-Jin Kim<sup>1</sup>, Hye-In Lee<sup>1</sup>, Seong Soon Kim<sup>1</sup>, Sang-Wook Kim<sup>1</sup>, Oh-Oun Kwon<sup>1\*</sup>

<sup>1</sup>*R&D Team, Gyeongbuk Natural Color Industry Institute*, <sup>2</sup>*Division of Life and Environment, Daegu University*

PNP-40

**Antilisterial Effect of Floral Water and Extracts of Natural Colorants from Medicinal Plants**

Eun-Sil Lee<sup>1,2</sup>, Bong-Jeun An<sup>2</sup>, Su-Jin Kim<sup>1</sup>, Hyun-Jung Kim<sup>1</sup>, Hyo-Jung Lee<sup>1</sup>, Oh-Oun Kwon<sup>1</sup>, Hwa-Jin Suh<sup>1\*</sup>

<sup>1</sup>*R&D Team, Gyeongbuk Natural Color Industry Institute*, <sup>2</sup>*Department of Cosmeceutical Science, Daegu Haany University*

PNP-41

**Effect of *Juncus effusus* extract on wound healing**

Sun-Gun Kim<sup>1</sup>, Hyo-Hyun Park<sup>1</sup>, Na-Young Park<sup>1</sup>, Kyu-Tae Jeong<sup>1</sup>, Jean Lee<sup>2</sup>, Jung Ki Kwon<sup>3</sup>, Min Gi Seo<sup>3</sup>, Won Il Kim<sup>3</sup>, Maria Florida Cueto<sup>4</sup>, Bong-Keun Choi<sup>4</sup>, Eunkyung Lee<sup>1\*</sup>

<sup>1</sup>*R&D Division, Korea Promotion Institute for Traditional Medicine Industry*, <sup>2</sup>*R&D Center, Morechem Co., Ltd*,

<sup>3</sup>*R&D Center, Wonbiogen*, <sup>4</sup>*Center for Nutraceutical and Pharmaceutical Materials, Myongji University*

PNP-42

**Suppressive effects of plants on the degranulation of RBL-2H3 cells sensitized with IgE**

Seung Eun Lee<sup>1\*</sup>, Hye Gwang Jeong<sup>2</sup>, Hyung Jun Noh<sup>1</sup>, Jehun Choi<sup>1</sup>, Jeong Hoon Lee<sup>3</sup>, Geum Soog Kim<sup>1</sup>, Dae Young Lee<sup>1</sup>, Seung Yu Kim<sup>1</sup>

<sup>1</sup>*Herbal Crop Utilization Research Team, National Institute of Horticultural and Herbal Science, RDA*,

<sup>2</sup>*Department of Toxicology, College of Pharmacy, Chungnam National University*, <sup>3</sup>*Herbal Crop Research Division, National Institute of Horticultural and Herbal Science, RDA*

PNP-43

**Anti-angiogenic Effects of 3-Acetyloleanolic Acid Isolated from Cowpea Seeds (*Vigna sinensis* K.)**

Jeon Hwang-Bo, Jong-Hwa Park, In Sik Chung\*

*Department of Genetic Engineering and Graduate School of Biotechnology, Kyung Hee University, Yongin*

446-701, Korea

PNP-44

**Changes in chemical composition and flavor patterns of coffee beans during roasting**

Won Jong Lee<sup>1\*</sup>, Yeon Soo Suh<sup>1</sup>, Seung Heon Lee<sup>2</sup>, Yafang Shang<sup>3</sup>

<sup>1</sup>Department of Food and Nutrition, Gangneung-Wonju National University, <sup>2</sup>D&R Center, Hak-san Co., Ltd, Gangneung, <sup>3</sup>Natural Products, KIST, Gangneung

PNP-45

**Grape Pruning Stems Extract (*Campbell early, cultivated area in Gyeongsan City, Korea*): Evaluation of Total Antioxidant Capacity, Whitening, Wrinkle Improvement, Antibacterial Activity and Phenolic Composition**

Min Jung Jang<sup>1\*</sup>, Jae Hwang Yang<sup>1</sup>, Sung Hwan Baek<sup>1</sup>, Dong Woo Park<sup>1</sup>, Seung Jun Kwak<sup>2</sup>, Joung Hee Kim<sup>2</sup>, Seung Il Jeong<sup>3</sup>, Keuk Jun Kim<sup>4</sup>

<sup>1</sup>R&D Center, DermaTech Korea Co., Ltd, <sup>2</sup>Graduate School of Public Health, Changwon National University, <sup>3</sup>Jeonju Biomaterials Institute, <sup>4</sup>Dept. of Biomedical Laboratory Science, Daekyeung College

PNP-46

**Monocyclic diterpene aldehyde from the Fruits of *Amomum tsao-ko***

Ji Hye Lee<sup>1</sup>, Seong Su Hong<sup>2</sup>, Jin Kyu Kim<sup>2</sup>, Wonsik Jeong<sup>1,2</sup>, Yun-Hyeok Choi<sup>2</sup>, Sun Young Kim<sup>1</sup>, Wook Hyun Oh<sup>1</sup>, Joa Sub Oh<sup>1,2\*</sup>

<sup>1</sup>College of Pharmacy, Dankook University, Korea, <sup>2</sup>Natural Products Research Institute, Gyeonggi Institute of Science & Technology Promotion, Korea

PNP-47

**Effects of Herb mixture extract on allergic contact dermatitis**

Yong-Jin Kwon<sup>1</sup>, Young-Ah Jang<sup>1</sup>, Eun-Hee Kim<sup>1</sup>, Seo-In Jang<sup>1</sup>, Sung-Min Jang<sup>1</sup>, Young-Hun Kim<sup>2,3</sup>, Jae-Cheon Shin<sup>4</sup>, Jin-Tae Lee<sup>1\*</sup>

<sup>1</sup>Department of Cosmeceutical Science, Daegu Haany University, <sup>2</sup>Business Management Department, Gennolab, <sup>3</sup>Business Management Department, YSM Trade Company, <sup>4</sup>Cosmetic R&B Project Team, Pohang Techopark

PNP-48

**Evaluation of Anti-obesity Activity of *Phaeodactylum tricornutum***

Jae Kwon Lee<sup>1\*</sup>, Sang Min Kim<sup>2</sup>, Cheol-Ho Pan<sup>2</sup>, Jeong Hwa Kim<sup>1</sup>

<sup>1</sup>Department of Biology Education, Chungbuk National University, <sup>2</sup>Functional Food Center, Korea Institute of Science and Technology

PNP-49

**Savory Salt Production and Characterization from Mixed Fishes Protein Hydrolysates**

Yuli Witono<sup>1</sup>, Afan Bagus Mananda<sup>1</sup>, Wiwik Siti Windrati<sup>1</sup>, Woo-Won Kang<sup>2\*</sup>

<sup>1</sup>Department of Agricultural Product Technology, University of Jember, Indonesia, <sup>2</sup>Department of Food & Food-Service Industry, Kyungpook National University

PNP-50

**Linear Propargylic Alcohol Functionality Attached to the Indazole-7-Carboxamide As a JAK1-Specific Linear Probe Group**

Mi Kyoung Kim, Kwang-Su Park, Onnuri Bae, Hyungmi Kim, Youhoon Chong\*

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

PNP-51

**Design, Synthesis, and Molecular Docking Study of Flavonol Derivatives as Selective JAK1 Inhibitors**

Mi Kyoung Kim, Heerim Shin, Kwang-Su Park, Kyungdo Kim, Youhoon Chong\*

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

PNP-52

**Protopanaxadiol-type ginsenosides isolated from Korean ginseng (*Panax ginseng* C.A. Meyer) roots ameliorates hepatic steatosis induced by alcohol and high-fat diet in mice**

Hwa-Soo Shin<sup>1</sup>, Heungsop Shin<sup>1\*</sup>, Yong-Ki Seo<sup>2</sup>

*<sup>1</sup>Department of Chemical Engineering and Biotechnology, Korea Polytechnic University, <sup>2</sup>Foods R&D Center, CJ Cheiljedang*

PNP-53

**Isolation and Identification of Secondary Metabolites from Roots of *Coix lachryma-jobi* var. mayuen stapf**

Sun Young Kim<sup>1</sup>, Jin Kyu Kim<sup>2</sup>, Chun Whan Choi<sup>2</sup>, Changon Seo<sup>2</sup>, Ji Hye Lee<sup>1</sup>, Wook Hyun Oh<sup>1</sup>, Joa Sub Oh<sup>1,2\*</sup>

*<sup>1</sup>College of Pharmacy, Dankook University, Korea, <sup>2</sup>Natural Products Research Institute, Gyeonggi Institute of Science & Technology Promotion, Korea*

PNP-54

**The Crude Extracts from Thai *Curcuma* species and the Biological Activity**

Supawadee Burapan, Jaehong Han\*

*Metalloenzyme Research Group and Department of Systems Biotechnology, Chung-Ang University, Anseong*

PNP-55

**Whitening Effect of *Astragalus membranaceus* extract and development of cosmeceutical**

Soo Yeon Lee, Jung Mi Park, Dan Hee Yoo, Da Hye Joo, Hui Seon Jo, Joo-Hoon Park, Jin Young Lee\*

*Department of Herbal Cosmetic Science, Hoseo University, Chungnam 336-795, Korea*

PNP-56

**Potent Whitening Activity of *Dioscoreae rhizoma* Extract in B16F10 Melanoma Cell by Suppression of Melanin Biosynthesis**

Soo Yeon Lee, Da Hye Joo, Dan Hee Yoo, Jung Mi Park, Joo-Hoon Park, Jin Young Lee\*

*Department of Herbal Cosmetic Science, Hoseo University, Chungnam 336-795, Korea*

PNP-57

**Down-Regulation of Tyrosinase, MITF, TRP-1 and TRP-2 Expressions by Cherry blossom in Murine B16F10 Melanoma**

Soo Yeon Lee, Dan Hee Yoo, Da Hye Joo, Jung Mi Park, Jeung-Hoan Kim, Jin Young Lee\*  
*Department of Herbal Cosmetic Science, Hoseo University, Chungnam 336-795, Korea*

PNP-58

**Effect of Sagunja-tang on tyrosinase inhibition and mRNA expression inhibition in B16F10 melanoma cells**

Dan Hee Yoo, Da Hye Joo, Soo Yeon Lee, Jung Mi Park, Jeung-Hoan Kim, Hyeon Wook Nam, Jin Young Lee\*  
*Department of Herbal Cosmetic Science, Hoseo University, Chungnam 336-795, Korea*

PNP-59

**Inhibition effect of Gamisoyo-san on MITF, TRP-1, TRP-2, Tyrosinase mRNA expression in melanoma cells(B16F10)**

Da Hye Joo, Dan Hee Yoo, Soo Yeon Lee, Jung Mi Park, Jeong Ah Kim, Jin Young Lee\*  
*Department of Herbal Cosmetic Science, Hoseo University, Chungnam 336-795, Korea*

PNP-60

**Cosmeceutical Activity of Buckwheat sprout extracts grown under different light**

Jung Mi Park<sup>1</sup>, Soo Yeon Lee<sup>1</sup>, Dan Hee Yoo<sup>1</sup>, Da Hye Joo<sup>1</sup>, Jeung-Hoan Kim<sup>1</sup>, Myung-Hwa Kang<sup>2</sup>, Jin Young Lee<sup>1\*</sup>

<sup>1</sup>*Department of Herbal Cosmetic Science, Hoseo University, Chungnam 336-795, Korea,* <sup>2</sup>*Department of Food Science & Nutrition, Hoseo University, Chungnam 336-795, Korea*

PNP-61

**Flavonoids and sterols from the flowers of *Begonia semperflorens* Link et Otto, and quantitative analysis of flavonoids and anthocyanins**

Jung-Hwa Kwon<sup>1</sup>, Seo-Ji In<sup>1</sup>, Kyeong-Hwa Seo<sup>1</sup>, Ji-Hae Park<sup>1</sup>, Jae-Woo Jung<sup>1</sup>, Rak-Hun Jeong<sup>1</sup>, Jin-Gyeong Cho<sup>1</sup>, Youn-Hyung Lee<sup>2</sup>, Nam-In Baek<sup>1\*</sup>

<sup>1</sup>*Graduate School of Biotechnology and Research Institute of Life Sciences & Resources, Kyung Hee University, Yongin 446-701, Korea,* <sup>2</sup>*Department of Horticultural Biotechnology, Kyung Hee University, Yongin 446-701, Korea*

PNP-62

**New Compounds from the Root Bark of *Morus alba* L.**

Ji-Hae Park<sup>1</sup>, Ye-Jin Jung<sup>1</sup>, Jae-Woo Jung<sup>1</sup>, Sabina Shrestha<sup>1</sup>, Daeseok Han<sup>2</sup>, Youn-Hyung Lee<sup>3</sup>, Nam-In Baek<sup>1\*</sup>

<sup>1</sup>*Graduate School of Biotechnology and Research Institute of Life Sciences & Resources, Kyung Hee University, Yongin 446-701, Korea,* <sup>2</sup>*Division of Metabolism and Functionality Research, Korea Food Research Institute, Sungnam 463-746, Korea,* <sup>3</sup>*Department of Horticultural Biotechnology, Kyung Hee University, Yongin 446-701, Korea*

PNP-63

**Polyphenols from the flowers of *Magnolia obovata***

Jung-Hwa Kwon<sup>1</sup>, Kyeong-Hwa Seo<sup>1</sup>, Byeong-Ju Cha<sup>1</sup>, Jin-Gyeong Cho<sup>1</sup>, Rak-Hun Jeong<sup>1</sup>, Eun-Mi Ahn<sup>2</sup>, Youn-Hyung Lee<sup>3</sup>, Nam-In Baek<sup>1\*</sup>

<sup>1</sup>*Graduate School of Biotechnology and Research Institute of Life Sciences & Resources, Kyung Hee University, Yongin 446-701, Korea,* <sup>2</sup>*Department of Herbal Foodceutical Science, Daegu Hanny University, Gyeongsan 712-715, Korea,* <sup>3</sup>*Department of Horticultural Biotechnology, Kyung Hee University, Yongin 446-701, Korea*

PNP-64

**Three glycosyl glycerides from the seed of *Hordeum vulgare* (barley)**

Kyeong-Hwa Seo<sup>1</sup>, Jeong-Hwa Kwon<sup>1</sup>, Eun-Ji Oh<sup>1</sup>, Dong-Geol Lee<sup>2</sup>, Se-Jin Joo<sup>3</sup>, Hack-Soo Kim<sup>3</sup>, Hee-Cheol Kang<sup>2</sup>, Youn-Hyung Lee<sup>4</sup>, Nam-In Baek<sup>1\*</sup>

<sup>1</sup>Graduate School of Biotechnology and Department of Oriental Medicinal Materials & Processing, Kyung Hee University, <sup>2</sup>R&D center, GFC Co., Ltd., <sup>3</sup>R&D center, SEOULCOSMETICS, Co., Ltd., <sup>4</sup>Department of Horticultural Biotechnology, Kyung Hee University

PNP-65

**Six lignans from the fruits of *Magnolia obovata***

Kyeong-Hwa Seo<sup>1</sup>, Jeong-Hwa Kwon<sup>1</sup>, Eun-Ji Oh<sup>1</sup>, Dae-Young Lee<sup>2</sup>, Hee-Cheol Kang<sup>3</sup>, Hack-Soo Kim<sup>4</sup>, Nam-In Baek<sup>1\*</sup>

<sup>1</sup>Graduate School of Biotechnology and Department of Oriental Medicinal Materials & Processing, Kyung Hee University, <sup>2</sup>National Institute of Horticultural and Herbal Science, RDA, <sup>3</sup>R&D center, GFC Co., Ltd., <sup>4</sup>R&D center, SEOULCOSMETICS, Co., Ltd.

PNP-66

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

Kyeong-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>

<sup>1</sup>Graduate School of Biotechnology & Department of Oriental Medicinal Materials and Processing, Kyung Hee University, <sup>2</sup>Hanbang Body-Fluid Research Center, Wonkwang University, <sup>3</sup>Korea Food Research Institute, <sup>4</sup>School of Biotechnology and Bioengineering, Kangwon National University

PNP-67

**Glycosides from the flower of *Magnolia obovata***

Eunji Oh<sup>1</sup>, Kyeong-Hwa Seo<sup>1</sup>, Jeong-Hwa Kwon<sup>1</sup>, Jae-Woo Jung<sup>1</sup>, Hee-Cheol Kang<sup>2</sup>, Hack-Soo Kim<sup>3</sup>, Eun-Mi Ahn<sup>4</sup>, Nam-In Baek<sup>1\*</sup>

<sup>1</sup>Graduate School of Biotechnology and Department of Oriental Medicinal Materials & Processing, Kyung Hee University, <sup>2</sup>R&D center, GFC Co., Ltd., <sup>3</sup>R&D center, SEOULCOSMETICS, Co., Ltd., <sup>4</sup>Department of Herbal Foodceutical Science, Daegu Hanny University

PNP-68

**Hepatoprotective and neuroprotective tocopherol analogues from the peels of *Citrus unshiu* Marcovich**

Kyeong-Hwa Seo<sup>1</sup>, Dong-Sung Lee<sup>2</sup>, Hee-Cheol Kang<sup>3</sup>, Youn-Chul Kim<sup>2</sup>, Youn-Hyung Lee<sup>4</sup>, Eun-Mi Ahn<sup>5</sup>, Nam-In Baek<sup>1\*</sup>

<sup>1</sup>Graduate School of Biotechnology & Department of Oriental Medicinal Materials and Processing, Kyung-Hee University, <sup>2</sup>Hanbang Body-Fluid Research Center, Wonkwang University, <sup>3</sup>R&D center, GFC Co., Ltd., <sup>4</sup>Department of Horticultural Biotechnology, Kyung Hee University, <sup>5</sup>Department of Herbal Foodceutical Science, Daegu Hanny University

PNP-69

**New Sesquiterpenes from the Rhizome of *Curcuma xanthorrhiza* Roxb. and their Inhibitory Effects on UVB-induced MMPs Expression in Human Keratinocytes**

Ji-Hae Park<sup>1</sup>, Ye-Jin Jung<sup>1</sup>, Seo-Ji In<sup>1</sup>, Jung-Hwa Kwon<sup>1</sup>, Byeong-Ju Cha<sup>1</sup>, Sabina Shrestha<sup>1</sup>, Mohamed Antar Aziz Mohamed<sup>1</sup>, Tae Hoon Lee<sup>1</sup>, Chang-Ho Lee<sup>2</sup>, Daeseok Han<sup>2</sup>, Jiyoun Kim<sup>1</sup>, Nam-In Baek<sup>1\*</sup>

<sup>1</sup>Graduate School of Biotechnology and Research Institute of Life Sciences & Resources, Kyung Hee University, Yongin 446-701, Korea, <sup>2</sup>Division of Metabolism and Functionality Research, Korea Food Research Institute, Sungnam 463-746, Korea

PNP-70

**Secondary metabolites from the aerial parts of hydroponically cultivated *Panax ginseng***

Byeong-Ju Cha<sup>1</sup>, Ji-Hae Park<sup>1</sup>, Yong-Bum Kim<sup>2</sup>, Myeong-Hun Yeom<sup>3</sup>, Eung-Ho Lee<sup>4</sup>, Geum-Soog Kim<sup>4</sup>, Nam-In Baek<sup>1\*</sup>, Dae-Young Lee<sup>4\*</sup>

<sup>1</sup>Graduate School of Biotechnology & Department of Oriental Medicine Biotechnology, Kyung Hee University, <sup>2</sup>Technology Service Division, National Institute of Horticultural and Herbal Science, <sup>3</sup>R&D Center, Amorepacific Corporation, <sup>4</sup>Department of Herbal Crop Research, National Institute of Horticultural and Herbal Science

PNP-71

**Seven new pentanol glycosides from the whole plant of *Adonis multiflora* Nishikawa Koki & Ito**

Jae-Woo Jung<sup>1</sup>, Ji-Hae Park<sup>1</sup>, Byeong-Ju Cha<sup>1</sup>, Jin-Gyeong Cho<sup>1</sup>, Rak-Hun Jeong<sup>1</sup>, Eun-Mi An<sup>2</sup>, Nam-In Baek<sup>1\*</sup>

<sup>1</sup>Graduate School of Biotechnology & Department of Oriental Medicine Biotechnology, Kyung Hee University, Yongin 446-701, Korea, <sup>2</sup>Department of Herbal Foodceutical Science, Daegu Hanny University, Gyeongsan 712-715, Korea

PNP-72

**Two new cardenolides from the whole plant of *Adonis multiflora* Nishikawa Koki & Ito**

Jae-Woo Jung<sup>1</sup>, Ji-Hae Park<sup>1</sup>, Byeong-Ju Cha<sup>1</sup>, Jin-Gyeong Cho<sup>1</sup>, Rak-Hun Jeong<sup>1</sup>, Eun-Mi An<sup>2</sup>, Nam-In Baek<sup>1\*</sup>

<sup>1</sup>Graduate School of Biotechnology & Department of Oriental Medicine Biotechnology, Kyung Hee University, Yongin 446-701, Korea, <sup>2</sup>Department of Herbal Foodceutical Science, Daegu Hanny University, Gyeongsan 712-715, Korea

PNP-73

**Secondary metabolites from the root bark of *Morus alba* L.**

Jae-Woo Jung<sup>1</sup>, Ji-Hae Park<sup>1</sup>, Ye-Jin Jung<sup>1</sup>, Jung-Hwa Kwon<sup>1</sup>, Kyeong-Hwa Seo<sup>1</sup>, Jin-Gyeong Cho<sup>1</sup>, Chang-Ho Lee<sup>2</sup>, Daeseok Han<sup>2</sup>, Nam-In Baek<sup>1\*</sup>

<sup>1</sup>Graduate School of Biotechnology & Department of Oriental Medicine Biotechnology, Kyung Hee University, Yongin 446-701, Korea, <sup>2</sup>Division of Metabolism and Functionality Research, Korea Food Research Institute, Sungnam 463-746, Korea

PNP-74

**Sophoraflavanone G Isolated from *Sophora flavescens* decreases oleic acid-induced lipid accumulation via AMPK phosphorylation in hepatocarcinoma cells**

Myungsuk Kim<sup>1</sup>, Hee Ju Lee<sup>1</sup>, Sue Ji Lim<sup>1,2</sup>, Chu Won Nho<sup>1\*</sup>

<sup>1</sup>Functional Food Center, KIST Gangneung Institute, <sup>2</sup>Department of Chemistry, Gangneung-Wonju National University

PNP-75

**Anti-ageing and anti-wrinkle effect of camphor in human dermal fibroblasts**

Thao Anh Tran<sup>1</sup>, Yeon Woo Song<sup>2</sup>, Tin Manh Ho<sup>3</sup>, Linh Thi Thao Nguyen<sup>2</sup>, Moonjae Cho<sup>3,4</sup>, Somi Kim Cho<sup>2,5\*</sup>

<sup>1</sup>Faculty of Advanced Convergence Technology and Science, Jeju National University, <sup>2</sup>Faculty of Biotechnology, College of Applied Life Sciences, Jeju National University, <sup>3</sup>Department of Biochemistry, School of Medicine, Jeju National University, <sup>4</sup>Institute of Medical Science, Jeju National University, <sup>5</sup>Subtropical Horticulture Research Institute, Jeju National University

PNP-76

**(R)-Methoxyisoflavanones from methoxyisoflavone glucosides by the human intestinal bacterium *Mihyang Kim*, Jaehong Han\***  
*Metalloenzyme Research Group and Department of Systems Biotechnology, Chung-Ang University*

PNP-77

**Simultaneous Determination and Optimization Ultrasound -Assisted Extraction of Poncirin and Naringin in *Poncirus trifoliata Rafinesqu***  
*Ah Reum Lee\**, Ho Kyoung Kim, Seol Jang, A Yeong Lee, Goya Choi, Hyo Seon Kim  
*Herbal Medicine Resources Group, Korea Institute of Oriental Medicine*

PNP-78

**The Beneficial Effect of Chondroitin Sulfate and Its Containing Extract of Skate on Lipopolysaccharide-Induced Liver Injury**  
*Jeong Sook Noh*<sup>1\*</sup>, Geun Hee Kang<sup>1</sup>, Sang Ho Kim<sup>2</sup>, Jae Hoon Jeong<sup>2</sup>, Jang Mi Baek<sup>2</sup>, Seong Soo Roh<sup>3</sup>, Chan Hum Park<sup>3</sup>, Takako Yokozawa<sup>3,4,5</sup>  
<sup>1</sup>Dept. Food Science and Nutrition, Tongmyong University, <sup>2</sup>R&D Planning Team, YeongSan Skate Co., Ltd., <sup>3</sup>College of Korean Medicine, Daegu Haany University, <sup>4</sup>Graduate School of Science and Engineering for Research, University of Toyama, <sup>5</sup>Molecular Inflammation Research Center for Aging Intervention, College of Pharmacy, Pusan National University

PNP-79

***Porphyra tenera* induces apoptosis of oral cancer 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

PNP-81

**Anti-oxidative effects of 6-shogaol in *tert*-butyl hydroperoxide-stimulated HepG2 cells**  
*Sang Chan Kim*<sup>1</sup>, Jong Rok Lee<sup>2</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

PNP-82

**Effects of light source on the growth of *P. tenuipes* and *C. militaris***  
*You-Young Jo\**, Haeyong Kweon, Kwang-Gill Lee, Heui-Sam Lee, Joo-Hong Yeo  
*Sericultural & Apicultural Materials Division, National Academy of Agricultural Science*

PNP-83

**Application of matured silkworm hemolymph**

You-Young Jo<sup>\*</sup>, Ji-Young Mun, Haeyong Kweon, Kwang-Gill Lee, Heui-Sam Lee, Joo-Hong Yeo  
*Sericultural & Apicultural Materials Division, National Academy of Agricultural Science*

PNP-84

**Antioxidant activity of anthocyanins isolated from *Krachaidum***

Sooyoung Cho, Jaehong Han<sup>\*</sup>

*Metalloenzyme Research Group and Department of Systems Biotechnology, Chung-Ang University, Anseong*

PNP-85

**Neuroprotective effect of purified  $\beta$ -secretase inhibitory peptide from sea hare (*Aplysia Kuroda*) by enzymatic hydrolysis**

Jung Kwon Lee, Hee-Guk Byun<sup>\*</sup>

*Department of Marine Biotechnology, Gangneung-Wonju National University, Gangneung 210-702*

PNP-86

**Hepatoprotective of the extract from chlorella against CCl<sub>4</sub>-induced oxidative damage in rats**

Jung Kwon Lee, Hee-Guk Byun<sup>\*</sup>

*Department of Marine Biotechnology, Gangneung-Wonju National University, Gangneung, 210-702*

PNP-87

**A novel  $\beta$ -secretase inhibitor of extract from marine brown algae**

Jung Kwon Lee, Hee-Guk Byun<sup>\*</sup>

*Department of Marine Biotechnology, Gangneung-Wonju National University, Gangneung 210-702*

PNP-88

**Identification of Antioxidant and  $\alpha$ -glucosidase Inhibitory Activities from *Artemisia annua* L.**

Jun Young Kim<sup>\*</sup>, Young-Min Goo, Seung Kyu Ahn, Keon Hee Ko, Kyeong Yeol Oh, Min Ji Kim, Gyeong Sun Kim, Yong Hwi Son, Bo Ram Park, Yun Geun Kim, Dong Hwan Kim

*Research and Development Office, Sancheong Oriental Medicinal Herb Institute*

PNP-89

**Neuroprotective and  $\beta$ -Secretase(BACE1) inhibitory effects of *p*-Terphenyls isolated from *Polyozellus multiplex***

So-Hyun Chon, Se-Yong Kim, Ju-Gyeong Lee, Kyung-Sik Song<sup>\*</sup>

*Research Institute of Pharmaceutical Sciences, College of Pharmacy, Kyungpook National University, Daehakro 80, Sankyuk-dong, Daegu 702-701, Korea*

PNP-90

**Saponarin from barley sprouts attenuates lipopolysaccharide-induced by inhibiting nuclear factor  $\kappa$ B and mitogen-activated protein kinases**

Woo Duck Seo<sup>\*</sup>, Kyung Hye Seo, Mi Jin Park, Jung Hwa Cha, Ji-Eun Ra, Sang-Ik Han, Ji-Young Park, Min-Hee Nam

*Department of Functional Crops, National Institute of Crop Science (NICS), Rural Development Administration*



PNP-91

**Identification of component for *Pleuropterus multflorus* based on metabolite profiling by LC/QTOFMS**  
Jun Young Kim<sup>\*</sup>, Young-Min Goo, Seung Kyu Ahn, Keon Hee Ko, Kyeong Yeol Oh, Min Ji Kim, Gyeong Sun Kim, Yong Hwi Son, Bo Ram Park, Yun Geun Kim, Dong Hwan Kim  
*Research and Development Office, Sancheong Oriental Medicinal Herb Institute*

PNP-92

**Digestive stability, bioaccessibility, and permeability of Hydroxycinnamic Acids from *Crepidiastrum denticulatum* using Simulated Digestion and Caco-2 Intestinal Cells**  
Hee Ju Lee, Kwang Hyun Cha, Chu Won Nho, Cheol-Ho Pan<sup>\*</sup>  
*Functional Food Center, Korea Institute of Science and Technology (KIST)*

PNP-93

**Isolation and identification of phytochemical constituents from the fruits of *Momordica charantia***  
Heung Joo Yuk, Geon Min Noh, So Young Kim, Jeong Sook Go, Haeng Ran Kim, Dong Sik Park<sup>\*</sup>  
*Functional Food and Nutrition Division, Department of Agrofood Resources, Rural Development Administration*

PNP-94

**Demonstration of anti-inflammatory activities of *Dendrobium nobile* derived phenanthrenes in murine macrophages**  
Jae Kwon Lee<sup>1\*</sup>, Jeong Hwa Kim<sup>1</sup>, Golam Mezbah Uddin<sup>2</sup>, Su-Yeon Oh<sup>1</sup>, Chul Young Kim<sup>2</sup>  
<sup>1</sup>*Department of Biology Education, Chungbuk National University*, <sup>2</sup>*Functional Food Center, KIST Gangneung Institute*

PNP-95

**Antioxidative Properties and Cytotoxicity of Vinca Alkaloids in Vinca Minor Extract**  
Jun-Sub Kim, Hyang-Yeol Lee<sup>\*</sup>  
*Department of Biotechnology, Korea National University of Transportation*

PNP-96

**Immunomodulation Potential of Ethyl Acetate Fraction of Prunus mume Siebold et Zuccarini fruit**  
Anil Chauhan, Sun Chul Kang<sup>\*</sup>  
*Department of Biotechnology, Daegu University*

PNP-97

**Auriculasin displaying bacterial neuraminidase inhibition from *flemingia philippinesis***  
Zuopeng Li, Yan Wang, Yeonghun Song, Kihun Park<sup>\*</sup>  
*Division of Applied Life Science (BK21 Plus), IALS, Gyeongsang National University, Jinju 660-701, Korea*

PNP-98

**Phytoecdysones from the roots of *Achyranthes japonica* Nakai and their anti-atopy activity**  
Ki Ohk Kim<sup>1,2</sup>, Chang-Sub Ku<sup>3</sup>, Min-Jin Kim<sup>3</sup>, Yhun Jung Park<sup>1</sup>, Hyung Won Ryu<sup>1</sup>, Hyuk-Hwan Song<sup>1</sup>, Jung Hee Kim<sup>1</sup>, Min Kyun Na<sup>2</sup>, Sei-Ryang Oh<sup>1\*</sup>  
<sup>1</sup>*Natural Medicine Research Center, KRIBB, Chungbuk 363-883, Korea*, <sup>2</sup>*College of Pharmacy, Chungnam National University, Daejeon 305-764, Korea*, <sup>3</sup>*Organic and Natural Product Research Center, Cotde Inc., Jeju-City, Korea*

PNP-99

**Anti-inflammatory effect of suffruticosol A from *Paeonia lactiflora* seeds in lipopolysaccharide-stimulated RAW264,7 macrophages**Hyung Won Ryu<sup>1</sup>, Hyuk-Hwan Song<sup>1</sup>, Seong Hun Jeong<sup>2</sup>, Jeong-Eun Han<sup>1</sup>, Doo-Young Kim<sup>1</sup>, Jung-Hee Kim<sup>1</sup>, Sei-Ryang Oh<sup>1\*</sup><sup>1</sup>Natural Medicine Research Center, KRIBB, Chungcheongbuk-do 363-883, Korea, <sup>2</sup>Namhae Garlic Research Institute, Namhae 668-812, Korea

PNP-100

**Cosmetic activities of nyasol from the rhizomes of *Anemarrhena asphodeloide***Yhun Jung Park<sup>1,2</sup>, Chang-Sub Ku<sup>3</sup>, Min-Jin Kim<sup>3</sup>, Ki Ohk Kim<sup>1</sup>, Hyung Won Ryu<sup>1</sup>, Hyuk-Hwan Song<sup>1</sup>, Doo Young Kim<sup>1</sup>, Bang Yeon Hwang<sup>2</sup>, Sei-Ryang Oh<sup>1\*</sup><sup>1</sup>Natural Medicine Research Center, KRIBB, Chungcheongbuk-do 363-883, Korea, <sup>2</sup>College of Pharmacy, Chungbuk National University, Cheongju 361-763, Korea, <sup>3</sup>Organic and Natural Product Research Center, Cotde Inc., Jeju Techno-park, 4-8 Ara-1 dong, Jeju-City, Korea

PNP-101

**Metabolomics investigation of flavonoid synthesis in soybean leaves depending on the growth stage**Hyuk-Hwan Song<sup>1</sup>, Hyung Won Ryu<sup>1</sup>, Kyung Jun Lee<sup>2</sup>, Dong Sub Kim<sup>2</sup>, Sei-Ryang Oh<sup>1\*</sup><sup>1</sup>Natural Medicine Research Center, KRIBB, Chung-buk 363-883, Korea, <sup>2</sup>Advanced Radiation Technology Institute, KAERI, Jeongup-si 580-185, Korea

PNP-102

**The effect of ginsenosides on coxsackievirus B3, enterovirus 71 and human rhinovirus**Hyuk-Hwan Song<sup>1</sup>, Jae-Hyoung Song<sup>2</sup>, Hyung Won Ryu<sup>1</sup>, Hyo-Jun Won<sup>1</sup>, Jung-Hee Kim<sup>1</sup>, Sei-Ryang Oh<sup>1</sup>, Hyun-Jeong Ko<sup>2\*</sup><sup>1</sup>Natural Medicine Research Center, KRIBB, Chung-buk 363-883, Korea, <sup>2</sup>Laboratory of Microbiology and Immunology, College of Pharmacy, Kangwon National University, Chuncheon 200-701, Korea

PNP-103

**Discrimination of white ginseng origins using multivariate statistical analysis of UPLC-QTOF/MS data sets**Hyuk-Hwan Song<sup>1</sup>, Ji Young Moon<sup>2</sup>, Hyung Won Ryu<sup>1</sup>, Ju Hyeon An<sup>1</sup>, Doo-Young Kim<sup>1</sup>, Jeong-Han Kim<sup>3</sup>, Sei-Ryang Oh<sup>1\*</sup><sup>1</sup>Natural Medicine Research Center, KRIBB, Chung-buk 363-883, Korea, <sup>2</sup>Experiment Research Institute of NAQS, Gimcheon-si 150-804, Korea, <sup>3</sup>Department of Agricultural Biotechnology, Seoul National University, Seoul 151-742, Korea

PNP-104

**Bioactive Compounds from the Roots of *Asiasarum heterotropoides***You Jin Lee, Jun Lee, Se-Mi Oh, Jin-Mu Yi, No Soo Kim, Ok-Sun Bang<sup>\*</sup>

KM-Based Herbal Drug Development Group, Korea Institute of Oriental Medicine

PNP-105

**Effect of Microbial Removal on Bok choy(*Brassica Compestris L. ssp Chinensis*) with Different Packing Methods**

Jeong-Ho Lim, Jung-Min Sung, Kee-Jai Park, Jin-Woong Jeong\*  
*Processing Technology Research Group, Korea Food Research Institute*

PNP-106

**Effect of High Voltage Electrostatic Field on Freezing and Thawing of Foods**

Jung-Min Sung, Jeong-Ho Lim, Kee-Jai Park, Jin-Woong Jeong\*  
*Processing Technology Research Group, Korea Food Research Institute*

PNP-107

**Policosanol and polyphenol profiles of wheat sprouts at different growth stages**

Ji-Eun Ra\*, Sang-Ik Han, Ji-Young Park, Eun-Yeong Sim, Kyung Hye Seo, Mi-Jin Park, Min-Hee Nam, Woo Duck Seo  
*Department of Functional Crops, National Institute of Crop Science (NICS), Rural Development Administration (RDA)*

PNP-108

**Metabolites from the fruits of *Acanthopanax sessiliflorus* inhibits cellular senescence in human fibroblasts**

Dae-Young Lee<sup>1</sup>, Kyeong-Hee Lee<sup>2</sup>, Kyeong-Hwa Seo<sup>3</sup>, Nam-In Baek<sup>3</sup>, Hyung-Jun Noh<sup>1</sup>, Seung-Yu Kim<sup>1</sup>, Geum-Soog Kim<sup>1\*</sup>  
<sup>1</sup>*Department of Herbal Crop Research, National Institute of Horticultural and Herbal Science, RDA*, <sup>2</sup>*Department of Herbal Crop Research, Institute of Horticultural and Herbal Science, RDA*, <sup>3</sup>*Graduate School of Biotechnology & Department of Oriental Medicine Biotechnology, Kyung Hee University*

PNP-109

**Glycerides from leaves of hydroponically cultivated ginseng and its application to *in vivo* lightening model**

Dae-Young Lee<sup>1</sup>, Byeong-Ju Cha<sup>2</sup>, Ji-Hae Park<sup>2</sup>, Jin-Hee Kim<sup>3</sup>, Yong-Bum Kim<sup>1</sup>, Myeong-Hun Yeom<sup>4</sup>, Eung-Ho Lee<sup>1</sup>, Geum-Soog Kim<sup>1</sup>, Seung-Yu Kim<sup>1</sup>, Nam-In Baek<sup>2\*</sup>  
<sup>1</sup>*Department of Herbal Crop Research, National Institute of Horticultural and Herbal Science, RDA*, <sup>2</sup>*Graduate School of Biotechnology & Department of Oriental Medicine Biotechnology, Kyung Hee University*, <sup>3</sup>*Department of Herbal Skin Care and Engineering, Daegu Hanny University*, <sup>4</sup>*Amorepacific Corporation R&D Center*

PNP-110

**Two new phenolic compounds with the inhibitory activity against IL-6 production from the bark of *Cinnamomum cambodianum***

Pel Pisey, Young-Won Chin\*  
*College of Pharmacy and BK21 PLUS R-FIND Team, Dongguk University-Seoul*

PNP-111

**Dieckol, a SARS-CoV 3CL<sup>pro</sup> inhibitor, isolated from the edible brown algae *Ecklonia cava***

Ji Young Park, Hyung Jun Kwon, Hyung Jae Jeong, Young Min Kim, Woo Song Lee, Young Bae Ryu\*  
*Eco-friendly Biomaterial Research Center, Korea Research Institute of Bioscience and Biotechnology*

PNP-112

**Diels-Alder adduct albanol A as potential antiviral agents for SARS-CoV**

Ji Young Park<sup>1</sup>, Hyung Jun Kwon<sup>1</sup>, Young Min Kim<sup>1</sup>, Jin A Ko<sup>1</sup>, Hyung Jae Jeong<sup>1</sup>, Ki Hun Park<sup>2</sup>, Woo Song

Lee<sup>1</sup>, Young Bae Ryu<sup>1\*</sup>

<sup>1</sup>Eco-friendly Biomaterial Research Center, Korea Research Institute of Bioscience and Biotechnology, <sup>2</sup>Division of Applied Life Science (BK21 Program, IALS), Graduate School of Gyeongsang National University

PNP-113

**Protective effect of 6,6'-bieckol isolated from *Ecklonia cava* on high glucose-induced oxidative stress in Human Umbilical Vein Endothelial Cells**

Jiyi Jang<sup>1</sup>, Bo-Ram Ye<sup>1</sup>, Min-Sun Kim<sup>1</sup>, A-Reum Lee<sup>1</sup>, Mi-Hwa Park<sup>2</sup>, Seung-Hong Lee<sup>3</sup>, Won-Kyo Jung<sup>4</sup>, Soo-Jin Heo<sup>1\*</sup>

<sup>1</sup>Global Bioresources Research Center, Korea Institute of Ocean Science & Technology, <sup>2</sup>Department of Food and Nutrition, Silla University, <sup>3</sup>Division of Food Bioscience, and Korea Nokyong Research Center, Konkuk University, <sup>4</sup>Department of Marine Life Science and Marine Life Research and Education Center, Chosun University

PNP-114

**Chromene regulates the expression of osteoclastogenic factors in human osteoblast-like MG-63 cells**

Soo-Jin Heo<sup>1,2\*</sup>, Bo-Ram Ye<sup>1</sup>, Jiyi Jang<sup>1</sup>, Weon-Jong Yoon<sup>3</sup>, Kil-Nam Kim<sup>4</sup>, Won-Kyo Jung<sup>5</sup>

<sup>1</sup>Global Bioresources Research Center, Korea Institute of Ocean Science and Technology, <sup>2</sup>Department of Marine Biology, University of Science and Technology, <sup>3</sup>Jeju Biodiversity Research Institute, Jeju TECHNOPARK, <sup>4</sup>Department of Marine Bio Research, Korea Basic Science Institute, <sup>5</sup>Department of Biomedical Engineering, Pukyong National University

PNP-115

**Sargachromanol G inhibits osteoclastogenesis in RANKL-induced RAW 264.7 cells by NF- $\kappa$ B and MAPKs pathways**

Bo-Ram Ye<sup>1</sup>, Jiyi Jang<sup>1</sup>, Min-Sun Kim<sup>1</sup>, Weon-Jong Yoon<sup>2</sup>, Soo-Jin Heo<sup>1\*</sup>

<sup>1</sup>Global Bioresources Research Center, Korea Institute of Ocean Science & Technology, <sup>2</sup>Jeju Biodiversity Research Institute, Jeju TECHNOPARK

PNP-116

**Anti-inflammatory and anti-melanogenic effects of *Sargassum patens***

A-Reum Lee<sup>1</sup>, Jiyi Jang<sup>1</sup>, Bo-Ram Ye<sup>1</sup>, Min-Sun Kim<sup>1</sup>, Kil-Nam Kim<sup>2</sup>, Soo-Jin Heo<sup>1\*</sup>

<sup>1</sup>Global Bioresources Research Center, Korea Institute of Ocean Science & Technology, <sup>2</sup>Marine Bio Research Team, Korea Basic Science Institute

PNP-117

**Sargachromanol G Isolated from *Sargassum siliquastrum* Inhibits Inflammatory Activity in RAW 264.7 Cells**

Min-Sun Kim<sup>1</sup>, Bo-Ram Ye<sup>1</sup>, Jiyi Jang<sup>1</sup>, A-Reum Lee<sup>1</sup>, Weon-Jong Yoon<sup>2</sup>, Soo-Jin Heo<sup>1\*</sup>

<sup>1</sup>Global Bioresources Research Center, Korea Institute of Ocean Science & Technology, <sup>2</sup>Jeju Biodiversity Research Institute, Jeju Technopark

PNP-118

**Antioxidant and anti-inflammatory effect of *Paeonia lactiflora* Pall**

Hyun-Ji Eo<sup>1</sup>, Su-Bin Park<sup>2</sup>, Yoon-A Kim<sup>2</sup>, Ga-Hyun Jeong<sup>3</sup>, Yeon-Kyeong Lee<sup>4</sup>, Jin-Boo Jeong<sup>2\*</sup>

<sup>1</sup>Department of Bioresource Sciences, Andong National University, <sup>2</sup>Medicinal Plant Resources Major, Andong

National University, <sup>3</sup>Materials Science and Engineering, Andong National University, <sup>4</sup>Department of Statistics, Yeungnam University

PNP-119

**Marine Streptomyces extract with rice bacterial blight suppressing activity**

Jeong-Gu Kim<sup>1\*</sup>, Jinhua Cheng<sup>2</sup>, Joo-Won Suh<sup>2</sup>

<sup>1</sup>Genomics Division, National Academy of Agricultural Science (NAAS), Rural Development Administration (RDA), <sup>2</sup>Department of Biological Science, Myongji University

PNP-120

**Scutellaria baicalensis attenuates LPS-induced hepatic damage such as inflammation and apoptosis**

Chan Hum Park<sup>1</sup>, Yu Ok Shin<sup>1</sup>, Joo Young Lee<sup>1</sup>, Ji Hye Lee<sup>1</sup>, Sung Ho Shin<sup>1</sup>, Min Yeong Kim<sup>1</sup>, Takako Yokozawa<sup>1,2,3</sup>, Seong-Soo Roh<sup>1\*</sup>

<sup>1</sup>College of Korean Medicine, Daegu Haany University, <sup>2</sup>Graduate School of Science and Engineering for Research, University of Toyama, <sup>3</sup>Molecular Inflammation Research Center for Aging Intervention, College of Pharmacy, Pusan National University

PNP-121

**Toosendan Fructus attenuates diabetes-induced pancreatic damage such as inflammation and apoptosis in type 1 diabetic NOD mice**

Seong-Soo Roh<sup>1</sup>, Chan Hum Park<sup>1</sup>, Ji Hye Lee<sup>1</sup>, Yu Ok Shin<sup>1</sup>, Joo Young Lee<sup>1</sup>, Sung Ho Shin<sup>1</sup>, Min Yeong Kim<sup>1</sup>, Jeong Sook Noh<sup>2</sup>, Yong-Ung Kim<sup>3\*</sup>

<sup>1</sup>College of Korean Medicine, Daegu Haany University, <sup>2</sup>Department of Food Science & Nutrition, Tongmyong University, <sup>3</sup>College of Herbal Bio-Industry, Daegu Haany University

PNP-122

**Induction of Apoptosis by Isolated Photosensitizer from Perilla Leaves**

Jun Young Ha<sup>1</sup>, Jun Young Lee<sup>1,2</sup>, Mi Kyeong Kim<sup>1,3</sup>, Eun Bi Choi<sup>1</sup>, Yong Gyun Kim<sup>1</sup>, Hong Joo Son<sup>1</sup>, Chang Oh Hong<sup>1</sup>, Hyeon Cheal Park<sup>1</sup>, Sang Mong Lee<sup>1</sup>, Keun Ki Kim<sup>1\*</sup>

<sup>1</sup>Department of Life Science & Environmental Biochemistry, Pusan National University, Miryang 627-706, Korea, <sup>2</sup>Department of Clinical Pathology, Masan University, Changwon 630-729, Korea, <sup>3</sup>Department of Clinical Laboratory Science, Gimhae College, Gimhae 621-706, Korea

PNP-123

**Effects of Korean red ginseng extract on mammary tumors induced by 7,12-dimethylbebz[a]anthracene**

Jin-Kyung Bae, Young Hee Choi<sup>\*</sup>

College of Pharmacy and BK21 PLUS R-FIND Team, Dongguk University-Seoul, 32 Dongguk-lo, Ilsandong-gu, Goyang, Gyeonggi-do 410-820, Korea

PNP-124

**Inhibitory effects of *Schisandra chinensis* extract on cytochrome P450 enzymes**

You-Jin Kim, Young Hee Choi<sup>\*</sup>

College of Pharmacy and BK21 PLUS R-FIND Team, Dongguk University-Seoul, 32 Dongguk-lo, Ilsandong-gu, Goyang, Gyeonggi-do 410-820, Korea

PNP-125

**Inhibitory effects of active lignans from *Schisandra chinensis* on cytochrome P450 enzymes**

You-Jin Kim, Young Hee Choi\*

*College of Pharmacy and BK21 PLUS R-FIND Team, Dongguk University-Seoul, 32 Dongguk-lo, Ilsandong-gu, Goyang, Gyeonggi-do 410-820, Korea*

PNP-126

**Antioxidant, Anti-inflammatory, and Anti-cancer Activities of Ethanol Extracts from *Allium hookeri* Leaf and Root**

Bong-Kyoum Choi<sup>1</sup>, Sung Hyen Lee<sup>1\*</sup>, Jung-Bong Kim<sup>1</sup>, Young-Min Lee<sup>1</sup>, Hwan-Hee Jang<sup>1</sup>, Kyung-A Hwang<sup>1</sup>, Haeng-Ran Kim<sup>1</sup>, You-Suk Kim<sup>2</sup>, Jae-Heon Yang<sup>3</sup>, Hyun-Ju Kim<sup>4</sup>, Ju-Ryoun Soh<sup>5</sup>, Hyun Lillehoj<sup>6</sup>

<sup>1</sup>National Academy of Agricultural Science, RDA, <sup>2</sup>Sunchang County, Agricultural Research Center, <sup>3</sup>Center for Healthcare, Chunbuk National University, <sup>4</sup>World Institute of Kimchi, Korea Food Research Institute, <sup>5</sup>Gold Tree Co, Ltd, <sup>6</sup>ARS, USDA

PNP-127

**Direct Inhibition of Cytochrome P450 isoforms by Sauchinone**

Eun-Chae Gong, You-Jin Kim, Young Hee Choi\*

*College of Pharmacy and BK21 PLUS R-FIND Team, Dongguk University-Seoul, 32 Dongguk-lo, Ilsandong-gu, Goyang, Gyeonggi-do 410-820, Korea*

PNP-128

***Monascus-fermented black soybean extracts* improve obesity by inhibiting adipogenesis in vitro and high-fat diet-induced obese mice**

Hae Jin Lee<sup>1</sup>, Young-Sil Lee<sup>2</sup>, Bong-Keun Choi<sup>2</sup>, Dong-Ryung Lee<sup>3</sup>, Maria-Florida Cueto<sup>3</sup>, Seung Hwan Yang<sup>1,2</sup>, Joo-Won Suh<sup>1,2,3\*</sup>

<sup>1</sup>Interdisciplinary Program of Biomodulation, Myongji University, Cheoin-Gu, Yongin, Korea, <sup>2</sup>Center for Nutraceutical and Pharmaceutical Materials, Myongji University, Cheoin-gu, Yongin, Korea, <sup>3</sup>Division of Bioscience and Bioinformatics, College of Natural science, Myongji University, Yongin, Korea

PNP-129

**Inhibitory Effects of *Sophora flavescens* and Its Active Compound Sophoraflavanone G on Allergy-Related Mediator Production in Rat Basophilic Leukemia Mast Cells**

Myungsuk Kim<sup>1</sup>, Hee Ju Lee<sup>1</sup>, Sue Ji Lim<sup>1,2</sup>, Chu Won Nho<sup>1\*</sup>

<sup>1</sup>Functional Food Center, KIST Gangneung Institute, <sup>2</sup>Department of Chemistry, Gangneung-Wonju National University

PNP-130

**Anti-cancer effects of flavonoids in SK-mel-2 human skin cancer**

Jaeyoung Kim<sup>1</sup>, Yongsub Yi<sup>1,2\*</sup>

<sup>1</sup>Dept of Biochemistry, Hoseo University, <sup>2</sup>Dept of Herbal Cosmetic Science, Hoseo University

PNP-131

**Growth inhibition effect of Tocopherols in Breast Cancer SUM 159 cell line**

Jaeyoung Yi<sup>1</sup>, Yongsub Yi<sup>1,2\*</sup>

<sup>1</sup>Dept of Biochemistry, Hoseo University, <sup>2</sup>Dept of Herbal Cosmetic Science, Hoseo University

**PES** Pesticide · Environmental Science

PES-1

**Stored Insect: Attractive activity of LED Trap to Angoumois Grain Moth, *Sitotroga cerealella* Adults**  
Hwa-Won Lee, Jun-Hwan Park, Min-Gi Kim, Hoi-Seon Lee\*  
*Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University*

PES-2

**Phototactic response of *Trialeurodes vaporariorum* (Hemiptera: Aleyrodidae) Adults to Light-emitting Diodes (LEDs)**  
Hwa-Won Lee, Jun-Hwan Park, Hoi-Seon Lee\*  
*Department of Bioenvironmental Chemistry, College of Agriculture & Life Sciences, Chonbuk National University*

PES-3

**Environmental risk assessment of disease resistant (OsCK1) rice for *Cyprinus carpio* and *Misgurnus anguillicaudatus***  
Sung-Dug Oh, Ki-Jong Lee, Soo-In Sohn, Yong-Woon Jung, Soon-Ki Park, Tae-Hun Ryu\*  
*Biosafety Division, National Academy of Agricultural Science*

PES-4

**Feasibility of MIRs for analyzing the soil organic carbon fractions**  
Seung Gil Hong<sup>1\*</sup>, Joungdu Shin<sup>2</sup>, Sang-Beom Lee<sup>1</sup>, Kwang-Lai Park<sup>1</sup>, Minho Lee<sup>1</sup>, Hong-Shik Nam<sup>1</sup>, Jinho Kim<sup>1</sup>, Jong-Chul Yun<sup>1</sup>, Henning Shiedung<sup>3</sup>, Wulf Amelung<sup>3</sup>  
<sup>1</sup>*Organic Agriculture Division, National Academy of Agricultural Science, RDA*, <sup>2</sup>*Climate Change & Agroecology Division, National Academy of Agricultural Science, RDA*, <sup>3</sup>*Soil Science Division, INRES, University of Bonn*

PES-5

**Establishment of Pre-Harvest Residue Limit (PHRL) of bifenthrin and chlorothalonil on *Prunus mume* fruits**  
Dong Kyu Jeong<sup>1</sup>, Dong Yeol Lee<sup>2</sup>, Yeong Jin Kim<sup>3</sup>, Kyu Young Kang<sup>2\*</sup>  
<sup>1</sup>*Division of Applied Life Science (BK21 Plus Program), Gyeongsang National University, Jinju 660-701, Korea*, <sup>2</sup>*Division of Applied Life Science (BK21 Plus Program) and Institute of Agriculture and Life Science, Gyeongsang National University, Jinju 660-701, Korea*, <sup>3</sup>*Gyeongnam Department of Environmental Toxicology and Chemistry, Korea Institute of Toxicology, Jinju 660-844, Korea*

PES-6

**Determination of Simultaneous Analysis of Clothianidin and Its Metabolites in Canola Seed using QuEChERS and LC-MS/MS**  
Dong Yeol Lee<sup>1</sup>, Dong Kyu Jeong<sup>2</sup>, Sang Gon Kim<sup>3</sup>, Kyu Young Kang<sup>1\*</sup>  
<sup>1</sup>*Division of Applied Life Science (BK21 Plus Program) and Institute of Agriculture and Life Science, Gyeongsang National University, Jinju 660-701, Korea*, <sup>2</sup>*Division of Applied Life Science (BK21 Plus Program), Gyeongsang National University, Jinju 660-701, Korea*, <sup>3</sup>*Plant Molecular Biology and Biotechnology Research Center, Gyeongsang National University, Jinju 660-701, Korea*

PES-7

**Studies on flooding stress mechanism for stable soybean production**

Gun-Ho Jung<sup>\*</sup>, Sun-Lim Kim, Jung-Kyung Moon, Jong-Ho Seo, Min-Jung Seo, Mi-Jung Kim, Sang-Gon Kim, Young-Up Kwon

*Upland Crop Division, Rural Development Administration*

PES-8

**Biodegradation of Sulfamethoxazole by Human Intestinal Bacterium *Eubacterium limosum* Under Anaerobic Conditions**

Jiyoung Park, Hyunji Lee, Chaewon Jung, Hor-Gil Hur<sup>\*</sup>

*School of Environmental Science and Engineering, Gwangju Institute of Science and Technology*

PES-9

**Monitoring and Risk Assessment of Pesticide Residues for Circulated Agricultural Commodities in Korea-2013**

Jae-Young Kim<sup>1</sup>, Sang-Mok Lee<sup>2</sup>, Han-Jin Lee<sup>2</sup>, Moon-Ik Chang<sup>2\*</sup>, Gyu-Seek Rhee<sup>2</sup>

<sup>1</sup>*Accident Prevention and Assessment Division, National Institute of Chemical Safety, Ministry of Environment,*

<sup>2</sup>*Pesticide and Veterinary Drug Residues Division, Department of Food Safety Evaluation, National Institute of Food and Drug Safety Evaluation, Ministry of Food and Drug Safety*

PES-10

**Theoretical Prediction of Endosulfan Residue in Soil Using Chemical-Specific Residue Model**

Jeong-In Hwang, Young-Hwan Jeon, Sang-Oh Jeon, Sang-Hyeob Lee, Sung-Eun Lee, Jang-Eok Kim<sup>\*</sup>

*School of Applied Biosciences, Kyungpook National University*

PES-11

**Metabolic Patterns of Flucetosulfuron in Artificial Gastrointestinal Juices**

Yong-Sang Lee<sup>1,2</sup>, Joon-Kwan Moon<sup>3</sup>, Kwang-Hyeon Liu<sup>4</sup>, Eunhye Kim<sup>1</sup>, Hoon Choi<sup>5</sup>, Jeong-Han Kim<sup>1\*</sup>

<sup>1</sup>*Department of Agricultural Biotechnology and Research Institute for Agriculture and Life Sciences, Seoul National University, Seoul 151-742, Korea,* <sup>2</sup>*Specialty Chemicals Division, LG Life Sciences, Olsan-eup, Ulsan 689-896, Korea,* <sup>3</sup>*School of Plant, Life and Environmental Sciences, Hankyong National University,* <sup>4</sup>*College of Pharmacy and Research Institute of Pharmaceutical Sciences, Kyungpook National University, Daegu 702-701, Korea,* <sup>5</sup>*Ministry of Food and Drug Safety, Cheongwon 363-951, Korea*

PES-12

**Pesticide Distribution in Main Tributaries of Freshwater Lake Watershed in Reclaimed Land of the Western Coast in Korea**

Seon Ah Hwang<sup>1\*</sup>, Hong Kyu Kim<sup>1</sup>, Jang Hee Lee<sup>1</sup>, Soo-Hwan Lee<sup>1</sup>, Hee-Soo Bae<sup>1</sup>, Yang Yeol Oh<sup>1</sup>, Sanghun Lee<sup>1</sup>, Taek Kyum Kim<sup>2</sup>, Su-Myeong Hong<sup>2</sup>, Kyeong-Bo Lee<sup>3</sup>, Geon-Hwi Lee<sup>1</sup>

<sup>1</sup>*Department of Rice and Winter Cereal Crop, NICS, RDA, Iksan 570-080, Korea,* <sup>2</sup>*Department of Crop Life Safety, NAAS, RDA, Suwon 441-707, Korea,* <sup>3</sup>*Planning and Coordination Div., NICS, RDA, Suwon 441-857, Korea*

PES-13

**Pesticide Distribution of Main Streams in Reclaimed Land Lake Watershed of the Southern Coast in Korea**

Seon Ah Hwang<sup>1\*</sup>, Hong Kyu Kim<sup>1</sup>, Jang Hee Lee<sup>1</sup>, Soo-Hwan Lee<sup>1</sup>, Hee-Soo Bae<sup>1</sup>, Yang Yeol Oh<sup>1</sup>, Sanghun Lee<sup>1</sup>, Taek Kyum Kim<sup>2</sup>, Su-Myeong Hong<sup>2</sup>, Kyeong-Bo Lee<sup>3</sup>, Geon-Hwi Lee<sup>1</sup>



<sup>1</sup>Department of Rice and Winter Cereal Crop, NICS, RDA, Iksan 570-080, Korea, <sup>2</sup>Department of Crop Life Safety, NAAS, RDA, Suwon 441-707, Korea, <sup>3</sup>Planning and Coordination Div., NICS, RDA, Suwon 441-857, Korea

PES-14

**Control of root-knot nematode *Meloidogyne incognita* by 3,4-DHBA purified from medicinal plant *Terminalia nigrovenulosa***

Dang-Minh Nguyen<sup>1</sup>, Dong-Jun Seo<sup>1</sup>, Kil-Yong Kim<sup>1</sup>, Ro-Dong Park<sup>1</sup>, Yeon-Soo Han<sup>2</sup>, Woo-Jin Jung<sup>1\*</sup>

<sup>1</sup>Division of Applied Bioscience and Biotechnology, Institute of Environmentally-Friendly Agriculture (IEFA), College of Agricultural and Life Science, Chonnam National University, Gwangju 500-757, Korea, <sup>2</sup>Division of Plant Biotechnology, College of Agricultural and Life Science, Chonnam National University, Gwangju 500-757, Korea

PES-15

**Simultaneous determination of 91 Pesticides in leaf vegetable, Aster scaber by OuEChERS method and HPLC-MS/MS**

Taek Kyum Kim<sup>\*</sup>, Ji Hyeong Kwon, Eun Kyung Seo, Su Myeong Hong, Hye Young Kwon, Nam Jun Cho  
Department of Agro-Food Safety/Chemical Safety Division, NAAS, RDA

PES-16

**Effect of Veterinary Antibiotics on Anthocyanin Content in Seed Sprouts**

Saet-Byul Park, Young Gyu Hong, Sun-Ju Kim, Jung-Min Seo, Sung Chul Kim<sup>\*</sup>

Department of Bio-Environmental Chemistry, Chungnam National University, Daejeon 305-764, Korea

PES-17

**Risk Assessment through Monitoring for Pesticide Residues of Mandarin Orange in Korea**

Young-Hwan Jeon<sup>1</sup>, Sang-Hyup Lee<sup>1</sup>, Jeong-In Hwang<sup>1</sup>, Sang-Oh Jeon<sup>1</sup>, Seng-Eun Lee<sup>1</sup>, Han-Sub Jang<sup>2</sup>, Jang-Eok Kim<sup>1\*</sup>

<sup>1</sup>School of Applied Biosciences, Kyungpook National University, <sup>2</sup>Research Institute, National Agricultural Products Quality Management Service

PES-18

**Production of Insecticidal Rhamnolipids using tangerine peel by *Pseudomonas* sp. EP-3 for control of green peach aphid**

Tae Hyun Park, Si Young Yang, In Seon Kim<sup>\*</sup>

Department of Agricultural Chemistry, Chonnam National University

PES-19

**Estimated Daily Intake of Dioxin From Agricultural Products in Korea**

Geun Hyoung Choi<sup>\*</sup>, Su-Myeong Hong, Jin Hyo Kim, Byung-Jun Park, Nam-Jun Cho  
Chemical Safety Division, NAAS, RDA

PES-20

**Isolation and Determination of The Aphicidal Metabolites produced by *Bacillus* sp. MS-1 against *Myzus Persicae***

Si Young Yang, Tae Hyun Park, In Seon Kim<sup>\*</sup>

*Department of Agricultural Chemistry, Chonnam National University*

PES-21

**Changes of Soil Characteristics in Paddy Field Applied Slurry Composting Biofiltration (SCB) Liquid Manure**

Dong Su You, Gyeong Ae Lee, Ki Young Cho, Jae Young Cho \*

*Department of Bio-environmental Chemistry, College of Agriculture & Life Science, Chonbuk National University, Jeonju 561-756, Korea*

PES-22

**Changes of Nutrient Concentration in Outflow Water from Paddy Field Applied Slurry Composting Biofiltration (SCB) Liquid Manure**

Dong Su You, Gyeong Ae Lee, Ki Young Cho, Jae Young Cho \*

*Department of Bio-environmental Chemistry, College of Agriculture & Life Science, Chonbuk National University, Jeonju 561-756, Korea*

PES-23

**Leaching Loading of Nutrient from Paddy Field Applied Slurry Composting Biofiltration (SCB) Liquid Manure**

Dong Su You, Gyeong Ae Lee, Ki Young Cho, Jae Young Cho \*

*Department of Bio-environmental Chemistry, College of Agriculture & Life Science, Chonbuk National University, Jeonju 561-756, Korea*

PES-24

**Surface Runoff Loading of Nutrient from Paddy Field Applied Slurry Composting Biofiltration (SCB) Liquid Manure**

Dong Su You, Gyeong Ae Lee, Ki Young Cho, Jae Young Cho \*

*Department of Bio-environmental Chemistry, College of Agriculture & Life Science, Chonbuk National University, Jeonju 561-756, Korea*

PES-25

**Comparison of Soil Characteristics in Paddy Field Applied Inorganic Fertilizer, Swine Liquid Manure and Swine Compost**

Jae Gwon Son, Gyeong Ae Lee, Dong Su You, Jae Young Cho \*

*College of Agriculture & Life Science, Chonbuk National University, Jeonju 561-756, Korea*

PES-26

**Comparison of Nutrient Concentration in Leachated from Paddy Field Applied Inorganic Fertilizer, Swine Liquid Manure and Swine Compost**

Jae Gwon Son, Gyeong Ae Lee, Hye Ran Jeong, Jae Young Cho \*

*College of Agriculture & Life Science, Chonbuk National University, Jeonju 561-756, Korea*

PES-27

**Comparison of Nutrient Concentration in Outflow Water from Paddy Field Applied Inorganic Fertilizer, Swine Liquid Manure and Swine Compost**

Jae Gwon Son, Gyeong Ae Lee, Hye Ran Jeong, Jae Young Cho \*

*College of Agriculture & Life Science, Chonbuk National University, Jeonju 561-756, Korea*

**PES-28**

**Surface Runoff Loading of Nutrients from Paddy Field Applied Inorganic Fertilizer, Swine Liquid Manure and Swine Compost**

Jae Gwon Son, Gyeong Ae Lee, Hye Ran Jeong, Jae Young Cho\*

*College of Agriculture & Life Science, Chonbuk National University, Jeonju 561-756, Korea*

**PES-29**

**Leaching Loading of Nutrients from Paddy Field Applied Inorganic Fertilizer, Swine Liquid Manure and Swine Compost**

Jae Gwon Son, Gyeong Ae Lee, Ki Young Cho, Jae Young Cho\*

*College of Agriculture & Life Science, Chonbuk National University, Jeonju 561-756, Korea*

**PES-30**

**Changes of Physical Characteristics of Forest Soil Applied with Livestock Liquid Manure**

Gyeong Ae Lee, Dong Su You, Hye Ran Jeong, Ki Young Cho, Jae Young Cho\*

*Department of Bio-environmental Chemistry, College of Agriculture & Life Science, Chonbuk National University, Jeonju 561-756, Korea*

**PES-31**

**Chemical Properties of Forest Soil Applied with Livestock Liquid Manure**

Gyeong Ae Lee, Dong Su You, Hye Ran Jeong, Ki Young Cho, Jae Young Cho\*

*Department of Bio-environmental Chemistry, College of Agriculture & Life Science, Chonbuk National University, Jeonju 561-756, Korea*

**PES-32**

**Changes of Water Quality in Stream Water Nearby Forest Fields Treated with Livestock Liquid Manure**

Gyeong Ae Lee, Dong Su You, Hye Ran Jeong, Ki Young Cho, Jae Young Cho\*

*Department of Bio-environmental Chemistry, College of Agriculture & Life Science, Chonbuk National University, Jeonju 561-756, Korea*

**PES-33**

**Changes of Concentration and Runoff Loading of Total Suspended Solids from Forest Fields Treated with Livestock Liquid Manure during Rainfall and Runoff**

Gyeong Ae Lee, Dong Su You, Hye Ran Jeong, Ki Young Cho, Jae Young Cho\*

*Department of Bio-environmental Chemistry, College of Agriculture & Life Science, Chonbuk National University, Jeonju 561-756, Korea*

**PES-34**

**Changes of Concentration and Runoff Loading of Total Nitrogen from Forest Fields Treated with Livestock Liquid Manure during Rainfall and Runoff**

Gyeong Ae Lee, Dong Su You, Hye Ran Jeong, Ki Young Cho, Jae Young Cho\*

*Department of Bio-environmental Chemistry, College of Agriculture & Life Science, Chonbuk National University, Jeonju 561-756, Korea*

PES-35

**Changes of Concentration and Runoff Loading of Total Phosphate from Forest Fields Treated with Livestock Liquid Manure during Rainfall and Runoff**Gyeong Ae Lee, Dong Su You, Hye Ran Jeong, Ki Young Cho, Jae Young Cho\**Department of Bio-environmental Chemistry, College of Agriculture & Life Science, Chonbuk National University, Jeonju 561-756, Korea*

PES-36

**Effects of Livestock Liquid Manure Treatment on Growth Responses of *Schisandra chinensis* (Turcz.) Baill**Gyeong Ae Lee, Dong Su You, Hye Ran Jeong, Ki Young Cho, Jae Young Cho\**Department of Bio-environmental Chemistry, College of Agriculture & Life Science, Chonbuk National University, Jeonju 561-756, Korea*

PES-37

**Translocation of Hazardous Materials into *Schisandra chinensis* (Turcz.) Baill through Livestock Liquid Manure Treatment**Gyeong Ae Lee, Dong Su You, Hye Ran Jeong, Ki Young Cho, Jae Young Cho\**Department of Bio-environmental Chemistry, College of Agriculture & Life Science, Chonbuk National University, Jeonju 561-756, Korea*

PES-38

**Growth Responses of *Rubus coreanus* Miq in Forest Fields Treated with Livestock Liquid Manure**Gyeong Ae Lee, Dong Su You, Hye Ran Jeong, Ki Young Cho, Jae Young Cho\**Department of Bio-environmental Chemistry, College of Agriculture & Life Science, Chonbuk National University, Jeonju 561-756, Korea*

PES-39

**Translocation of Hazardous Materials into *Rubus coreanus* Miq in Forest Fields Treated with Livestock Liquid Manure**Gyeong Ae Lee, Dong Su You, Hye Ran Jeong, Ki Young Cho, Jae Young Cho\**Department of Bio-environmental Chemistry, College of Agriculture & Life Science, Chonbuk National University, Jeonju 561-756, Korea*

PES-40

**Changes of Electronic Conductivity of Soil during Desalinization in Reclaimed Tidelands**Jae Gwon Son<sup>1</sup>, Gi Hwan Cho<sup>2</sup>, Jae Do Song<sup>1</sup>, Hui Su Bae<sup>3</sup>, Ki Young Cho<sup>4</sup>, Jae Young Cho<sup>4\*</sup><sup>1</sup>*Department of Rural Construction Engineering, Chonbuk National University, Jeonju 561-756, Korea,*<sup>2</sup>*Division of Computer Science and Engineering, Chonbuk National University, Jeonju 561-756, Korea,* <sup>3</sup>*National**Institute of Crop Science, RDA, Iksan 570-080, Korea,* <sup>4</sup>*Department of Bio-environmental Chemistry, Chonbuk National University, Jeonju 561-756, Korea*

PES-41

**Changes of Exchangeable Sodium Percent of Soil during Desalinization in Reclaimed Tidelands**Jae Gwon Son<sup>1</sup>, Gi Hwan Cho<sup>2</sup>, Jae Do Song<sup>1</sup>, Hui Su Bae<sup>3</sup>, Ki Young Cho<sup>4</sup>, Jae Young Cho<sup>4\*</sup><sup>1</sup>*Department of Rural Construction Engineering, Chonbuk National University, Jeonju 561-756, Korea,*<sup>2</sup>*Division of Computer Science and Engineering, Chonbuk National University, Jeonju 561-756, Korea,* <sup>3</sup>*National*

*Institute of Crop Science, RDA, Iksan 570-080, Korea, <sup>4</sup>Department of Bio-environmental Chemistry, Chonbuk National University, Jeonju 561-756, Korea*

**PES-42**

**Changes of Hydraulic Conductivity of Soil during Desalinization in Reclaimed Tidelands**

Jae Gwon Son<sup>1</sup>, Gi Hwan Cho<sup>2</sup>, Jae Do Song<sup>1</sup>, Hui Su Bae<sup>3</sup>, Ki Youn Cho<sup>4</sup>, Jae Young Cho<sup>4\*</sup>

<sup>1</sup>*Department of Rural Construction Engineering, Chonbuk National University, Jeonju 561-756, Korea,*

<sup>2</sup>*Division of Computer Science and Engineering, Chonbuk National University, Jeonju 561-756, Korea, <sup>3</sup>National Institute of Crop Science, RDA, Iksan 570-080, Korea, <sup>4</sup>Department of Bio-environmental Chemistry, Chonbuk National University, Jeonju 561-756, Korea*

**PES-43**

**Changes of Potential Hydrogen of Soil during Desalinization in Reclaimed Tidelands**

Jae Gwon Son<sup>1</sup>, Gi Hwan Cho<sup>2</sup>, Jae Do Song<sup>1</sup>, Hui Su Bae<sup>3</sup>, Ki Young Cho<sup>4</sup>, Jae Young Cho<sup>4\*</sup>

<sup>1</sup>*Department of Rural Construction Engineering, Chonbuk National University, Jeonju 561-756, Korea,*

<sup>2</sup>*Division of Computer Science and Engineering, Chonbuk National University, Jeonju 561-756, Korea, <sup>3</sup>National Institute of Crop Science, RDA, Iksan 570-080, Korea, <sup>4</sup>Department of Bio-environmental Chemistry, Chonbuk National University, Jeonju 561-756, Korea*

**PES-44**

**Estimation of Leaching Water Requirements during Desalinization in Reclaimed Tidelands**

Jae Gwon Son<sup>1</sup>, Gi Hwan Cho<sup>2</sup>, Jae Do Song<sup>1</sup>, Hui Su Bae<sup>3</sup>, Ki Young Cho<sup>4</sup>, Jae Young Cho<sup>4\*</sup>

<sup>1</sup>*Department of Rural Construction Engineering, Chonbuk National University, Jeonju 561-756, Korea,*

<sup>2</sup>*Division of Computer Science and Engineering, Chonbuk National University, Jeonju 561-756, Korea, <sup>3</sup>National Institute of Crop Science, RDA, Iksan 570-080, Korea, <sup>4</sup>Department of Bio-environmental Chemistry, Chonbuk National University, Jeonju 561-756, Korea*

**PES-45**

**Purification and Bioefficacy of Chitinase ChiA1 from *Paenibacillus Elgii***

Shahzad Munir<sup>1\*</sup>, Seuk Kee Park<sup>2</sup>, Kil Yong Kim<sup>1</sup>, In Seon Kim<sup>1</sup>, Young Cheol Kim<sup>3</sup>

<sup>1</sup>*Institute of Environmentally-Friendly Agriculture, College of Agriculture and Life Sciences, Chonnam National University, <sup>2</sup>Department of Agricultural Biology, Suncheon National University, <sup>3</sup>Institute of*

*Environmentally-Friendly Agriculture, College of Agriculture and Life Sciences, Chonnam National University*

**PES-46**

**Molecular characterization and expression profiles of a tetraspanin membrane protein, CD63 from the coleopteran pest, *Tenebrio molitor***

Bharat Bhusan Patnaik<sup>1</sup>, Seong Min Kang<sup>2</sup>, Gi Won Seo<sup>1</sup>, Hyo Jeong Lee<sup>1</sup>, Hongray Howrelia Patnaik<sup>1</sup>, Yong Hun Jo<sup>1</sup>, Hamisi Tindwa<sup>1</sup>, Yong Seok Lee<sup>3</sup>, Bok Leul Lee<sup>2</sup>, Nam Jung Kim<sup>4</sup>, In Seok Bang<sup>5</sup>, Yeon Soo Han<sup>1\*</sup>

<sup>1</sup>*Division of Plant Biotechnology, Institute of Environmentally-Friendly Agriculture (IEFA), College of Agriculture and Life Sciences, Chonnam National University, Gwangju 500-757, Korea, <sup>2</sup>National Research Laboratory of Defense Proteins, College of Pharmacy, Pusan National University, Jangjeon Dong, Kumjeong Ku, Busan 609-735, Korea, <sup>3</sup>Department of Life Science and Biotechnology, College of Natural Sciences, Soonchunhyang University, Asan City 336-745, Korea, <sup>4</sup>Division of Applied Entomology, National Academy of Agricultural Science, Rural Development Administration, 61th, Seodun-dong, Gwonseon-gu, Suwon, Gyeonggi-do 441-853, Korea, <sup>5</sup>Department of Biological Science and The Research Institute for Basic Sciences,*

Hoseo University, Asan 336-795, Korea

PES-47

**Identification of a bacteria inducible apolipoprotein-III homologue from *T. molitor* larvae: Genome organization and sequence-structure relationships**

Ju Young Noh<sup>1†</sup>, Bharat Bhusan Patnaik<sup>1†</sup>, Hamisi Tindwa<sup>1</sup>, Gi Won Seo<sup>1</sup>, Dong Hyun Kim<sup>1</sup>, Hongray Howrelia Patnaik<sup>1</sup>, Yong Hun Jo<sup>1</sup>, Yong Seok Lee<sup>2</sup>, Bok Luel Lee<sup>3</sup>, Nam Jung Kim<sup>4</sup>, Yeon Soo Han<sup>1\*</sup>

<sup>1</sup>Division of Plant Biotechnology, Institute of Environmentally-Friendly Agriculture (IEFA), College of Agriculture and Life Sciences, Chonnam National University, Gwangju 500-757, Korea, <sup>2</sup>Department of Life Science and Biotechnology, College of Natural Sciences, Soonchunhyang University, Asan City 336-745, Korea, <sup>3</sup>National Research Laboratory of Defense Proteins, College of Pharmacy, Pusan National University, Jangjeon Dong, Kumjeong Ku, Busan 609-735, Korea, <sup>4</sup>Division of Applied Entomology, National Academy of Agricultural Science, Rural Development Administration, 61th, Seodun-dong, Gwonseon-gu, Suwon, Gyeonggi-do 441-853, Korea

PES-48

**Knockdown of a peptidoglycan recognition protein-LE homologue by RNA interference leads to increased susceptibility of *Tenebrio* larvae to *Listeria monocytogenes* infection: Molecular characterization and expression analysis**

Hamisi Tindwa<sup>1</sup>, Bharat Bhusan Patnaik<sup>1</sup>, Dong Hyun Kim<sup>1</sup>, Seulgi Mun<sup>1</sup>, Yong Hun Jo<sup>1</sup>, Bok Luel Lee<sup>2</sup>, Yong Seok Lee<sup>3</sup>, Nam Jung Kim<sup>4</sup>, Yeon Soo Han<sup>1\*</sup>

<sup>1</sup>Division of Plant Biotechnology, Institute of Environmentally-Friendly Agriculture (IEFA), College of Agriculture and Life Sciences, Chonnam National University, Gwangju 500-757, Korea, <sup>2</sup>National Research Laboratory of Defense Proteins, College of Pharmacy, Pusan National University, Jangjeon Dong, Kumjeong Ku, Busan 609-735, Korea, <sup>3</sup>Department of Life Science and Biotechnology, College of Natural Sciences, Soonchunhyang University, Asan City 336-745, Korea, <sup>4</sup>Division of Applied Entomology, National Academy of Agricultural Science, Rural Development Administration, 61th, Seodun-dong, Gwonseon-gu, Suwon, Gyeonggi-do 441-853, Korea

PES-49

**Gene structure analysis, cDNA characterization and silencing of a Myeloid differentiation factor 88 homologue leads to susceptibility of *Tenebrio molitor* larvae against *Staphylococcus aureus* infection**

Bharat Bhusan Patnaik<sup>1†</sup>, Hongray Howrelia Patnaik<sup>1†</sup>, Yong Seok Lee<sup>2</sup>, Bok Ruel Lee<sup>3</sup>, Yeon Soo Han<sup>1\*</sup>

<sup>1</sup>Division of Plant Biotechnology, Institute of Environmentally-Friendly Agriculture (IEFA), College of Agriculture and Life Sciences, Chonnam National University, Gwangju 500-757, Korea, <sup>2</sup>Department of Life Science and Biotechnology, College of Natural Sciences, Soonchunhyang University, Asan city 336-745, Korea, <sup>3</sup>National Research Laboratory of Defense Proteins, College of Pharmacy, Pusan National University, Jangjeon Dong, Kumjeong Ku, Busan 609-735, Korea

PES-50

**RNA-seq and expressed sequence tag based identification of autophagy-related genes in the coleopteran model insect, *Tenebrio molitor***

Yong Hun Jo<sup>1</sup>, Bharat Bhusan Patnaik<sup>1</sup>, Yong Seok Lee<sup>2</sup>, Bok Ruel Lee<sup>3</sup>, Yeon Soo Han<sup>1\*</sup>

<sup>1</sup>Division of Plant Biotechnology, Institute of Environmentally-Friendly Agriculture (IEFA), College of Agriculture and Life Sciences, Chonnam National University, Gwangju 500-757, Korea, <sup>2</sup>Department of Life Science and Biotechnology, College of Natural Sciences, Soonchunhyang University, Asan 336-745, Korea, <sup>3</sup>The National Research Laboratory of Defense Proteins, College of Pharmacy, Pusan National University, Busan 609-735, Korea

PES-51

**Identification and expression analysis of Toll-like receptors from *Tenebrio* RNA-seq and expressed sequence tag**

Yong Hun Jo<sup>1</sup>, Dong Hyun Kim, Hamisi Tindwa, Bharat Bhusan Patnaik<sup>1</sup>, Yong Seok Lee<sup>2</sup>, Bok Ruel Lee<sup>3</sup>, Yeon Soo Han<sup>1\*</sup>

<sup>1</sup>Division of Plant Biotechnology, Institute of Environmentally-Friendly Agriculture (IEFA), College of Agriculture and Life Sciences, Chonnam National University, Gwangju 500-757, Korea, <sup>2</sup>Department of Life Science and Biotechnology, College of Natural Sciences, Soonchunhyang University, Asan 336-745, Korea, <sup>3</sup>The National Research Laboratory of Defense Proteins, College of Pharmacy, Pusan National University, Busan 609-735, Korea

PES-52

**Molecular cloning and characterization of target of rapamycin (TmTOR) in coleopteran insect, *Tenebrio molitor***

Yong Hun Jo<sup>1</sup>, Bharat Bhusan Patnaik<sup>1</sup>, Gi Won Seo<sup>1</sup>, Soo Gon Kim<sup>1</sup>, Jeong Hwan Seong<sup>1</sup>, Hamisi Tindwa<sup>1</sup>, Masayuki Takeda<sup>3</sup>, Bok Luel Lee<sup>2</sup>, Iksoo Kim<sup>1</sup>, Yong Seok Lee<sup>4</sup>, Yeon Soo Han<sup>1\*</sup>

<sup>1</sup>Division of Plant Biotechnology, Institute of Environmentally-Friendly Agriculture (IEFA), College of Agriculture and Life Sciences, Chonnam National University, Gwangju 500-757, Korea, <sup>2</sup>The National Research Laboratory of Defense Proteins, College of Pharmacy, Pusan National University, Busan 609-735, Korea, <sup>3</sup>Graduate School of Agricultural Science, Kobe University, Nada-ku, Kobe, Japan, <sup>4</sup>Department of Life Science and Biotechnology, College of Natural Sciences, Soonchunhyang University, Asan city 336-745, Korea

PES-53

**Depletion of autophagy-related genes, ATG3 and ATG5 in *Tenebrio molitor* leads to decreased survivability against an intracellular pathogen, *Listeria monocytogenes***

Hamisi Tindwa<sup>1</sup>, Yong Hun Jo<sup>1</sup>, Bharat Bhusan Patnaik<sup>1</sup>, Dong Hyun Kim<sup>1</sup>, Yong Seok Lee<sup>2</sup>, Bok Luel Lee<sup>3</sup>, Nam Jung Kim<sup>4</sup>, Iksoo Kim<sup>1</sup>, Yeon Soo Han<sup>1\*</sup>

<sup>1</sup>Division of Plant Biotechnology, Institute of Environmentally-Friendly Agriculture (IEFA), College of Agriculture and Life Sciences, Chonnam National University, Gwangju 500-757, Korea, <sup>2</sup>Department of Life Science and Biotechnology, College of Natural Sciences, Soonchunhyang University, Asan city 336-745, Korea, <sup>3</sup>National Research Laboratory of Defense Proteins, College of Pharmacy, Pusan National University, Jangjeon Dong, Kumjeong Ku, Busan 609-735, Korea, <sup>4</sup>Division of Applied Entomology, National Academy of Agricultural Science, Rural Development Administration, 61th, Seodun-dong, Gwonseon-gu, Suwon 441-853, Gyeonggi-do, Korea

PES-54

**Cloning, expression analysis and subcellular localization of Tm14-3-3ζ in coleopteran insect, *Tenebrio molitor***

Yong Hun Jo<sup>1†</sup>, Jeong Hwan Seong<sup>1†</sup>, Seulgi Mun<sup>1</sup>, Bharat Bhusan Patnaik<sup>1</sup>, Gi Won Seo<sup>1</sup>, Soo Gon Kim<sup>1</sup>, Hamisi Tindwa<sup>1</sup>, Dong Hyun Kim<sup>1</sup>, Bok Luel Lee<sup>3</sup>, Iksoo Kim<sup>1</sup>, Yasuyuki Arakane<sup>1</sup>, Yong Seok Lee<sup>2</sup>, Yeon Soo Han<sup>1\*</sup>

<sup>1</sup>Division of Plant Biotechnology, Institute of Environmentally-Friendly Agriculture (IEFA), College of Agriculture and Life Sciences, Chonnam National University, Gwangju 500-757, Korea, <sup>2</sup>Department of Biology, Soonchunhyang University, Asan 336-745, Korea, <sup>3</sup>The National Research Laboratory of Defense Proteins, College of Pharmacy, Pusan National University, Busan 609-735, Korea

PES-55

**Analysis of the genome of a Korean isolate of the *Pieris rapae* granulovirus enabled by its separation from total host genomic DNA by pulse-field electrophoresis**

Yong Hun Jo<sup>2</sup>, Bharat Bhusan Patnaik<sup>2</sup>, Se Won Kang<sup>1</sup>, Seunghan Oh<sup>2</sup>, Dong Hyun Kim<sup>2</sup>, Mi Young Noh<sup>2</sup>, Gi

Won Seo<sup>2</sup>, Heon Cheon Jeong<sup>3</sup>, Ju Young Noh<sup>3</sup>, Hee Ju Hwang<sup>1</sup>, Yeon Soo Han<sup>2\*</sup>, Yong Seok Lee<sup>2</sup>

<sup>1</sup>Department of Life Science and Biotechnology, College of Natural Sciences, Soonchunhyang University, Asan 336-745, Korea, <sup>2</sup>Division of Plant Biotechnology, Institute of Environmentally-Friendly Agriculture (IEFA), College of Agriculture and Life Sciences, Chonnam National University, Gwangju 500-757, Korea, <sup>3</sup>Hampyeong County Insect Institute, Hampyeong County Agricultural Technology Center, Hampyeong 525-811, Korea

**PFM**

**Food Science · Microbiology**

**PFM-1**

**Antioxidant Compounds and Activities of *Sorghum bicolor* (L.) Moench cv. Hwaggumchal-susu's Brans with Milling Rates**

Koan Sik Woo<sup>1\*</sup>, Jee Yeon Ko<sup>1</sup>, Jung In Kim<sup>1</sup>, Seuk Bo Song<sup>1</sup>, Jae Saeng Lee<sup>1</sup>, Tae Wook Jung<sup>1</sup>, Jae Min Cho<sup>1</sup>, Young Ho Yoon<sup>1</sup>, Mi Seon Jeong<sup>1</sup>, Heon Sang Jeong<sup>2</sup>

<sup>1</sup>Department of Functional Crop, National Institute of Crop Science, Rural Development Administration, <sup>2</sup>Department of Food Science and Technology, Chungbuk National University

**PFM-2**

**Screening genetically modified soybean using multiplex PCR**

Saet Byul Park, Hyo Jeong Roh, Jae Hwan Kim<sup>\*</sup>

Department of Food Science and Biotechnology, Kyung Hee University

**PFM-3**

**Optimization of ultraviolet irradiate conditions for vitamin D<sub>2</sub> synthesis in shitake mushrooms (*Lentinula edodes*) by using response surface methodology**

Ya Zhang<sup>1</sup>, Wei-Jie Wu<sup>2</sup>, Byung-Yong Ahn<sup>1\*</sup>

<sup>1</sup>Department of Oriental Medicine Resources, Chonbuk National University, <sup>2</sup>Department of Food Science & Biotechnology, Chonbuk National University

**PFM-4**

**pH-dependency of Activity and Production of a Cold-active Lipase from *Pichia lynchii* Y-7723**

Jae-Han Bae, Mee-Hyun Kwon, Ji-Yeon Kim, Eun-Chong Won, Hak-Ryul Kim<sup>\*</sup>

School of Food Science and Biotechnology, Kyungpook National University

**PFM-5**

**Enhanced Antimicrobial Activity of Monoglyceride of 7,10-dihydroxy-8(E)-octadecenoic Acid**

Hye-Ran Son, Hyun-Mi Park, Fei Wang, Se-Rin Kim, Hak-Ryul Kim<sup>\*</sup>

School of Food Science and Biotechnology, Kyungpook National University

**PFM-6**

**Production of a Novel Antioxidant Furan Fatty Acid from 7,10-dihydroxy-8(E)-octadecenoic Acid**

Chakradhar Dasagrandhi, Averilla Janice Nullan, Shuyu Zhao, Hak-Ryul Kim<sup>\*</sup>

School of Food Science and Biotechnology, Kyungpook National University

**PFM-7**

**Enhanced biomass and changes of biochemical components by myo-inositol supplement in *Chlorella***



**sp. isolated from the East Sea**

Kichul Cho<sup>1</sup>, Kil-Nam Kim<sup>2</sup>, Seong Woon Roh<sup>2</sup>, Daekyung Kim<sup>2\*</sup>, Tatsuya Oda<sup>3</sup>

<sup>1</sup>*Korea University of Science & Technology, Daejeon 305-350, Korea,* <sup>2</sup>*Jeju Center, Korea Basic Science Institute (KBSI), Jeju 690-756, Korea,* <sup>3</sup>*Division of Biochemistry, Faculty of Fisheries, Nagasaki University, 1-14 Bunkyo-machi, Nagasaki, 852-8521, Japan*

**PFM-8**

**Strain improvement of *Gluconacetobacter* sp. KCG326 for increased biocellulose production**

Sang Suk Kim<sup>\*</sup>, Ju Mi Hyun, Hyun Joo An, Kyung Jin Park, Young Hun Choi

*Citrus Research Station, National Institute of Horticultural & Herbal Science, RDA*

**PFM-9**

**Effects of Light-emitting Diode Light Quality on the Adventitious Roots of Ginseng (*Panax ginseng* C. A. Mayer)**

Yunsoo Yeo<sup>1</sup>, Soo-Yun Park<sup>1</sup>, So Young Lee<sup>1</sup>, Si Myung Lee<sup>1</sup>, Seonwoo Oh<sup>1</sup>, Chang Yeon Yu<sup>2</sup>, Jae Kwang Kim<sup>3\*</sup>

<sup>1</sup>*National Academy of Agricultural Science, Rural Development Administration,* <sup>2</sup>*Bioherb Research Institute, Kangwon National University,* <sup>3</sup>*Division of Life Sciences, Incheon National University*

**PFM-10**

**Metabolic Differentiation of Colored Cauliflowers (*Brassica oleracea* L. ssp. *botrytis*)**

Soo-Yun Park<sup>1</sup>, So Young Lee<sup>1</sup>, Yunsoo Yeo<sup>1</sup>, Si Myung Lee<sup>1</sup>, Seonwoo Oh<sup>1</sup>, Sang Un Park<sup>2</sup>, Jae Kwang Kim<sup>3\*</sup>

<sup>1</sup>*National Academy of Agricultural Science, Rural Development Administration,* <sup>2</sup>*Department of Crop Science, Chungnam National University,* <sup>3</sup>*Division of Life Sciences, Incheon National University*

**PFM-11**

**Comparison of the Nutritional Compositions of Insect-Resistant and Glufosinate-Tolerant Rice and Conventional Rice**

So Young Lee<sup>1</sup>, Soo-Yun Park<sup>1</sup>, Yunsoo Yeo<sup>1</sup>, Si Myung Lee<sup>1</sup>, Seonwoo Oh<sup>1</sup>, Jae Kwang Kim<sup>2\*</sup>

<sup>1</sup>*National Academy of Agricultural Science, Rural Development Administration,* <sup>2</sup>*Division of Life Sciences, Incheon National University*

**PFM-12**

**Inhibitory Effect of Biofilm Formation with the Enzyme Treated Extracts of Clove**

Jae-Kyung Lee<sup>\*</sup>, Kuk-Hwan Kim<sup>1</sup>, Man-Suk Yoon<sup>1</sup>, Jae-Youn Lim<sup>1</sup>, Tae-Jong Kim<sup>2</sup>, Youngseok Ham<sup>2</sup>

<sup>1</sup>*Collaborative Research, Nutribiotech Co., Ltd.,* <sup>2</sup>*Department of Forest Products & Biotechnology, Kookmin University*

**PFM-13**

**Effect of *Epimedium koreanum* Nakai on Apoptosis in HCT116 Human Colon Cancer Cells**

Tae Eun Guon, Min Ju Ryu, Ha Sook Chung<sup>\*</sup>

*Department of Food and Nutrition, Duksung Women's University*

**PFM-14**

**Effects of *Aralia elata* on apoptotic cell death in human breast cancer cells**

Min Ju Ryu, Ha Sook Chung<sup>\*</sup>

*Department of Food and Nutrition, Duksung Women's University*

**PFM-15**

**Development of Sugar and Sugar Phosphate Analytical Method Using Liquid Chromatography–Tandem Mass Spectrometry**

Boram Lee<sup>1</sup>, Jong Cheol Shon<sup>1</sup>, Eun Young Lee<sup>1</sup>, Sun-Won Kim<sup>2</sup>, Kwang-Hyeon Liu<sup>1\*</sup>

<sup>1</sup>College of Pharmacy, Kyungpook National University, Korea, <sup>2</sup>Department of Biochemistry, Gyeongsang National University, Korea

**PFM-16**

**Antioxidant activity and anti-inflammatory effect in LPS-induced RAW 264.7 cells from water extract of alcohol steaming *Gastrodia elata***

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

*Department of Agriculture and Life Sciences, Chonbuk National University*

**PFM-17**

**Antioxidant activity and anti-inflammatory effect in LPS-induced RAW 264.7 cells from water extract of alcohol steaming *Polygonati rhizoma***

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

*Department of Agriculture and Life Sciences, Chonbuk National University*

**PFM-18**

**Expression patterns of chitinase and chitosanase produced from *Bacillus cereus* in suppression of phytopathogen**

Dong-Jun Seo<sup>1,2</sup>, Ji-Hae Lee<sup>1</sup>, Yong-Su Song<sup>1</sup>, Ro-Dong Park<sup>1</sup>, Yong-Sik Cho<sup>2</sup>, Woo-Jin Jung<sup>1\*</sup>

<sup>1</sup>Division of Applied Bioscience and Biotechnology, Institute of Environmentally-Friendly Agriculture (IEFA), College of Agricultural and Life Science, Chonnam National University, Gwangju 500-757, Korea, <sup>2</sup>Fermented Food Science Division, Department of Agro-food Resources, National Academy of Agricultural Science, Rural Development Administration, Suwon 441-853, Korea

**PFM-19**

**Antioxidant and whitening efficacy of solvent fraction isolated from Coffee beans**

Dong-In Kim<sup>1</sup>, Hyeon-Jeong Kim<sup>1</sup>, Jae-Myo Yu<sup>1</sup>, Eun-Su Lee<sup>1</sup>, Yong-Hun Cho<sup>1</sup>, Jae-Yoon Jang<sup>1</sup>, Seul-Ah Seo<sup>1</sup>, Yu-Hyeon Shin<sup>2</sup>, Young-Jae Cho<sup>3</sup>, Bong-Jeun An<sup>1\*</sup>

<sup>1</sup>Dept. of Cosmeceutical Science, Daegu Haany University, <sup>2</sup>Institute of Technology, Herbnoori, <sup>3</sup>School of Food Science & Biotechnology / Food & Bio-Industry Research Institute, Kyungpook National University

**PFM-20**

**Safety assessment of differences and equivalences between transgenic brown rice and reference varieties grown in Korea**

Seonwoo Oh<sup>\*</sup>, Simyung Lee, Sooyun Park, Jiyea Lee, Yunsoo Yeo

*Biosafety Division, National Academy of Agricultural Science*

**PFM-21**

**Compilation of phenolic compounds of rice varieties for the comparable information with reference range in the compositional assessment of GM rice**

Jiyea Lee, Seonwoo Oh\*, Simyung Lee, Sooyun Park, Yunsoo Yeo  
*Biosafety Division, National Academy of Agricultural Science*

**PFM-22**

**Enzymatic production of ginsenoside Rd from fresh Korean ginseng at high hydrostatic pressure**

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

<sup>1</sup>*Center for Nutraceutical and Pharmaceutical Materials, Myongji University, Cheoin-gu, Yongin, Gyeonggi-Do 449-728, Korea,* <sup>2</sup>*Division of Bioscience and Bioinformatics, College of Natural Science, Myongji University, Cheoin-gu, Yongin, Gyeonggi-Do 449-728, Korea*

**PFM-23**

**Characterization of functional, safety and probiotic properties of *Lactobacillus plantarum* strains isolated from fermented foods**

Karthiyaini Damodharan<sup>1,2</sup>, Sasikumar Arunachalam Palaniyandi<sup>1</sup>, Seung Hwan Yang<sup>1</sup>, Joo-Won Suh<sup>1,2\*</sup>

<sup>1</sup>*Center for Nutraceutical and Pharmaceutical Materials, Myongji University, Cheoin-gu, Yongin, Gyeonggi-Do 449-728, Korea,* <sup>2</sup>*Division of Bioscience and Bioinformatics, College of Natural Science, Myongji University, Cheoin-gu, Yongin, Gyeonggi-Do 449-728, Korea*

**PFM-24**

**Natural Occurrence of Fusarium Mycotoxins in 2013-harvested wheat and barley**

Soohyung Lee\*, Theresa Lee, Osuk Ryu, Mija Kim, Jae-Gee Ryu

*Microbial Safety Division, NAAS-RDA, Suwon 441-707, Korea*

**PFM-25**

**Photoprotective Effects of Various Extracts from the Roots of *Rumex crispus* L.**

Yeon Soon Kim, Shin Park\*

*Division of Life and Environment, Daegu University, Kyongsan, Kyungbook 712-714, Korea*

**PFM-26**

**Antioxidant Effects of Various Fruit Drinks from *Vitis vinifera* L.**

Yeon Soon Kim, Shin Park\*

*Division of Life and Environment, Daegu University, Kyongsan, Kyungbook 712-714, Korea*

**PFM-27**

**Comparative proteomic analysis of two *Glycine max* (Saedanbaek and Daewon) with different protein contents**

Chul Woo Min<sup>1</sup>, So Wun Kim<sup>1</sup>, Yong Chul Kim<sup>1</sup>, Byong Won Kim<sup>2</sup>, Jong Min Ko<sup>2</sup>, In Youl Baek<sup>2</sup>, Sun Tae Kim<sup>1\*</sup>

<sup>1</sup>*Department of Plant Bioscience, Pusan National University, Miryang 627-706, Korea,* <sup>2</sup>*Department of Functional Crops, NICS, RDA, Miryang 627-803, Korea*

**PFM-28**

**Changes on the Physico-chemical Properties and Flour Quality of Pre-harvest Sprouted Wheat (*Triticum aestivum* L.)**

Yu Young Lee\*, Dea-Wook Kim, Sun Lim Kim, Mi-Jung Kim, Yul-Ho Kim, Ja-Hwan Ku, Young-Up Kwon  
*Upland Crop Division, National Institute of Crop Science, RDA*

PFM-29

**A Reliable, Simple, and Efficient Depletion Method for Storage Protein Detection in Oil Seeds**

Yiming Wang<sup>1</sup>, So Wun Kim<sup>2</sup>, Chul Woo Min<sup>2</sup>, Kyu Young Kang<sup>3</sup>, Ki Hun Park<sup>3</sup>, Ganesh Kumar Agrawal<sup>4,5,6</sup>, Randeep Rakwal<sup>4,5,6</sup>, Sun Tae Kim<sup>2\*</sup>

<sup>1</sup>Department of Plant Microbe Interaction, Max Planck Institute for Plant Breeding Research, Carl-von-Linné-Weg 10, 50829 Köln, Germany, <sup>2</sup>Department of Plant Bioscience, Life and Industry Convergence Research Institute, Pusan National University, Miryang 627-707, Korea, <sup>3</sup>Division of Applied Life Science (BK21 Program), Gyeongsang National University, Jinju 660-701, Korea, <sup>4</sup>Research Laboratory for Biotechnology and Biochemistry (RLABB), GPO Box 13265, Kathmandu, Nepal, <sup>5</sup>Graduate School of Life and Environmental Sciences, 1-1-1 Tennoudai, University of Tsukuba, Tsukuba 305-8572, Japan, <sup>6</sup>Department of Anatomy I, School of Medicine, Showa University, 1-5-8 Hatanodai, Shinagawa, Tokyo 142-8555, Japan

PFM-30

**Evaluation of inorganic components in soybean (*Glycine max* (L.) Merr.) cultivars for developing soybean lines with high nutrient value**

Min Jung Seo<sup>1\*</sup>, Yu Young Lee<sup>1</sup>, Jong-Seo Choi<sup>2</sup>, Gun Ho Jung<sup>1</sup>, Gil Hyun Kim<sup>1</sup>, Jong Ho Seo<sup>1</sup>, Jung Kyung Moon<sup>1</sup>, Young-Up Kwon<sup>1</sup>

<sup>1</sup>Upland Crop Research Division, National Institute of Crop Science, RDA, <sup>2</sup>Crop Environment Research Division, National Institute of Crop Science, RDA

PFM-31

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

Yong-Suk Lee<sup>1</sup>, Je-Hoon Lee<sup>2</sup>, Eun-Jung Hwang<sup>2</sup>, Jie Chang<sup>2</sup>, Shu-Jun Fang<sup>3</sup>, Yong-Lark Choi<sup>2\*</sup>

<sup>1</sup>Department of Biotechnology, Dong-A University, Busan 604-714, Korea, <sup>2</sup>Department of Biotechnology, Dong-A University, Busan 604-714, Korea, <sup>3</sup>State Key Laboratory Breeding Base for Sustainable Exploitation of Tropical Biotic Resources, Hainan University, Hainan Province, China

PFM-32

**Immobilized  $\alpha$ -Amylase Properties from *Exiguobacterium* sp. DAU5 on the Chitosan Beads**

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

<sup>1</sup>State Key Laboratory Breeding Base for Sustainable Exploitation of Tropical Biotic Resources, Hainan University, Hainan Province, China, <sup>2</sup>Department of Biotechnology, Dong-A University, Busan 604-714, Korea

PFM-33

**Changes of Chemical Composition in Sweet Corn Kernels According to the Ripening**

Mi-Jung Kim<sup>\*</sup>, Hyo-Jin Park, Sun-Lim Kim, Yu Young Lee, Young-Up Kwon

Upland Crop Research Division, National Institute of Crop Science, RDA

PFM-34

**Anti-inflammatory Activity of Onion Peel Ethanol Extract in LPS-induced RAW 264.7 Cells**

Bo-Kyeong Kang<sup>1</sup>, Koth-Bong Kim<sup>2</sup>, Min-Ji Kim<sup>2</sup>, Si-Woo Bark<sup>1</sup>, Won-Min Pak<sup>1</sup>, Bo-Ram Kim<sup>1</sup>, Na-Kyung Ahn<sup>1</sup>, Yeon-Uk Choi<sup>1</sup>, Dong Hyun Ahn<sup>1\*</sup>

<sup>1</sup>Department of Food Science and Technology, Pukyong National University, <sup>2</sup>Institute of Fisheries Sciences, Pukyong National University

**PFM-35**

**Effects of Rice Germ Oil on Inflammatory Responses in LPS-induced RAW 264.7 Cells**

Won-Min Pak<sup>1</sup>, Bo-Kyeong Kang<sup>1</sup>, Koth-Bong Kim<sup>2</sup>, Min-Ji Kim<sup>2</sup>, Si-Woo Park<sup>1</sup>, Bo-Ram Kim<sup>1</sup>, Na-Kyung Ahn<sup>1</sup>, Yeon-Uk Choi<sup>1</sup>, Dong-Hyun Ahn<sup>1\*</sup>

<sup>1</sup>Department of Food Science and Technology, Pukyong National University, <sup>2</sup>Institute of Fisheries Sciences, Pukyong National University

**PFM-36**

**Biological Control of the Popcorn Disease in Korean Mulberry (*Morus australis*) Caused by *Ciboria shiraiana* using a *Bacillus* strain C25**

Razia Sultana<sup>1</sup>, Anupama Shrestha<sup>1</sup>, Kangmin Kim<sup>1,2</sup>, Kui-Jae Lee<sup>1,2</sup>, Jong-Chan Chae<sup>1,2\*</sup>

<sup>1</sup>Division of Biotechnology, Chonbuk National University, Iksan 570-752, Korea, <sup>2</sup>Advanced Institute of Environment and Bioscience, Chonbuk National University, Iksan 570-752, Korea

**PFM-37**

**Effects of alcohol concentrations of Makgeolli on physicochemical and microbial changes during storage at different temperature**

Jeong Sil Choi, Ji Ho Choi, Han Seok Choi, Soo Hwan Yeo, Seok Tae Jung<sup>\*</sup>

Fermentation & Food Processing Division, National Academy of Agricultural Science

**PFM-38**

**Physicochemical and Functional Properties of Mixed Fishes Hydrolysates Obtained Enzymatically from *Apogon albimaculosus*, *Platycephalidae cymbacephalus* and *Cynoglossus lingua***

Afan Bagus Mananda, Yuli Witono, Iwan Taruna, Woo-Won Kang<sup>\*</sup>

Department of Agricultural Product Technology, University of Jember, Indonesia

**PFM-39**

**Quality Properties of Honey Circulated in Korea**

Jae-Young Kim<sup>1</sup>, Seung-Hwa Baek<sup>2\*</sup>

<sup>1</sup>Accident Prevention and Assessment Division, National Institute of Chemical Safety, Ministry of Environment,

<sup>2</sup>Department of Biofood Science and Biotechnology, Chungbuk Provincial University

**PFM-40**

**Effect of Starch and Pasting Characteristics on the Texture of Cooked Rice**

Mi-Ra Yoon<sup>\*</sup>, Jieun Kwak, Jeom-Sig Lee, Jeong-Heui Lee, Areum Chun, Hyun-Jin Lee, Bo-Kyeong Kim

National Institute of Crop Science, RDA, Suwon 441-857, Korea

**PFM-41**

**Yakju quality based on the commercial yeast strain**

Yoo Deok Park, Han Seok Choi, Ji Ho Choi, Soo Hwan Yeo, Seok Tae Jeong<sup>\*</sup>

Fermented Food Science Division, National Academy of Agricultural Science

**PFM-42**

***In vitro* Screening of Inorganic arsenic-contaminated Rice on Micronucleus Frequency using Human Keratinocytes**

Hyeon-Jo Cho, Won-Il Kim, Kyung-Hun Park, Jin-Ah Oh, Namjun Cho, Min-Kyoung Paik<sup>\*</sup>

Chemical Safety Division, Rural Development Administration

PFM-43

**Fortification of Milk with Marine Carotenoid Fucoxanthin: Development of Analysis Method and Stability Study**

Il-Kyoon Mok<sup>1,2</sup>, Jung Ro Yoon<sup>2</sup>, Cheol-Ho Pan<sup>1</sup>, Sang-Min Kim<sup>1\*</sup>

<sup>1</sup>Functional Food Center, Korea Institute of Science and Technology, Gangneung Institute, <sup>2</sup>Department of Food Processing and Distribution, Gangneung-Wonju National University

PFM-44

**Effect of nutraceutical lipid on sensory properties of *japonica* rice**

Jieun Kwak<sup>\*</sup>, Mi-Ra Yoon, Jeom-Sig Lee, Jeong-Heui Lee, Areum Chun, Jae-Ki Chang, Bora Choi, Bo-Kyeong Kim

National Institute of Crop Science, Rural Development Administration, Suwon, Gyeonggi, Korea

PFM-45

**Effect of Millimeter wave Irradiation on Microbiological Characteristics of mushroom (*Aquaricus bisporus*)**

Mi-Seon Kim<sup>1</sup>, Jun-Seok Kum<sup>1\*</sup>, Hyun-Yu Lee<sup>2</sup>, Jong-Dae Park<sup>1</sup>

<sup>1</sup>Research Group of Convergence Technology, Korea Food Research Institute, <sup>2</sup>Research Group of Food Value Creation, Korea Food Research Institute

PFM-46

**Composition analysis and antioxidant activities of ethyl acetate fraction from rosemary (*Rosmarinus officinalis*) produced in Jeju**

Ho Bong Hyun<sup>1</sup>, Gyeong-A Ko<sup>1</sup>, Yeon Woo Song<sup>1</sup>, Moa Son<sup>1</sup>, Hye Rim Kang<sup>1</sup>, Sabina Shrestha<sup>2</sup>, Sung Jae Lee<sup>3</sup>, Somi K Cho<sup>1,2\*</sup>

<sup>1</sup>Faculty of Biotechnology, College of Applied Life Science, Jeju National University, Jeju 690-756, Korea, <sup>2</sup>Subtropical Horticulture Research Institute, Jeju National University, Jeju 690-756, Korea, <sup>3</sup>Unban Farmers Co., Ltd, 107 Smart Bldg, Jeju Science Park, 213-3 Cheomdan-ro, Jeju-si, Jeju Special Self-Governing Province, Korea

PFM-47

**Compositional analysis of lemon leaf extract and its antioxidant and antiproliferative activities**

Hyeonji Kim<sup>1</sup>, Suyeong Han<sup>2</sup>, Minwhan Cho<sup>3</sup>, Jeong Yong Moon<sup>1\*</sup>

<sup>1</sup>Subtropical Horticulture Research Institute, Jeju National University, Jeju 690-756, Korea, <sup>2</sup>Cheongshim International Academy, Gyeonggi-do Gapyeng-gun Sorak-myeon Misari-ro 324-213, Korea, <sup>3</sup>Seoul Global High School, 40 Sungkyunkwan-ro 13 gil, Jongno-gu, Seoul 110-521, Korea

PFM-48

**Fermentation of Rice Bran with Probiotic *Lactobacillus* spp. Improves Antioxidant Activity**

Jungeun Kim<sup>1</sup>, Sung-Kwon Lee<sup>2</sup>, Jinhua Cheng<sup>2</sup>, Karthiyaini Damodharan<sup>3</sup>, Sasikumar Arunachalam Palaniyandi<sup>2</sup>, Seung Hwan Yang<sup>2</sup>, Joo-Won Suh<sup>2,3\*</sup>

<sup>1</sup>Interdisciplinary Program of Biomodulation, Myongji University, Youngin, Gyeonggi-Do, Korea, <sup>2</sup>Center for Nutraceutical and Pharmaceutical Materials, Myongji University, Youngin, Gyeonggi-Do, Korea, <sup>3</sup>Division of Bioscience and Bioinformatics, Myongji University, Youngin, Gyeonggi-Do, Korea

PFM-50

**Selection and characterization of DNA aptamers with binding selectivity to *Escherichia coli* O157:H7 using whole-cell SELEX**

Jihe Moon, Giyoung Kim\*, Saet Byeol Park, Jongguk Lim, Changyeun Mo  
*Department of Agricultural Engineering, National Academy of Agricultural Sciences*

PFM-51

**Evaluation and comparison of nutritional compositions of five different pumpkin species**

Ji Yeon Oh, Youngmin Choi\*, Young-Sook Cho  
*Functional Food & Nutrition Division, National Academy of Agricultural Science*

PFM-52

**Characterization of Xylanase on Isolated from Ola Leaf Record in Sri Lanka**

Jeung-Min Lee\*, Young-Hee Kim, Jin-Young Hong, Chang-Wook Jo, Soo-Ji Kim, Min-Seok Seo  
*Conservation Science Division, National Research Institute of Cultural Heritage, Munji-dong, Yuseong-gu, Daejeon 305-380, Korea*

PFM-53

**Anti-oxidant and Anti-proliferative Activities of Extracts from the Leaf and Stem of Jeju Island Sangdong Tree (*Sageretia theezans*)**

Gyeong-A Ko<sup>1</sup>, Sabina Shrestha<sup>2</sup>, Ho Bong Hyun<sup>1</sup>, Yeon Woo Song<sup>1</sup>, Hye Rim Kang<sup>1</sup>, Dong-Sun Lee<sup>1,2</sup>, Somi Kim Cho<sup>1,2\*</sup>  
<sup>1</sup>*Faculty of Biotechnology, College of Applied Life Sciences, Jeju National University,* <sup>2</sup>*Subtropical Horticulture Research Institute, Jeju National University*

PFM-54

**Prevalence of Multi-drug Resistant Bacteria Belonging to *Enterobacteriaceae***

Eunbyeul Go<sup>1</sup>, Ki-Bong Song<sup>2</sup>, Byeori Kim<sup>1</sup>, Yong-Jae Yoo<sup>1</sup>, Kwang-Seol Seok<sup>2</sup>, Jong-Chan Chae<sup>1,3\*</sup>  
<sup>1</sup>*Division of Biotechnology, Chonbuk National University, Iksan 570-752, Korea,* <sup>2</sup>*Chemicals Research Division, National Institute of Environmental Research, Incheon 404-708, Korea,* <sup>3</sup>*Advanced Institute of Environment and Bioscience, Chonbuk National University, Iksan 570-752, Korea*

PFM-55

**Prevalence of *Vibrio* spp. in the Southern Coastal Waters and Mud of South Korea**

Doris Yoong Wen Di, Anna Lee, Jeonghwan Jang, Hor-Gil Hur\*  
*School of Environmental Science and Engineering, Gwangju Institute of Science and Technology, 500-712 Gwangju, Korea*

PFM-56

**Investigation of secondary metabolites and the antioxidant activity of rice bran fermented with *Monascus* spp.**

Jin Hua Cheng<sup>1</sup>, Seung Hwan Yang<sup>1</sup>, Joo-Won Suh<sup>1,2\*</sup>  
<sup>1</sup>*Center for Nutraceutical and Pharmaceutical Materials, Myongji University,* <sup>2</sup>*Division of Bioscience and Bioinformatics, College of Natural Science, Myongji University*

PFM-57

**Carotenoid Composition of Sweet Potato (*Ipomoea batata* L.), Determined by HPLC**

Hyun-Nye Yoon<sup>1</sup>, Yong-Min Choi<sup>1\*</sup>, Jung-Bong Kim<sup>1</sup>, Hyeong-Un Lee<sup>2</sup>, Seon-Kyeong Han<sup>2</sup>, Seung-Hyun Ahn<sup>2</sup>, Se-Na Kim<sup>1</sup>, Young-Sook Cho<sup>1</sup>, Heang-Ran Kim<sup>1</sup>, Dong-Jin Lee<sup>3</sup>

<sup>1</sup>National Academy of Agricultural Science, RDA, <sup>2</sup>National Institute of Crop Science, RDA, <sup>3</sup>Department of Crop Science and Biotechnology, Dankook University

PFM-58

**Quality and Antioxidant Characteristics of *Elaeagnus multiflora* Wine by Thermal Processing of Juice**

Kye Man Cho<sup>\*</sup>, Ok Soo Joo

Department of Food Science, Gyeongnam National University of Science and Technology

PFM-59

**Antimicrobial and Hydrolytic Enzyme Activity of Some New and Unrecorded Species of Fungi**

Hye Won Lee, Hye Yeon Mun, Thi Thuong Thuong Nguyen, Sun Jeong Jeon, Hyang Burm Lee<sup>\*</sup>

Division of Applied Bioscience & Biotechnology, College of Agriculture & Life Sciences, Chonnam National University, Gwangju 500-757, Korea

PFM-60

**Isolation and Identification of Yeasts from Various Fruit and Fruit Extract Beverage**

Hee Yul Lee<sup>1</sup>, Ji Hyeon Shin<sup>2</sup>, Ki Hyun Lee<sup>1</sup>, Hyeon Kook Cho<sup>2</sup>, Ju Young Lee<sup>2</sup>, Seong Hoon Jeong<sup>3</sup>, Weon Taek Seo<sup>1</sup>, Kye Man Cho<sup>1\*</sup>

<sup>1</sup>Department of Food Science, Gyeongnam National University of Science and Technology, <sup>2</sup>Office of Research & Development, Farming Coporation Orum Jooga Winery, <sup>3</sup>Office of Research & Development, Namhae Garlic Research Institute

PFM-61

**Biocontrol Potential of an Extracellular Proteolytic Enzyme from *Pseudomonas* sp. against Aphids and Diamondback Moths**

Thi Thuong Thuong Nguyen, Hyang Burm Lee<sup>\*</sup>

Division of Applied Bioscience & Biotechnology, College of Agriculture & Life Sciences, Chonnam National University, Gwangju 500-757, Korea

PFM-62

**Characteristics and Antioxidant Effect of the Different Garlic Concentrations in the Fermentation of *Doenjang***

Chung Eun Hwang<sup>1</sup>, Geyong Min Kim<sup>2</sup>, Jeong Hwan Kim<sup>3</sup>, Jeong Hee Shin<sup>2</sup>, Kye Man Cho<sup>1\*</sup>

<sup>1</sup>Department of Food Science, Gyeongnam National University of Science and Technology, <sup>2</sup>Office of Research & Development, Namhae Garlic Research Institute, <sup>3</sup>Office of Research & Development, Department of Food Science and Technology & Institute of Agriculture and Life Science, Gyeongsang National University

PFM-63

**Antagonistic and Enzymatic Activities of Fungal Endophytes Isolated from Rare Orchids in Korea**

Sun Jeong Jeon<sup>1</sup>, Hye Won Lee<sup>1</sup>, Jin Sung Lee<sup>2</sup>, Hyang Burm Lee<sup>1\*</sup>

<sup>1</sup>Division of Applied Bioscience & Biotechnology, College of Agriculture & Life Sciences, Chonnam National University, Gwangju 500-757, <sup>2</sup>NIBR, Incheon 404-708, Korea



**PFM-64**

**Total Phenolic Acids and Isoflavone Contents and Antioxidant Activities of the Produced Soy-meat Using Steamed and Roasted Korean Soybean**

Chung Eun Hwang<sup>1</sup>, Ae Ryeon Lee<sup>1</sup>, Yeon Mi Shin<sup>1</sup>, Byong Won Lee<sup>2</sup>, Hyun Tae Kim<sup>2</sup>, Jong Min Ko<sup>2</sup>, In-Youl Baek<sup>2</sup>, Jin Sang Choi<sup>1</sup>, Weon Taek Seo<sup>1</sup>, Kye Man Cho<sup>1\*</sup>

<sup>1</sup>*Department of Food Science, Gyeongnam National University of Science and Technology, <sup>2</sup>Department of Functional Crop, National Institute of Crop Science, Rural Development Administration*

**PFM-65**

**Changes of Antioxidant Activities and Phytoestrogen Contents during Soymilk Fermentation by Small Soybean Cultivars with a Potential Probiotic *Lactobacillus plantarum* P1201**

Min Ju Ahn<sup>1</sup>, Chung Eun Hwang<sup>1</sup>, Byong Won Lee<sup>2</sup>, Hyun Tae Kim<sup>2</sup>, Jong Min Kim<sup>2</sup>, In-Youl Baek<sup>2</sup>, Kye Man Cho<sup>1\*</sup>

<sup>1</sup>*Department of Food Science, Gyeongnam National University of Science and Technology, <sup>2</sup>Department of Functional Crop, National Institute of Crop Science, Rural Development Administration*

**PFM-66**

**Enhancement of Antioxidant Effects and Isoflavone-aglycone Contents during Soy-yogurt Fermentation with a Potential Probiotic *Lactobacillus plantarum* P1201 by Soybean Cultivars**

Min Ju Ahn<sup>1</sup>, Chung Eun Hwang<sup>1</sup>, Byong Won Lee<sup>2</sup>, Hyun Tae Kim<sup>2</sup>, Jong Min Kim<sup>2</sup>, In-Youl Baek<sup>2</sup>, Kye Man Cho<sup>1\*</sup>

<sup>1</sup>*Department of Food Science, Gyeongnam National University of Science and Technology, <sup>2</sup>Department of Functional Crop, National Institute of Crop Science, Rural Development Administration*

**PFM-67**

**Physicochemical Characteristics and Antioxidative Activities of Korean Kiwifruit**

Seong Hun Jeong<sup>1\*</sup>, Gyoung Min Kim<sup>1</sup>, Hwan Sik Yoon<sup>1</sup>, Mihye Kim<sup>1</sup>, Hyeon Kook Cho<sup>2</sup>, Weon Taek Seo<sup>3</sup>, Kye Man Cho<sup>3</sup>

<sup>1</sup>*Research & Development Office, Namhae Garlic Research Institute, <sup>2</sup>Research Institute, Farming Coporation Orum Jooga Winery, <sup>3</sup>Department of Food Science, Gyeongnam National University of Science and Technology*

**PFM-68**

**Comparison of Extraction Methods for the Determination of Vitamin C in Vegetables**

So-Min Kim, Young-Sook Cho, Youngmin Choi<sup>\*</sup>

*Functional Food & Nutrition Division, National Academy of Agricultural Science*

**PFM-69**

**Characteristics of Culture Conditions for the Production of Crude Biosurfactant by *Bacillus pumilus* IJ-1**

Eun Jin Park<sup>1</sup>, Ji Yeon Kim<sup>2\*</sup>

<sup>1</sup>*Department of Neuroscience, Graduate School, Inje University, <sup>2</sup>College of General Education, Inje University*

**PFM-70**

**Separation and Purification of Anthocyanins in Korean Purple-Fleshed Sweet Potato Using UPLC-Q TOF-MS and Auto-purification System**

Jung Bong Kim<sup>1\*</sup>, Heon Woong Kim<sup>1</sup>, Su Yeon Kim<sup>1</sup>, Jae Hyeong Shin<sup>1</sup>, Min Ki Lee<sup>1</sup>, Seon Kyeong Han<sup>2</sup>, Soo Muk Cho<sup>1</sup>, Sung Hyeon Lee<sup>1</sup>, Young Min Lee<sup>1</sup>, Hwan Hee Jang<sup>1</sup>, Haeng Ran Kim<sup>1</sup>

<sup>1</sup>National Academy of Agricultural Science, RDA, <sup>2</sup>National Institute of Crop Science, RDA

PFM-71

**Formation of Nanoball-shaped Fe(III) Oxide Mineral and Cell Encrustation through Biogenic Nitrite-driven Iron Oxidation of *Sphaerotilus natans***

Sunhwa Park, Youri Yang, Hor-Gil Hur\*

*School of Environmental Science and Engineering, Gwangju Institute of Science and Technology*

PFM-72

**Identification and Purification of Individual  $\gamma$ -Oryzanol Components in Korean Rice Varieties**

Heon Woong Kim<sup>1</sup>, Jung Bong Kim<sup>1\*</sup>, Jae Hyeong Shin<sup>1</sup>, Min Ki Lee<sup>1</sup>, Il Kyu Cho<sup>2</sup>, Qing X. Li<sup>2</sup>, Soo Muk Cho<sup>1</sup>, Hwan Hee Jang<sup>1</sup>, Kyung A Hwang<sup>1</sup>, Haeng Ran Kim<sup>1</sup>, Dong Jin Lee<sup>3</sup>

<sup>1</sup>National Academy of Agricultural Science, RDA, <sup>2</sup>Department of Molecular Biosciences and Bioengineering, Hawaii University, <sup>3</sup>Department of Crop Science and Biotechnology, Dankook University

PFM-73

**Study on Rapid Analysis of Flavonoids Composition in Korean Agro-Foods Using UPLC**

Jae Hyeong Shin<sup>1</sup>, Jung Bong Kim<sup>1\*</sup>, Heon Woong Kim<sup>1</sup>, Min Ki Lee<sup>1</sup>, Young Ho Yoon<sup>2</sup>, Keum Yong Park<sup>2</sup>, Beom Heon Song<sup>3</sup>, Young Sook Cho<sup>1</sup>, Haeng Ran Kim<sup>1</sup>

<sup>1</sup>National Academy of Agricultural Science, RDA, <sup>2</sup>National Institute of Crop Science, RDA, <sup>3</sup>Department of Plant Science, Life & Environment Sciences, Chungbuk National University

PFM-74

**Simultaneous Analysis of Anthocyanins and Flavonols in Colored Onion (*Allium cepa* L.) Accessions**

Min Ki Lee, Jung Bong Kim\*, Heon Woong Kim, Jae Hyeong Shin, Jung Ro Lee, Jae Gyun Gwag, Ho Cheol Ko, Sung Hyeon Lee, Young Min Lee, Kyung A Hwang

*National Academy of Agricultural Science, RDA*

PFM-75

**Ameliorating effects of anthocyanins rich fraction from Korean purple sweet potato variety, 'Sinjami' on oxidative stress and inflammation in mice fed a high fat diet**

Song Yee Nam, Jung Bong Kim, Hwan Hee Jang, Haeng Ran Kim, Young Min Lee\*

*National Academy of Agricultural Science, Rural Development Administration*

PFM-76

***Agrimonia pilosa* Ledeb. aqueous extract regulates obesity-induced inflammation**

Soo Jung Cho, Song Yee Nam, Mi Ju Kim, Hwan Hee Jang, Haeng Ran Kim, Young Min Lee\*

*Functional Food&Nutrition Division, National Academy of Agriculture Science, Rural Development Administration*

PFM-77

**Effect of Medium Components and Incubating Temperature on Biomass of Aroma Yeast-47(*Pichia* sp.) Isolated from *Nuruk***

Ji-Hye Park\*, Ji-Ho Choi, Su-Hwan Yeo, Han-Seok Choi, Ji-Eun Kang, Seok-Tae Jeong

*Fermented Food Science Division, National Academy of Agricultural Science*

**PFM-78**

**A Comparative Study on the Antioxidant Potentials of *Cornus officinalis* Cultivated in Different Areas**  
Sang-Min Jeon, Jeong-Sook Go, Geon-Min Noh, So-Young Kim, Haeng-Ran Kim, Dong-Sik Park\*  
*Functional Food and Nutrition Division, Department of Agrofood Resources, Rural Development Administration*

**PFM-79**

**Comparison of the Bioactive Materials and Biological Activities in Angelica species from different cultivated areas**  
Yoo Kyung Kim, Geon Min Noh, Jeong Sook Go, Haeng Ran Kim, Dong Sik Park\*  
*Functional Food and Nutrition Division, Department of Agrofood Resources, Rural Development Administration, Suwon 441-853, Korea*

**PFM-80**

**The efficacy of lowering blood glucose levels by using the extracts of fermented bitter melon with lactic acid bacteria**  
Tae Hwan Kim, Hye Seon Park, Woo Kyeong Kim, Hyun Pyo Kim, Young Geol Yoon\*  
*Department of Biomedical Science, Jungwon University*

**PFM-81**

**Analysis of phytochemicals in shiitake mushrooms from different areas of Korea**  
Han Goo Woo, Jeong Sook Go, Geon Min Noh, Haeng Ran Kim, Dong Sik Park\*  
*Functional Food and Nutrition Division, Department of Agrofood Resources*

**PFM-82**

**Anti-asthmatic effects of *Salvia plebeia* R. Br. extracts in ovalbumin-induced asthma model mice**  
Soo-Yeon Cho, Soo-Jung Park, Young-Min Lee, Sung-Hyeon Lee, Jung-Bong Kim, Haeng-Ran Kim, Hwan-Hee Jang\*  
*Functional Food & Nutrition Division, National Academy of Agricultural Science, Rural Development Administration*

**PFM-83**

**The effect of peanut-sprout extract to the growth of soybean sprouts**  
Eun-Hye Park<sup>1</sup>, Kwang-Sun Kang<sup>2\*</sup>  
*<sup>1</sup>Dasomddeul, <sup>2</sup>Department of New and Renewable Energy, Kyungil University*

**PFM-84**

**Comparison of Alkali Hydrolysis and Enzyme Digestion Extracton Method for Determining Food Folates**  
Bo Min Kim, Young-Sook Cho, Young Min Choi\*  
*Functional Food & Nutrition Division, National Academy of Agricultural Science*

**PFM-85**

**Evaluation of 6-gingerol contents of extraction conditions of *Zingiber officinale* Roscoe**  
Hye Jin Yong, Geon Min Noh, Jeong Sook Go, Haeng Ran Kim, Dong Sik Park\*  
*Functional Food & Nutrition Division, National Academy of Agricultural Science*

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The Korean Society for Applied Biological Chemistry

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| 발 행 일 : 2014년 6월 16일

| 발 행 처 : (사)한국응용생명화학회

서울특별시 강남구 역삼동 635-4

한국과학기술회관신관 803호

Tel : 02-568-0970, 568-0799(학술지)

Fax : 02-568-0971

Homepage : <http://www.ksabc.or.kr>

E-mail : [agchem@ksabc.or.kr](mailto:agchem@ksabc.or.kr)

| 인 쇄 처 : 동양기획

Tel : 02-2272-6826

Fax : 02-2273-2790

E-mail : [dy98@unitel.co.kr](mailto:dy98@unitel.co.kr)