

- 수의 1** **Detection of atypical porcine pestivirus (APPV) from new born piglets with severe congenital tremor**  
Seung-Chai Kim, Seung-Min Yoon, Ki-Ho Lee, Won-Il Kim  
*College of Veterinary Medicine, Chonbuk National University, Iksan, Korea*
- 수의 2** **Development and evaluation of loop-mediated isothermal amplification (LAMP) assay for rapid and visual detection of porcine circovirus 3**  
Hye-Ryung Kim<sup>1</sup>, Da-Rae Lim<sup>1</sup>, Min-Ji Park<sup>1</sup>, Ha-Gyeong Chae<sup>1</sup>, Seong-Hee Kim<sup>2</sup>, Kyong-Ki Lee<sup>2</sup>, Choi-Kyu Park<sup>1\*</sup>  
<sup>1</sup>*College of Veterinary Medicine & Animal Disease Intervention Center, Kyungpook National University, Daegu 41566, Republic of Korea, <sup>2</sup>Animal Disease Diagnostic Division, Animal and Plant Quarantine Agency, Gimcheon 39660, Republic of Korea*
- 수의 3** **A multiplex quantitative real-time polymerase chain reaction for differential detection of porcine circovirus 2 (PCV2) and PCV3**  
Hye-Ryung Kim<sup>1</sup>, Da-Rae Lim<sup>1</sup>, Ha-Gyeong Chae<sup>1</sup>, Min-Ji Park<sup>1</sup>, Ji-Young Park<sup>2</sup>, Seong-Hee Kim<sup>2</sup>, Kyong-Ki Lee<sup>2</sup>, Young S Lyoo<sup>3</sup>, Choi-Kyu Park<sup>1\*</sup>  
<sup>1</sup>*College of Veterinary Medicine & Animal Disease Intervention Center, Kyungpook National University, Daegu 41566, Republic of Korea, <sup>2</sup>Animal Disease Diagnostic Division, Animal and Plant Quarantine Agency, Gimcheon 39660, Republic of Korea, <sup>3</sup>College of Veterinary Medicine Konkuk University, Seoul 05029, Republic of Korea*
- 수의 4** **The detection and genetic diversity of novel porcine parvovirus 1 in the Republic of Korea**  
In-Ohk Ouh, Min Soo Cho, Ju-Yeon Lee, Soo-dong Cho, In-Soo Cho, Jae Young Song  
*Viral disease division, Animal and Plant Quarantine Agency*
- 수의 5** **The detection and genetic diversity of porcine parvovirus 4 in the Republic of Korea**  
In-Ohk Ouh, Ju-Yeon Lee, Soo-dong Cho, In-Soo Cho, Jae Young Song  
*Viral disease division, Animal and Plant Quarantine Agency*
- 수의 6** **Evaluation of effects of intradermal vaccination of Porcine Circovirus type 2 and *Mycoplasma hyopneumoniae* (Mhp) in pigs**  
Sim-In LEE, Chang-Gi Jeong, Nazki Salik, Khatun Amina, Won-Il Kim\*  
*College of Veterinary Medicine, Chonbuk National University, Iksan, Korea*
- 수의 7** **Development of reverse transcription loop-mediated isothermal amplification for visual detection of serotype A foot-and-mouth disease virus circulating in pool 1 region countries**  
Da-Rae Lim<sup>1</sup>, Hye-Ryung Kim<sup>1</sup>, Min-Ji Park<sup>1</sup>, Ha-Gyeong Chae<sup>1</sup>, Bok-Kyung Ku<sup>2</sup>, Jin-Ju Nah<sup>2</sup>, So-Yoon Ryoo<sup>2</sup>, Sung-Hwan Wee<sup>2</sup>, Sang-Geon Yeo<sup>1</sup>, Choi-Kyu Park<sup>1\*</sup>  
<sup>1</sup>*College of Veterinary Medicine & Animal Disease Intervention Center, Kyungpook National University, <sup>2</sup>Foot-and-Mouth Disease Research Division, Animal and Plant Quarantine Agency*
- 수의 8** **Rapid and visual detection of foot-and-mouth disease virus by an improved reverse transcription loop-mediated isothermal amplification (RT-LAMP) assay**  
Da-Rae Lim<sup>1</sup>, Hye-Ryung Kim<sup>1</sup>, Min-Ji Park<sup>1</sup>, Ha-Gyeong Chae<sup>1</sup>, Bok-Kyung Ku<sup>2</sup>, Jin-Ju Nah<sup>2</sup>, So-Yoon Ryoo<sup>2</sup>, Sung-Hwan Wee<sup>2</sup>, Sang-Geon Yeo<sup>1</sup>, Choi-Kyu Park<sup>1\*</sup>  
<sup>1</sup>*College of Veterinary Medicine & Animal Disease Intervention Center, Kyungpook National University, <sup>2</sup>Foot-and-Mouth Disease Research Division, Animal and Plant Quarantine Agency*



**수의 9** Reverse transcription loop-mediated isothermal amplification (RT-LAMP) assay for sensitive and specific detection of serotype O foot-and-mouth disease virus

Da-Rae Lim<sup>1</sup>, Hye-Ryung Kim<sup>1</sup>, Min-Ji Park<sup>1</sup>, Ha-Gyeong Chae<sup>1</sup>, Bok-Kyung Ku<sup>2</sup>, Jin-Ju Nah<sup>2</sup>, So-Yoon Ryoo<sup>2</sup>, Sung-Hwan Wee<sup>2</sup>, Sang-Geon Yeo<sup>1</sup>, Choi-Kyu Park<sup>1\*</sup>

<sup>1</sup>College of Veterinary Medicine & Animal Disease Intervention Center, Kyungpook National University,

<sup>2</sup>Foot-and-Mouth Disease Research Division, Animal and Plant Quarantine Agency

**수의 10** A study of recombinant porcine IL-2 on antibody production of Foot and Mouth Disease vaccine

Ji Yun Jeong, Jong Chul Choi, Yeong Lim Kang, Hwi Yeon Choi, So Hyun Lee, Sang Won Lee, In Soo Choi, Chang Seon Song, Seung Yong Park and Joong Bok Lee\*

Laboratory of Veterinary Infectious Disease, College of Veterinary Medicine, Konkuk University, 120 Neungdong-ro Gwangjin-gu, 05029, Seoul, Korea

**수의 11** Evaluation of pathogenicity of various Korean strains of Porcine Reproductive and Respiratory Syndrome virus in pregnant sows

Chang-Gi Jeong, Khatun Amina, Salik Nazki and Won-Il Kim\*

Veterinary immunology, College of Veterinary Medicine, Chonbuk National University, Iksan, Korea

**수의 12** Immunogenicity and protective efficacy of Middle East respiratory syndrome coronavirus virus-like particles

Jung-Eun Park, Jae-Yeon Park, Onnuri Kim, Hyun-Jin Shin

College of Veterinary Medicine, Chungnam National University

**신경계 1** Novel function of DNMT inhibitors to suppress prions

Dae-Hwan Kim<sup>1,2</sup>, Chunyan Ren<sup>3</sup>, Chongsuk Ryou<sup>1,4\*</sup>, Jiaojie Li<sup>5\*</sup>

<sup>1</sup>Institute of Pharmaceutical Science and Technology, Hanyang University, Ansan, Republic of Korea, <sup>2</sup>School of Undergraduate Studies, College of Transdisciplinary Studies, Daegu Gyeongbuk Institute of Science and Technology, Daegu, Republic of Korea, <sup>3</sup>Department of Structural and Chemical Biology, Icahn School of Medicine at Mount Sinai, 1425 Madison Avenue, New York, NY 10029, USA, <sup>4</sup>Department of Pharmacy, Hanyang University, Ansan, Republic of Korea, <sup>5</sup>Department of Chemistry, Gwangju Institute of Science and Technology, Gwangju, Republic of Korea

**신경계 2** Construction of Recombinant Rabies Virus ERAGS Expressing Green Fluorescent Protein

Ha-Hyun Kim, Dong-Kun Yang\*, Miryun Ji, Bokhee Han and In-Soo Cho

Viral Disease Research Division, Animal and Plant Quarantine Agency, Gimcheon, 39660, MAFRA, Republic of Korea

**신경계 3** Post-vaccination Immunity against Rabies Virus, Canine Distemper Virus and Parvovirus, and Serological Evidence of Exposure to Influenza Virus in Military Working Dogs in Korea

Ha-Hyun Kim<sup>1</sup>, Dong-Kun Yang<sup>1\*</sup>, Bo-Hyun Seo<sup>2</sup>, Miryun Ji<sup>1</sup>, Bokhee Han<sup>1</sup> and In-Soo Cho<sup>1</sup>

<sup>1</sup>Viral Disease Research Division, Animal and Plant Quarantine Agency, Gimcheon, 39660, MAFRA, Republic of Korea, <sup>2</sup>Military Working Dog Training Center, Chuncheon, Gangwon-do, 24408, Republic of Korea

### **신경계 3** Establishment of PrP Expression and Purification Process Using E. coli

Sue-jeong Hwang<sup>1</sup>, Chong Suk Ryou<sup>2</sup>, Young-Jin Son<sup>1\*</sup>

<sup>1</sup>Department of Pharmacy, Sunchon National University, <sup>2</sup>Department of Pharmacy and Institute of Pharmaceutical Science and Technology Hanyang University, Ansan, Republic of Korea

### **아보 1** Identification of an Immunomodulatory Molecule, KR-591-AC7, with Antiviral Activity against Flaviviruses

Sangwoo Nam<sup>1,2</sup>, Jin Soo Shin<sup>1</sup>, Meehyein Kim<sup>1,2</sup>, Yun Young Go<sup>1,2\*</sup>

<sup>1</sup>Virus Research Group, Drug Discovery Technology Center, Korea Research Institute of Chemical Technology, Daejeon, Republic of Korea, <sup>2</sup>Department of Medicinal Chemistry and Pharmacology, University of Science and Technology, Daejeon, Republic of Korea

### **아보 2** Development of Targeted enrichment Next-generation Sequencing of Hantaviruses in Humans and Natural Reservoirs

Jin Sun No<sup>1</sup>, Won-Keun Kim<sup>1</sup>, Jeong-Ah Kim<sup>1</sup>, Seung-Ho Lee<sup>1</sup>, Seungchan Cho<sup>1</sup>, Geum-Young Lee<sup>1</sup>, Kyungmin Park<sup>1</sup>, Jeong Hoon Kho<sup>1</sup>, Kkothanahreum Park<sup>1</sup>, Dong Hyun Song<sup>2</sup>, Daesang Lee<sup>2</sup>, Se Hun Gu<sup>2</sup>, Sunhye Park<sup>2</sup>, Seong Tae Jeong<sup>3</sup>, Heung-Chul Kim<sup>3</sup>, Terry A. Klein<sup>3</sup>, Michael R. Wiley<sup>4</sup>, Patrick S.G. Chain<sup>5</sup>, Gustavo Palacios<sup>4</sup>, Jin-Won Song<sup>1\*</sup>

<sup>1</sup>Department of Microbiology, College of Medicine, Korea University, <sup>2</sup>5th R&D Institute, Agency of Defense Development, <sup>3</sup>65th Medical Brigade/Medical Department Activity-Korea, <sup>4</sup>US Army Medical Research Institute of Infectious Disease, <sup>5</sup>Bioscience Division, Los Alamos National Laboratory

### **아보 3** Bio-surveillance of Urban Rodents and Genomic Analysis of Seoul Virus collected in Seoul, Republic of Korea, 2006–2010

Heung-Chul Kim<sup>2,†</sup>, Won-Keun Kim<sup>1,†</sup>, Jin Sun No<sup>1</sup>, Seung-Ho Lee<sup>1</sup>, Se Hun Gu<sup>3</sup>, Sung-Tae Chong<sup>2</sup>, Terry A. Klein<sup>2</sup>, and Jin-Won Song<sup>1\*</sup>

<sup>1</sup>Department of Microbiology, College of Medicine, Korea University, Seoul 02841, Republic of Korea, <sup>2</sup>Medical Command Activity-Korea, 65th Medical Brigade, Unit 15281, APO AP 96205-5281, United States of America, <sup>3</sup>5th R&D Institute, Agency for Defense Development, Daejeon 34186, Republic of Korea

### **아보 4** Establishment of Infectious-Mouse Model and Quantitative Real-time PCR to Evaluate Protective Efficacies of Zika Vaccine Candidates

Sundong Jang, Hyun Ju In, HeeJi Lim, Jung-Sik Yoo, Gyung Tae Chung, and You-Jin Kim\*  
Division of Vaccine Research, Korea National Institute of Health, Korea Centers for Disease Control and Prevention, Osong, Cheongju-si, Chungcheongbuk-do, Republic of Korea

### **엔테로 1** KH29 extract strongly inhibit Enterovirus71 replication by PKB/AKT signal activation

Byeong-min Jeon<sup>1</sup>, Han-Sol Choi<sup>2</sup>, Ha-Hyeon Shin<sup>1</sup>, Sang-Jip Nam<sup>2</sup>, Sung-Jin Moon and Byung-Kwan Lim<sup>1\*</sup>

<sup>1</sup>Department of Biomedical Science, Junwon University, Goesan-gun, Chungbuk, 367-805, Korea, <sup>2</sup>Department of Chemistry and Nano Science, Ewha Womans University, Seoul, 120-750, Korea

### **허피스 1** Genome-wide analysis of regulatory G-quadruplexes affecting gene expression in human cytomegalovirus

Subramaniyam Ravichandran<sup>#</sup>, Young-Eui Kim<sup>#</sup>, Varun Bansal<sup>#</sup>, Ambarnil Ghosh, Jeonghwan Hur, Vinod Kumar Subramani, Subhra Pradhan, Myoung Kyu Lee, Kyeong Kyu Kim\*, Jin-Hyun Ahn\*

Department of Molecular Cell Biology, Sungkyunkwan University School of Medicine, Samsung Medical Center, Suwon 16419, Republic of Korea



**허피스 2** Effect of the vaccine-type mutation found in ORF39 encoding an integral membrane protein on VZV growth

Gwang Myeong Lee<sup>1</sup>, Hyemin Ko<sup>1</sup>, Ok Sarah Shin<sup>2</sup>, Moon Jung Song<sup>3</sup>, Chan Hee Lee<sup>4</sup>, Young Eui Kim<sup>5</sup>, Tihana Lenac Roviš<sup>6</sup>, Stipan Jonjic<sup>6</sup> and Jin-Hyun Ahn<sup>1\*</sup>

<sup>1</sup>Department of Molecular Cell Biology, Sungkyunkwan University School of Medicine, Samsung Medical Center, Suwon 16419, Republic of Korea, <sup>2</sup>Department of Biomedical Sciences, College of Medicine, Korea University, Seoul 08308, Republic of Korea, <sup>3</sup>Department of Biosystems and Biotechnology, Division of Biotechnology, College of Life Sciences and Biotechnology, Korea University, Seoul 02841, Republic of Korea, <sup>4</sup>Department of Microbiology, Chungbuk National University, Cheongju 28644, Republic of Korea, <sup>5</sup>Division of Emerging Infectious Disease and Vector Research, Center for Infectious Disease Research, National Institute of Health, Centers for Disease Control & Prevention, <sup>6</sup>Center for Proteomics, Faculty of Medicine, University of Rijeka, Rijeka, Croatia

**허피스 3** The Rapid and Accurate Next Generation Sequencing for Glycoprotein B genotypes in Human Cytomegalovirus Isolated in Korea

Sangmock Lee<sup>2</sup>, Jung Heon Kim<sup>2</sup>, Jiyeon Kim<sup>1,2</sup>, and Eung-Soo Hwang<sup>1,2</sup>

<sup>1</sup>Department of Microbiology and Immunology, Seoul National University College of Medicine, Seoul 110-799, Republic of Korea, <sup>2</sup>Institute of Endemic Diseases, Seoul National University Medical Research Center, Seoul 03080, Republic of Korea

**허피스 4** Transcriptome Analyses of Mouse Dorsal Root Ganglia in Response to Infection by Varicella Zoster Virus

Ji Ho Han, Yee Ching Ng, and Moon Jung Song\*

Department of Biosystems and Biotechnology, Division of Biotechnology, College of Life Sciences and Biotechnology, Korea University, Seoul 02841, South Korea

**호흡기 1** Construction of Pseudotyped Henipavirus for Vaccines and Diagnostic Studies

Seong Eun Bae, Ki Hoon Park, Sehyun Kim, Hee Jung Lee, and Young Bong Kim\*

Department of Bioindustrial Technologies, Konkuk University, Department of Biomedical Science and Engineering, Konkuk University

**호흡기 2** Evaluation of Recombinant Baculoviral DNA Vaccine against Middle East Respiratory Syndrome Coronavirus in mice

Yuyeon Jang<sup>1,2</sup>, Hanul Choi<sup>1,2</sup>, Hansam Cho<sup>1,2</sup>, Sehyun Kim<sup>1,2</sup>, Yeondong Cho<sup>1,2</sup>, Seongsu Kim<sup>1,2</sup> and Young Bong Kim<sup>1,2\*</sup>

<sup>1</sup>Department of Bioindustrial Technologies, Konkuk University, 120 Neungdong-ro, Gwangjin-gu, Seoul, Republic of Korea, <sup>2</sup>Department of Biomedical Science and Engineering, Konkuk University

**호흡기 3** Comparison of the MERS eS770 spike antigen with two types of adjuvants; Alum vs. MF59

Yeondong Cho<sup>1,2</sup>, Jungmin Chun<sup>1,2</sup>, Seongtae Moon<sup>1,2</sup>, Sehyun Kim<sup>1,2</sup>, Hanul Choi<sup>1,2</sup>, Hee-Jung Lee<sup>2</sup> and Young Bong Kim<sup>2\*</sup>

<sup>1</sup>Department of Bioindustrial Technologies, Konkuk University, <sup>2</sup>Department of Biomedical Science and Engineering, Konkuk University

**호흡기 4** Advantage of pseudovirus mediated microneutralizing assay for measuring humoral immune response against influenza viruses

Eun Young Jang, Jang-Hoon Choi, Mi-Seon Lee, Junhyung Cho and Kisoon Kim

Division of Viral Disease Research, Center for Infectious Diseases Research, Korea National Institute of Health, Korea Centers for Disease Control and Prevention, Cheongju, 28159, Republic of Korea

**기타 1****Analysis of downregulated glycolysis in PrPSc present neuron by RNA seq**

Hyoukyung Shin<sup>1</sup>, Kwangmin Kim<sup>1</sup>, Young Seo Choi<sup>2</sup>, Ji Young Moon<sup>2</sup>, Suhyun Back<sup>2</sup>,  
Mi-Joo Park<sup>2</sup>, Yoobin Ha<sup>2</sup>, Ga-In Jin<sup>2</sup>, Chongsuk Ryou<sup>3</sup>, Jiaojie Li<sup>4</sup>, Dae-Hwan Kim<sup>1\*</sup>

<sup>1</sup>*School of Undergraduate Studies, College of Transdisciplinary Studies, Daegu Gyeongbuk Institute of Science and Technology, Daegu, Republic of Korea,* <sup>2</sup>*Changryeoung Okyo High school, Changreyong, Gyeongnam, Republic of Korea,* <sup>3</sup>*Department of Pharmacy, Hanyang University, Ansan, Republic of Korea,* <sup>4</sup>*Department of Chemistry, Gwangju Institute of Science and Technology, Gwangju, Republic of Korea*

**기타 2****Development of a New Inactivated Bovine Rotavirus Vaccine Candidate From Field Isolated Strain of Korea**

Ra Mi Cha, Jihye Shin, SeEun Choe, Gyu Nam Park, In-Soo Cho and Dong-Jun An  
*Viral disease division, Animal and Plant Quarantine Agency*

**기타 3****Antimicrobial activities of Metabolites of Probiotic bacteria in RAW 264.7 Cells and of pathogenic bacteria**

Yaejin Choi<sup>1</sup>, Hyunjung Lim<sup>2</sup>, and Hea-Soon Shin\*  
*College of Pharmacy, Duksung Women's University*

**기타 4****A Study of Recombinant Baculovirus FMDV Type O Vaccine**

HyeonJeong Kang<sup>1,2</sup>, Hanul Choi<sup>1,2</sup>, Hee-Jung Lee<sup>2</sup>, Sung Tae Moon<sup>1,2</sup>, Jung Min Chun<sup>1,2</sup>,  
Seong Eun Bae<sup>1,2</sup>, Sung Su Kim<sup>1,2</sup>, and Young Bong Kim<sup>2\*</sup>

<sup>1</sup>*Dept. of Bioindustrial Technologies, Konkuk University, Seoul,* <sup>2</sup>*Dept. of Biomedical Science & Engineering, Konkuk University, Seoul*