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ส่วนงาน ภาควิชาเวชศาสตร์คลินิกสัตว์เลี้ยง คณะสัตวแพทยศาสตร์ บางเขน โทร.2509

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เรื่อง ขอรายงานผลงานวิจัยที่นำไปเสนองานประชุมวิชาการระดับนานาชาติและรางวัลที่ได้รับ

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(1) เรียน คณบดีผ่านหัวหน้าภาควิชาเวชศาสตร์คลินิกสัตว์เลี้ยง

ตามที่ข้าพเจ้า รศ.น.สพ.ดร.จตุพร รัตนศรีสมพร ได้รับการอนุมัติให้เข้าร่วมการประชุมวิชาการ 11th International Conference on Chemical, Agricultural, Biological and Environmental Sciences (CABES-2018) ประเทศญี่ปุ่น ขอส่งรายงานผลงานวิจัยที่นำไปเสนองานประชุมวิชาการระดับนานาชาติ ดังนี้

1. Assessment of Anti-inflammatory Activity of Steviol in Human $CD14^+$ Cells
2. Diagnostic Efficacy of Pleural Fluid Cytology in Feline Pleural Effusion
3. The Study on Hematology and Immune Level to Newcastle Disease Virus in Betong (KU-Line) and Pradu Hang Dam Chicken
4. The Study of Antibody Titer of Newcastle Disease in White leghorn Chicken
5. Isolation of Peripheral Blood Mononuclear cell and Toll-like Receptor 4 Expression in White leghorn and Betong (KU-Line) Chicken

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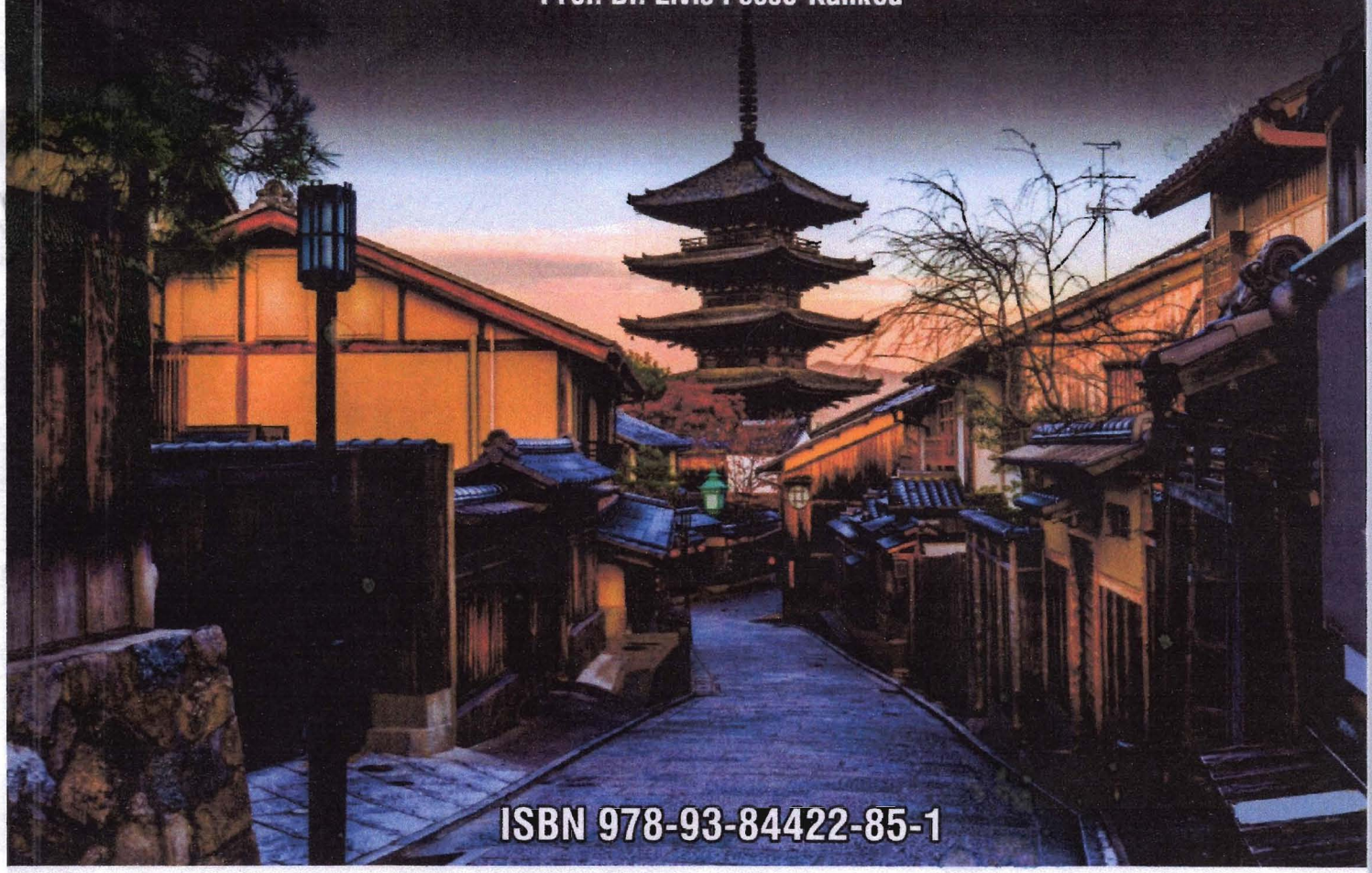

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Assessment of Anti-inflammatory Activity of Steviol in Human CD14+ Cells

Jatuporn Rattanasrisomporn[1], Waraporn Boonkaewwan[2], Autchara Kayan[3] and Chaiwat Boonkaewwan[3*]

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Abstract: *Steviol (SVO) is a major metabolite of stevioside which is a natural non-caloric sweetener isolated from Stevia rebaudiana Bertoni. The aim of the present study was to investigate an inhibitory activity of steviol on pro-inflammatory cytokines release from lipopolysaccharide (LPS) -stimulated human CD14+ cells. CD14+ cells, isolated from human peripheral blood mononuclear cell (PBMC), were incubated with different concentrations of steviol in the absence or presence of LPS. The level of Tumor necrosis factor (TNF)-α, Interleukin (IL)-1β and Interleukin (IL)-6 were determined by using human enzyme-linked immunosorbent assay (ELISA) kits. Results demonstrated that steviol at the concentration of 1-100 μM significantly inhibited ($P<0.05$) the release of TNF-α (966.0 ± 66.0, 906.3 ± 36.7 and 659.3 ± 52.3 vs 1190.3 ± 75.5 pg/ml) and IL-1β (2834.0 ± 67.2, 2440.0 ± 70.5 and 2181.3 ± 143.3 vs 3226.7 ± 106.6 pg/ml) in a dose dependent manner when compared to LPS-treated CD14+ cells. While the inhibition of IL-6 ($P<0.05$) was found at 10 μM and 100 μM (2171.7 ± 44.3 and 1902.3 ± 58.0 vs 2580.3 ± 105.2 pg/ml). In conclusion, steviol possess an anti-inflammatory activity in human CD14+ cell.*

Keywords *CD14+, IL-1β, IL-6, cell, Steviol, TNF-α*

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Diagnostic Efficacy of Pleural Fluid Cytology in Feline Pleural Effusion

Natdaroon Chiteafea[1], Supreeya Srisampan[2], Ukadej Boonyaprakob[3], Wassamon Moyadee[1], Payu Srisuporn[1], Siwaporn Phooteng[4], Chaiwat Boonkaewwan[5], Autchara Kayan[5] and Jatuporn Rattanasrisomporn[1]

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Abstract: *Pleural effusion is the abnormal condition of excess fluid accumulation in thoracic space and commonly occur in cats. The objective of this study aimed to determine the diagnosis of pleural effusion in 30 cats at Kasetsart University Veterinary Teaching Hospital. Thirty cats were used to study cytological evaluation between December 2017 to January 2018. The clinical examination records of these cats were reviewed to identify the final diagnosis regarding the etiology of the pleural effusion. Cytological evaluation of pleural fluid has also been performed by thoracocentesis. The results of the cause in pleural effusion of the 30 cats revealed that mediastinal lymphoma (11 of the 30 cats, 36.67 percent), feline infectious peritonitis (9 of the 30 cats, 30.00 percent), septic infection (8 of the 30 cats, 26.67 percent) and cardiovascular disease (2 of the 30 cats, 6.67 percent), respectively. These findings indicate the value of pleural fluid cytology in the diagnosis of cats with pleural effusion.*

Keywords: *Cats, Cytological evaluation, Fluid, Pleural effusion*

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The Study on Hematology and Immune Level to Newcastle Disease Virus in Betong (KU-Line) and Pradu Hang Dam Chicken

Chaiwat Boonkaewwan[1*], Anutian Suklek[1], Autchara Kayan[1] and Jatuporn Rattanasrisomporn[2]

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Abstract: *Betong and Pradu Hang Dam Chicken are Thai native chicken which are very popular species. The objective of the present study aimed to determine the hematology and immune level to Newcastle disease virus in Betong (KU-line) and Pradu Hang Dam chicken at Vajokkasikit poultry research farm, Kasetsart University, Bangkok, Thailand. 16 weeks old, 24 chicken (12 males and 12 females) per breeds were used in this study. Blood and serum were collected for complete blood count and haemagglutination inhibition test. The complete blood count of Betong (KU-line) chicken are as follow: Total Erythrocyte count 2.2±0.8 cell/mm3, Hemoglobin 9.7±0.8 g/dl and Hematocrit 28.8±2.4 %. The differential leukocyte count of Heterophil, Eosinophil, Basophil, Lymphocyte and Monocyte are 70.3±5.3 %, 1.3±1.6 %, 0.0±0.0 %, 26.7±3.9 % and 2.6±1.2 %, respectively. The complete blood count of Thai Native chicken are as follow: Total Erythrocyte count 2.2±0.2 cell/mm3, Hemoglobin 8.6±0.8 g/dl and Hematocrit 26.0±2.8 %. The differential leukocyte count of Heterophil, Eosinophil, Basophil, Lymphocyte and Monocyte are 60.4±7.1 %, 0.8±1.9 %, 0.7±0.9 %, 34.9±8.9 % and 3.3±1.2 %, respectively. Results demonstrated the difference in Erythrocyte count, Heamoglobin, Hematocrit, Heterophil, Eosinophil, Basophil, Lymphocyte and Mononcyte when compare to references value. The possible explanation should be the differences in breed, management, environment and feed. In addition, immune level to Newcastle disease virus demonstrated that Pradu Hang Dam and Betong (KU-line) chicken are 3.2±0.3 and 2.9 ±0.3, respectively. Pradu Hang Dam chicken seem to has a higher immune level than Betong (KU-line) chicken.*

Keywords: *Hematology, Immune level, Betong Chicken, Pradu Hang Dam chicken.*

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Isolation of Peripheral Blood Mononuclear Cell and Toll-like Receptor 4 Expression in White leghorn and Betong (KU line) Chicken

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Abstract: *Peripheral blood mononuclear cells (PBMCs) are a mixed population of single nuclear white blood cells. The aim of the present study is to examine the cell viability of PBMCs isolated from White Leghorn and Betong (KU line) chicken by using the trypan blue dye exclusion test. In addition, Toll-like receptor 4 expression in PBMCs was also determined by using PCR technique. Results demonstrated that cell viability of PBMCs from Betong (KU line) was greater than White Leghorn chicken ($P<0.05$). PBMCs isolated from whole blood that kept at 4 °C for 0, 24 and 48 h of Betong (KU line) chicken has no difference in cell viability. Moreover, TLR4 was expressed in PBMCs from both breeds of chicken. In conclusion, PBMCs from White Leghorn and Betong (KU line) chicken can be use as source for the assessment of immune response to pathogens.*

Keywords: *PBMCs, cell viability, toll-like receptor 4, chicken.*

The Study of Antibody Titer of Newcastle Disease in White Leghorn Chicken

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Abstract: *White Leghorn chickens are known as efficient egg layers. They produce white eggs and will lay more than many breeds while consuming less feed. Raising white leghorns requires quality housing, feed and vaccination program. The objective of the present study aimed to determine Newcastle disease (ND) Antibody titer and the stability of the antibody titer after vaccination in 12 weeks old White Leghorn Chicken at Vajokkasikit poultry research farm, Kasetsart University. 70 White Leghorn chickens (male and female) were separated in 3 groups. Blood sampling were collected from white leghorn 10 chicks per group. Haemagglutination Inhibition (HI) antibody test was used to determine the antibody titer of ND in 3 groups of White Leghorn Chicken. Results show that the antibody titer of the first group, before (week 0) and post-vaccination (week 1-4), were 1.2, 4.2, 2.6, 2.4 and 1.8 respectively. The antibody titer of the second group, before (week 0) and post-vaccination (week 1-4), were 1.5, 3.8, 2.5, 2.9 and 2.4 respectively. The antibody titer of the third group, before (week 0) and post-vaccination (week 1-4), were 1.7, 3.2, 3.6, 2.8 and 2.2 respectively. These results revealed that the highest antibody titer to Newcastle Disease was found at the first week of post-vaccination ($P < 0.05$). The antibody titer were then decreased in week 2, 3 and 4 after vaccination. Moreover, the antibody titer at the fourth week of post-vaccination was close to the level of antibody titer before vaccination. In conclusion, antibody titer to ND was highest in the first week of post-vaccination and the antibody titer remained higher for 4 weeks.*

Keywords: *newcastle disease, white leghorn chicken, antibody titer*

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