

## The Expression of Toll-Like Receptors Gene in Peripheral Blood Mononuclear Cells of Betong (KU Line) Chicken

**Authors :** Chaiwat Boonkaewwan, Anutian Suklek, Jatuporn Rattanasrisomporn, Autchara Kayan

**Abstract :** Toll-like receptors (TLR) are conserved microbial sensing receptors located on cell surface that are able to detect different pathogens. The aim of the present study is to examine the expression of TLR gene in peripheral blood mononuclear cell of Betong (KU line) chicken. Blood samples were collected from healthy 12 Betong (KU line) chicken. PBMCs were isolated and maintained in RPMI1640 with 10% FBS, penicillin and streptomycin. Cell viability was determined by trypan blue dye exclusion test. The expression of TLRs gene was investigated by polymerase chain reaction (PCR) technique. Results showed that PBMCs viability from Betong (KU line) chicken was  $95.38 \pm 1.06\%$ . From the study of TLRs gene expression, results indicated that there are expressions of TLR1.1 TLR1.2 TLR2.1 TLR2.2 TLR3 TLR4 TLR5 TLR 7 TLR15 and TLR21 in PBMCs of Betong (KU line) chicken. In conclusion, PBMCs isolated from blood of Betong (KU line) chicken had a high cell viability ( > 95%). The expression of TLRs in chicken was all found in PBMCs, which indicated that PBMC isolated from the blood of Betong (KU line) chicken can be used as an in vitro immune responses study.

**Keywords :** toll-like receptor, Betong (KU line) chicken, peripheral blood mononuclear cells

**Conference Title :** ICVSAH 2019 : International Conference on Veterinary Science and Animal Husbandry

**Conference Location :** Los Angeles, United States

**Conference Dates :** October 30-31, 2019