Nguyen Dang Quan et al., J Tissue Sci Eng 2018, Volume 9
DOI: 10.4172/2157-7552-C3-052



# Expression and investigation the therapeutic effect of interleukin-33 trap on asthma mouse model

**Nguyen Dang Quan and Nguyen Thi Thanh Thao**
Biotechnology Center of Ho Chi Minh City, Vietnam

Interleukin (IL)-33 is a member of pro-inflammatory cytokine IL-1 family which plays important role in the immune response. IL-33 was proved to involve in many inflammatory and allergic diseases, thus inhibition of this cytokine may be a promising treatment for these diseases. Arms of the study were to generate mouse IL-33 trap expressed by HEK293 cell and to characterize the IL33-inhibitory activity of this protein on in vitro and in vivo models. The recombinant protein IL-33 Trap expressed from HEK239 was harvested from culture supernatant by protein A sepharose beads. As expected, IL-33 trap was expressed as glycoprotein and perhaps in dimeric form. Immuno-precipitation experiment showed that IL- 33 trap was able to capture IL-33. In IL33-stimulated EL-4 cell bio-assay, HEK293-derived IL-33 trap suppressed significantly the IL-33 activity. The therapeutic effect of recombinant IL-33 trap was investigated on OVA-induced asthma mouse model. The results demonstrated that the treatment of IL-33 trap attenuated significantly the severity of disease on mouse model. In conclusion, IL-33 trap is a potential IL-33 inhibitor which may be beneficial in the therapy of allergic asthma and other IL-33 relative diseases.

## Biography

Nguyen Dang Quan has completed his Bachelors in Biochemistry from University of Science-Vietnam National University Ho Chi Minh City. He has served as a Lecturer Assistant and a Lecturer at Biotechnology and Genetics Department, University of Science. He has obtained his PhD Immunology from Justus Liebig University Giessen, Germany in 2009. He is currently the Vice Director of Biotechnology Center of Ho Chi Minh City. His interests are in immunology and cancer research. He is working on recombinant proteins and drugs for treatment of autoimmune diseases and cancer.

quanng2009@gmail.com

**Notes:**