

# 5<sup>th</sup> Global Pharmacists Annual Meeting

July 14-15, 2016 Brisbane, Australia

## Extraction of anti-inflammatory extracts from enzymatic hydrolysis of *Johnius belengerii* frame protein

Seong-Yeong Heo and Won-Kyo Jung

Pukyong National University, Republic of Korea

Annually, large amounts of fishery by-products such as bone, skin, fins, internal organs and head from seafood industrial processing are discarded or manufactured into fish feed. So, seafood by-products are needed to convert profitable and marketable products. However, studies on the utilization of organic components or minerals in the fish organs are scarce. Therefore, many researchers have been performed to utilize the abundance of protein, carbohydrate and mineral from fish organs. The purpose of this study was to evaluate the potential therapeutic properties of the pepsin extract of the *Johnius belengerii* frame against lipopolysaccharide (LPS) stimulated macrophage. The fish bone extracts (FBE) significantly inhibited the nitric oxide (NO) production and the induced dose dependent reduction of the protein and mRNA levels of inducible nitric oxide synthase (iNOS) and cyclooxygenase-2 (COX-2). Additionally, the FBE reduced the mRNA levels of inflammatory cytokines, including tumor necrosis factor- $\alpha$ , interleukin (IL) -1 $\beta$ , IL-6. Based on the results, the FBE inhibits LPS-induced inflammation via blocking the iNOS, COX-2, and inflammatory cytokines in macrophages.

### Biography

Seong-Yeong Heo has completed his MSc at the 2016 from Pukyong National University in Korea. He has studied in marine life science and tissue engineering. Now, he is performing that the tissue regenerative scaffold fabricated by three axis plotting system and cell signaling investigated by western blot and RT-PCR analysis. Additionally, he has published 3 papers in reputed journals.

[hsyadsl@naver.com](mailto:hsyadsl@naver.com)

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