

International Conference on  
**PHARMACOLOGY**  
 &  
 World Congress on  
**NEUROLOGY AND PSYCHIATRY**  
 June 18-19, 2018 | Tokyo, Japan

**Anti-colitis effect of ethanol extract of *Persea americana* through suppression of inflammatory responses in the dextran sulfate sodium-induced colitis mice model**

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Inflammatory bowel disease (IBD), including Crohn's disease (CD) and ulcerative colitis (UC), is high-risk element for colorectal cancer and it is serious threat to the human health globally. IBD is characterized by chronic intestinal inflammation, resulting in chronic abdominal pain, diarrhea and hematochezia. *Persea americana*, so called avocado, has been reported to have hypolipidemic, anti-diabetic, anti-oxidant, cardioprotective potency, and also has potential anti-inflammatory effect in vitro. In this study, we investigated that ethanol extracts of *Persea americana* (EPA) has protective effects in DSS-induced colitis mice. EPA effectively improved the clinical signs and histological characteristics, such as colon length, spleen weight and

crypt length in DSS-induced colitis mice. Further, disease activity index (DAI) and immune cell infiltration were downregulated in EPA-treated mice. In DSS-exposed colonic tissues, EPA reduced expression of cyclooxygenase-2 (COX-2) and inducible nitric oxide synthase (iNOS). Moreover, EPA decreased the expression of pro-inflammatory cytokines, like interleukin-6, interleukin-1 $\beta$  and tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ) and the activation of nuclear factor-kappa B (NF- $\kappa$ B) and signal transducer and activator of transcription 3 (STAT3). These results indicated that EPA has anti-inflammatory and protective potency in DSS-induced colitis.

**Biography**

Joo Young Hong has graduated from pharmacology in Kyung Hee University at the age of 25 years. He studies for master's degree in department of biochemistry, college of pharmacy, Kyung Hee University.

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