



## Evaluation of anti-inflammatory effect of *Salvadora persica* in IBD-induced rat

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**Background and objectives:** Inflammatory bowel diseases (IBD) are among the most prevalent diseases in developed countries. In general, IL-6 and TNF- $\alpha$  are considered as the main causes of tissue damage in the intestine. *Salvadora persica* is a domestic and abundant plant growing in some central and southern areas of Iran. The main objective of the current study was to evaluate the potential anti-inflammatory effect of the hydro-alcoholic extract of *Salvadora persica* in a rat model of IBD. **Methods:** Acute colitis was induced by intra-rectal administration of 100 mg/kg TNBS dissolved in a total volume of 0.25 mL of 50% ethanol. Twenty-four h after colitis induction, saline, *S. persica* extracts (25, 50 and 100 mg/kg) and sulfasalazine (100 mg/kg) were orally administered to the corresponding groups of animals. The dose administration was repeated daily for seven consecutive days. Afterwards, body weight changes, macroscopic and microscopic lesions were assessed by dissecting 8 cm of the distal colons of the animals. TNF- $\alpha$  and IL-6 mRNA expression were also evaluated by real-time PCR. **Results:** The obtained results showed that sulfasalazine and *S. persica* extracts were significantly able to reduce the body weight loss, macroscopic and microscopic lesions compared to the untreated control. Additionally, they were able to decrease the expression of TNF- $\alpha$  mRNA in the colon tissue. **Conclusion:** The findings of this study indicated that *Salvadora persica* extract had an acceptable anti-inflammatory effect on the induced colitis in rat, and one of its notable mechanisms could be through TNF- $\alpha$  pathway.

**Keywords:** IL-6, inflammatory bowel disease, rat, *Salvadora persica*, TNBS, TNF- $\alpha$

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