

## عنوان مقاله:

Anti-inflammatory and anti-neuropathic effects of a novel quinic acid derivative from *Acanthus syriacus*

## محل انتشار:

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## خلاصه مقاله:

Objective: *Acanthus syriacus* (AS) is one of the valuable herbal plants with immunomodulatory potentials. The aim of this study is to assemble a phytochemical investigation of *A. syriacus* exploring its anti-inflammatory and antinociceptive properties, identification of its most active compound(s) and elucidating their structure and determining their mechanisms of action. Materials and Methods: Bio-guided fractionation and isolation-schemes were used utilizing RP-HPLC, CC, <sup>1</sup>H- and <sup>13</sup>C-NMR, and biological-models were used to evaluate their effects against inflammation and neuropathic-pain (NP). Results: The outcomes showed that the most active fraction (FKCA) of AS was identified. Two of the three components of FKCA were identified by chromatographic-methods, while the third compound was isolated, its structure was elucidated and its was named Kromeic acid (KRA); FKCA contained Ferulic acid (27.5%), kromeic acid (48.1%), and chlorogenic acid (24.4%). AS, FKCA and KRA showed significant (p0.05) anti-inflammatory and antinociceptive potentials in the management of allodynia and thermal-hyperalgesia in NP. AS and FKCA showed comparatively equipotent antinociceptive-effects. FKCA showed higher antinociceptive effects than KRA suggesting additive-effects among FKCA components. The anti-inflammatory, insulin secretagogue, oxidative-stress reducing, and protective effects against NO-induced neuronal-toxicity might be amongst the possible mechanisms of tested compounds to alleviate NP. Conclusion: Here, we report the isolation and structure elucidation of a novel quinic-acid derivative, KRA. *A. syriacus*, FKCA, and KRA might be used as a novel complementary approach to ameliorate a variety of painful-syndromes.

## کلمات کلیدی:

Novel quinic acid derivative, *Acanthus syriacus*, Anti-inflammatory, antinociceptive effects, Kromeic acid

## لینک ثابت مقاله در پایگاه سیویلیکا:

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