

عنوان مقاله:

iNOS suppression in LPS-induced THP-1 cells by ethanolic kernel extract of Persian Walnut

محل انتشار:

چهارمین کنگره بین المللی و شانزدهمین کنگره ملی ژنتیک (سال: 1399)

تعداد صفحات اصل مقاله: 1

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خلاصه مقاله:

Background and Aim: Stimulation of Monocyte/Macrophage cells in the inflammatory process leads to the expression of inflammatory genes resulting in increased production of cytokines and mediators including nitric oxide (NO). The production of these substances affects the innate immune response, especially inflammation. Based on Iranian traditional & herbal medicine, this assay aimed to investigate the role of Persian Walnut extract (P.W.E) in NO production through iNOS expression in human THP-1 Monocytic cells. Methods: Human THP-1 cells cultivated then stimulated with lipopolysaccharide (LPS) at the concentration of ۲۰ ng/mL. The cells treated separately with Steroid and NSAIDs (as two positive controls), PBS buffer as the negative control, in contrast with the PWE (as the sample) below the LC_{۵۰} for ۱۸ h. NO production assessed by Greiss colorimetric method and the iNOS expression determined by real-time PCR, then compared to the positive and negative controls by ANOVA. Results: : The level of NO in the unstimulated cell was ۲.۵ nanomolar, while LPS stimulation increased NO production as ۱۱.۲ nanomolar. The cells treated by Steroid, NSAIDs, and PWE showed NO production levels as ۲.۹, ۳.۲ and ۵.۲ nanomolar, respectively. Conclusion: Iranian walnut extract may act by suppressing the production of nitric oxide synthase and thus inhibiting NO production. Therefore, the extract is effective in reducing the expression of this gene in the pathway of inflammation.

کلمات کلیدی:

Nitric Oxide, THP-1 cells, iNOS, Persian Walnut, LPS-induced

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