

عنوان مقاله:

Antiparasitic and cytotoxicity effects of γ -hydroxy- β -methoxy isoflavone against *Leishmania major*

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خلاصه مقاله:

Introduction: Leishmaniasis caused by *Leishmania* spp. is observed in most parts of the world. Although, glucantime, a pentavalent antimony compound, and other synthetic drugs are broadly applied for leishmaniasis therapy; however, the use of these synthetic agents has some limitations. Hence, this study was designed to assess the inhibiting effects of γ -hydroxy- β -methoxyisoflavone (VHMI) against promastigote and amastigote stages of *Leishmania major* in vitro. Methods: The MTT assay was applied to study the antileishmanial activity of VHMI against promastigotes and its cytotoxicity effects on macrophage cells. The nitric oxide (NO) produced by the treated macrophage cells with VHMI was also assessed. Results: VHMI considerably ($P < 0.05$) inhibited the growth rate of promastigotes and amastigotes stages. The 50% inhibitory concentrations of VHMI and glucantim were 11.3 and 15.4 $\mu\text{g/mL}$ for promastigote and amastigote, respectively. VHMI, especially at $1/3$ IC₅₀ and $1/2$ IC₅₀ concentrations, considerably triggered the NO release. Conclusion: The current research findings reported the favorable antileishmanial effects of VHMI against *L. major* with possible mechanisms such as reducing the infectivity rate of macrophage cells and provoking NO creation. Nevertheless, more research must be performed to clear its efficacy in animal model and then in human.

کلمات کلیدی:

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