

Antiviral activity of Euphorbia helioscopia extract

Ramezani, M.^a, Behravan, J.^b, Arab, M.^a, Amel Farzad, S.^a

^a Pharmaceutical Research Center, Bu-Ali Research Institute and School of Pharmacy, **Mashhad University of Medical Sciences**, P.O. Box 91775-1360, **Mashhad**, Iran

^b Biotechnology Research Center, Bu-Ali Research Institute and School of Pharmacy, **Mashhad University of Medical Sciences**, P.O. Box 91775-1360, **Mashhad**, Iran

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Abstract

In the present study, the antiviral effects of Euphorbia helioscopia extracts were investigated using plaque reduction assay. Plant extracts were prepared using Soxhlet apparatus or by maceration in methanol. After applying several enriching stages of phage CPS¹, phage titration was performed to determine the phage concentration in phage lysate for specifying the dilution factor of the phage to be used as negative control for the next working stages. Then IC₅₀ of trifluridine, as a positive control, for phage CP²¹ was determined. The MIC of the extracts for Bacillus cereus was determined as 1,20 and 0,0 mg mL⁻¹ for Soxhlet and maceration extracts, respectively. To determine whether the extracts have the ability to inhibit the adsorption of virus to host cell, it was pre-incubated with phage CP²¹ for 30 min at 37°C. The growth and reproduction of phage was inhibited by more than 90% at concentration of 1 and 0,20 mg mL⁻¹, respectively. In order to test the effects of extract on transcription process, Bacillus cereus, phage CP²¹ and extract were incubated together. The growth and reproduction of phage was inhibited by more than 90% at concentration of 0,20 and 0,120 mg mL⁻¹ or Soxhlet and macerated extracts, respectively. These results indicated that both extracts of E. helioscopia have considerable antiviral activity. © 2008 Asian Network for Scientific Information.

Reaxys Database Information

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Antiviral activity; Euphorbia helioscopia; Phage reduction assay

Indexed Keywords

EMTREE drug terms: Euphorbia helioscopia extract; methanol; plant extract; unclassified drug

EMTREE medical terms: antiviral activity; article; Bacillus cereus; bacterial strain; bacteriophage; controlled study; drug isolation; Euphorbia; Euphorbia helioscopia; IC₅₀; minimum inhibitory concentration; nonhuman; solvent extraction; virogenesis; virus attachment; virus cell interaction; virus inhibition

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