Original Paper

Anti-viral effect of methanolic extract of Sea cucumber on HIV-1 virus

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Abstract

Background and Objective: Sea cucumber (Holothuria leucospilota) is used for food purposes and traditional medicine in the South East and East Asia. This study was done to determine the antiviral effect of methanolic extract, of Holothuria leucospilota species against HIV-1 virus.

Methods: In this laboratory study, sea cucumbers were collected from Larak Island, Persian Gulf, Iran at depths of 10-30 m. Methanol solvent was used for extraction process. Extract was concentrated by rotary evaporator at 40-45°C, and subsequently was prepared in the form of dry powder using vacuum freeze dryer lyophilization.

Results: The extract in 100 and 1000 μg/ml of concentrations inhibited by 94% and 92.5% the replication of HIV-1, respectively. 10 μg/ml of extract had not specific antiviral effect. Approximately the half of concentration of extract (35.89 μg/ml) prevents 50% of proliferation of HIV-1, which was 50% toxic of on host cells (P<0.05).

Conclusion: Sea cucumber methanolic body wall extract of Holothuria leucospilota species had no antiviral effect against HIV-1 virus. It can be due to cytotoxic effect of extract on the host cells.

Keywords: Sea cucumber, HIV-1 virus

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