

Anticancer and antibacterial effects of Iranian viper (*Vipera latifii*) venom; an in-vitro study

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Abstract:

Viper venom contains antibacterial and cytotoxic components. The aim of this study was to identify and evaluate the antimicrobial and cytotoxic properties of the crude venom of *Vipera latifii* (*V. latifii*). Lyophilized venom of *V. latifii* was quantified by Bradford method and its antibacterial activity (6.25400 g/ml) was assessed using the MTT, MIC, Disc diffusion, and Well diffusion assays. Also, its cytotoxic activity was investigated using MTT reduction, Neutral uptake, and Comet assay on human liver cancer (HepG2) cell line. Crude venom showed antibacterial effects against *Bacillus subtilis* and *Staphylococcus aureus*, but was not effective on *Escherichia coli*. Also, the crude venom showed apoptotic and necrotic effects on human liver cancer cells. The venom of *V. latifii* can inhibit the growth of bacteria and cancer cells. These findings suggest that this may be a potential source of molecules with antibacterial and anticancer characteristics. © 2018 Wiley Periodicals, Inc.

Keywords:

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