

ISOLATION OF BEAUVERIOLIDES FROM *CORDYCEPS MILITARIS* MYCELIUM

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Cordyceps militaris and its close relative, *Cordyceps sinensis* are well-known medicinal mushrooms in the oriental traditional medicine. Mostly due to its atypical, butterfly pulpa-parasitic lifestyle and rarity, it is considered as the key of longevity in China, Japan and Korea. *C. sinensis* is also native to Hungary.

The aim of our work was the mycochemical analysis of the mycelium samples of *Cordyceps militaris* originated from Israel. The procession of the sample started with an extraction with methanol by percolation, followed by solvent-solvent extraction, applying *n*-hexane, chloroform and ethyl-acetate, respectively.

The chloroform and ethyl-acetate fractions were subjected to NP-flash chromatography on silica gel using a gradient system of *n*-hexane : acetone and chloroform : methanol mixtures in multiple steps. This separation afforded two fractions, which were identified as mixture of two rarely occurring cyclodepsipeptides, beauveriolide I and III, on the basis of NMR and MS investigations. The beauveriolides consisting of three amino acids and a β -hydroxylic acid. The cyclodepsipeptide mixture could be separated using NP-HPLC applying cyclohexane: isopropyl alcohol gradient system, with detection at 215 nm.

Beauveriolide III was identified in *Cordyceps militaris* for the first time, while beauveriolide I however was previously isolated from this species [1]. Both compounds together with semi-synthetic beauveriolides are under pharmacological investigation in order to gain detailed information about their anti-inflammatory potential.

References:

[1] Shigeru Nakaya, Saki Mizuno, Hiroki Ishigami, Yasuhiro Yamakawa, Hirokazu Kawagishi, Takashi Ushimaru: New Rapid Screening Method for Anti-Aging Compounds Using Budding Yeast and Identification of Beauveriolide I as a Potent Active Compound; Bioscience, Biotechnology, and Biochemistry (2012); 76:6; 1226-1228