Joint Event
4th EUROPEAN BIOPHARMA CONGRESS
&
6th International Conference and Exhibition on
PHARMACOLOGY AND ETHNOPHARMACOLOGY
November 09-11, 2017 Vienna, Austria

Isolation and synthesis for secapin from bee venom (*Apis mellifera L.*)

Hesham R El-Seedi[1,3], **Aida Abd El Wahed**[1,2], **Sunithi Gunasekera**[1] and **Ulf Göransson**[1]
[1]Uppsala University, Sweden
[2]Plant Protection Research Institute-Agricultural Research Centre, Egypt
[3]El-Menoufia University, Egypt

Bee venom is highly rich in peptides and enzymes constituents, some of which are well-characterized functional agents such as melittin, apamin, and phospholipase A2 with potent bioactivities. Secapin in particular has attracted growing interest due to its role in the insect innate immune system as a hemolytic agent and due to its known applications in neurological, cardiovascular and immunological research areas. Secapin was first identified in early 1970s, but due its scarcity, detailed phytochemical investigations of secapin have been limited. Thus, it had also been challenging to introduce secapin to a wider range of medical and pharmaceutical applications. In the current work, we isolated secapin from bee venom (Apis mellifera), employing RP-HPLC and mass spectrometry. We successfully synthesized secapin for the first time using microwave-assisted Fmoc solid-phase peptide synthesis, followed by oxidative folding. The secondary structure was elucidated by a combination of techniques including MS, LC-MS, MS2, and 2D-NMR to characterize the pure native peptide.

hesham.el-seedi@fkog.uu.se

Notes: