Phylogenetic analysis of cytochrome oxidase subunit 1 from the *Mesobuthus eupeus* (Scorpions: Buthidae) of Khuzestan province

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Abstract

Ten Scorpion samples *Mesobuthus eupeus* were collected from Baghmalek region in the Khuzestan province of Iran before were identified by Razi Vaccine and Serum Research Institute reference laboratory of Ahvaz. Then, DNA was extracted by phenol/chloroform method in the Laboratory of Molecular Biology in the Faculty of Veterinary Medicine of Shahid Chamran University of Ahvaz. The molecular phylogenetic analysis of *Mesobuthus eupeus* is carried out based on sequence data of 623 nucleotides fragment of cytochrome C oxidase subunit I. The gene fragments were amplified by PCR using the specific forward and reverse primers. PCR products were fractionated by agarose gel electrophoresis prior to purifying using gel extraction kit. The purified DNA was sequenced by an Applied Biosystems DNA sequencer via Gene Fanavaran Company. In order to confirm the sequencing data, each gene fragment was sequenced in both directions. In order to compare the sequence data with the similar sequences from other scorpions, the target sequence data from different scorpions were retrieved from the Genbank using nblast program via NCBI website. Multiple alignments of the deduced amino acid sequence of cytochrome C oxidase subunit I exhibited 92 and 91% identity to the homologous *M. martensii* and *M. gibossos*, respectively. The highest level of identity was scored with *M. eupeus philipsi* (93%). The results of phylogenetic analysis using cytochrome oxidase subunit 1 indicate that the sequence data of Khuzestan scorpion *Mesobuthus eupeus* is slightly different from *M. eupeus philipsi* gene. As regards of this discrepancy, it concluded that these two *Mesobuthus* species with highly similar morphological features possibly belonging to two different subspecies.

Key words: *Mesobuthus eupeus*, Scorpion, Phylogenetic, Cytochrome oxidase, Khuzestan

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References


