

Venom factor-like in crocodilians

Trinidad Cordero^{1,3,4}, Patricia Amavet^{2,3}, Belkis Marelli⁴ and Pablo Siroski^{*1,3,4,5}

¹ Laboratorio de Ecología Molecular Aplicada (ICiVET - UNL, CONICET), Santa Fe, Argentina

² Laboratorio de Genética, Departamento de Ciencias Naturales (FHUC - UNL), CONICET, Santa Fe, Argentina

³ Laboratorio de Zoología Aplicada: Anexo Vertebrados (FHUC - UNL /MMA), Santa Fe, Argentina

⁴ Instituto de Ciencias Veterinarias del Litoral (ICiVet-Litoral), CONICET, Universidad Nacional del Litoral, Esperanza, Santa Fe, Argentina (icivet@santafe-conicet.gov.ar)

⁵ Ministerio de Medio Ambiente y Cambio Climático, Santa Fe, Argentina

Abstract: The archosaurs, including crocodilians, dinosaurs, and birds were traditionally considered a completely non-venomous group of animals. However, crocodilians, in particular, have a protein similar to cobra venom factor (CVF), an unusual non-toxic complement-activating protein reported in the venom of many elapid snakes. In this work, bioinformatical and phylogenetic analyses were applied and then conventional PCR with specific primers for *Caiman latirostris* were performed. The bioinformatical analysis of Venom Factor-like (VF-like) in crocodiles was identified in the complete genome of *Caiman latirostris*. The phylogenetic analyses were made with a cross-platform program for Bayesian analysis of molecular sequences (BEAST v1.8.4) with VF-like, CVF and C3 complement component of some crocodilians species, Elapidae snakes, and other relevant sequences, to explain the presence of VF-like in crocodilians. Thus, our results demonstrated the presence of VF-like in *Caiman latirostris* and showed the strong homology that exists with complement system component C3. It supports the presence of venom toxins of snakes in non-venomous reptiles and represent a contribution to know and understand how the immune system of crocodilians works. However, more in-depth research will be necessary to understand about the origin, expression and function of VF-like in crocodilians.

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