

Supplementary material

Identification of the peptides corresponding to the bands of the venoms of snakes by mass spectrometry

Selected bands from the polyacrylamide gel (Bg, Bn, Br, F2.1 and F2.2) obtained in 2.7 were submitted to in gel digestion and identified by mass spectrometry. The data obtained were submitted to bioinformatic analysis using BLASTP 2.13.0 [31], UniProtKB/SwissProt, and PEAKS DB, and submitted to a search in the "Serpentes" database (taxid: 8570). Supplementary table S1 lists the most abundant proteins found in each analyzed sample. The low presence of peptides such as SVMPs, disintegrin, and snaclecs explains the poor recognition of bands from *B. gabonica*, *B. nasicornis*, and *B. rhinoceros* by anti-F2 fraction antibodies. In the F2 fraction, it was possible to identify peptides from the SVMPs and Snaclecs families, in addition to peptides that match the composition of the venom.

Supplementary table S1. Identification of proteins from electrophoresis gel bands of *Bitis* venoms and the F2 fraction.

Fraction			
	Sequence ^a	peptide	class ^b
Bg	RLDEAEQLALKG	Myosin	ATPase
Bg	RGYSFVTTAERE	Actin	Globular proteins that form microfilaments
Bg	KLTPGSQC	Bitistatin	SVMP/disintegrin
Bg	KIGGIGTVPVGRV	Elongation factor	tRNA
Bg	KLRVDPVNFKF	Hemoglobin	Metalloprotein
Bg	KAQYEDIAQKS	Keratin	Fibrous protein
Bg	RAGLQFPVGRI	Histone	Histones
Bg	KSTTDLPRF	L-amino acid oxidase	LAAO
Bn	KLHSWVEC	SVMP P-III	SVMP
Bn	KLAIVADHRMYTKY	Disintegrin-like metalloprotease	SVMP/disintegrin
Bn	KTTDNQWLRW	Snaclec CTL	Snaclec
Bn	KLLVVYPWTQRF	Beta hemoglobin	metalloprotein

Bn	RDVNRASEL	L-amino acid oxidase	LAAO
Br	KNDLQLQVQAEADGLADAEERC	Myosin	ATPase
Br	KIPCAPQDVKC	SVMP P-III	SVMP
Br	KTFIVADKRM	Disintegrin-like metalloprotease	SVMP/disintegrin
Br	KLTPGSQC	Bitistatin – (SVMP)	SVMP/disintegrin
Br	KIGGIGTVPVGRV	Elongation factor	tRNA
Br	KTTDNQWLRW	Keratin	Fibrous protein
F2.1	KSYELPDGQVITIGNERF	Bothropasin/Jararagin – (SVMP)	SVMP
F2.1	RDLTDYLM	Snaclec PAL	Snaclec
F2.1	KSYELPDGQVITIGNERF	Bothropasin – (SVMP)	SVMP
F2.1	RHQGVMMVGMGQKD	Atrolysin A – (SVMP)	SVMP
F2.1	KIWHHTFYNELRV	VEGF-Fs barietin	VEGF-Fs
F2.1	KSYELPDGQVITIGNERF	Bothropasin – (SVMP)	SVMP
F2.2	KTWEDAERF	Bitiscetin	Snaclec
F2.2	RVAPEEHPTLLTEAPLNPKA	Alpha actin	Globular proteins that form microfilaments
F2.2	KSYELPDGQVITIGNERF	Bothropasin – (SVMP)	SVMP
F2.2	KEITALAPSTMKI	BA-5A – (SVMP-PII)	SVMP
F2.2	RGYSFVTTAERE	Hyaluronidase (<i>Bitis arietans</i>)	Hyaluronidase
F2.2	KIWHHTFYNELRV	VEGF-Fs barietin	VEGF-Fs
F2.2	RVVESMQSTLDAEIRS	Snaclec	Snaclec
F2.2	RIQLELNQVKS	Bistiscetin	Snaclec
F2.2	RSLSTELFKM	PLA2	PLA
F2.2	RIQLVEEELDRA	Batroxycidin	antimicrobial peptide
F2.2	KAQYEDIAQKS	SVSP	SVSP

The peptide sequences of fragments found in the bands of *B. gabonica*, *B. nasicornis*, *B. rhinoceros* venoms, and the F2 fraction were analyzed by mass spectrometry (LC-MS/MS), using BLASTP 2.13.0 [31], UniProtKB/SwissProt and PEAKS DB, and searched the “Serpentes” database (taxid:8570). ^a The According to PEAKS DB. ^b Classes of toxins; ATPase, adenosine triphosphatase; SVSP, snake venom serine protease; SVMP, snake venom metalloproteinase; tRNA, transporter ribonucleic acid; LAAO, L-amino acid oxidation; VEGF-Fs, snake venom vascular endothelial growth factor toxin.