APPENDIX M

Supplemental Table 2: Biologically related groups of orthologous proteins of *N. kaouthia* venom components (after step-wise elution of the trypsin digested peptides with different concentrations of ammonium chloride) identified by 2D-LC/MS-MS and database search

Group of protein (s)	Orthologous proteins	NH_4Cl (mM)	Accession no.	Top X_{corr} (charge)
1. Cardiotoxin	Cardiotoxin 6 precursor (*Naja sputatrix*)		3176833	
	MFMVSNK	20, 60, 80		3.73 (+3)
	Cardiotoxin 7a precursor		2500804	
	ATLKKFPLK	60		2.26 (+2)
	CHNTQLPFIYK	60, 400		3.91 (+2)
	Cardiotoxin 2b precursor (Ctx2b)		41688522	
	MYMVATPK	80, 100, 200		2.95 (+2)
	Cardiotoxin (Ctx Iib)		1421155	
	GCIDVCPK	400		2.59 (+2)
	Cardiotoxin 7 (*Naja naja*)		1000505	
	ATLKFPLKFPVK	60		3.52 (+3)
	Toxin KJC3		41688559	
	CNKLVPLFYK	60		3.68 (+2)
2. Cobra venom factor	Cobra venom factor precursor (*N. kaouthia*)		881915	
	DLTEEPNSQGISSK	20		3.25 (+2)
	IDVPLQIEK	20		2.63 (+2)
	INYENALLAR	20		4.10 (+2)
	ASVQEALWSDGVR	20		3.19 (+2)
	VNDDYLIWGSR	20		2.57 (+2)
	QLDIFVHDFPR	20		2.88 (+2)
	VDMNPAGGMLVTPTIEIPAK	20		5.53 (+2)

Supplemental Table 2-continued

Group of protein (s)	Orthologous proteins	NH_4Cl (mM)	Accession no.	Top X_{corr} (charge)
2. Cobra venom factor	IIIQGDPVAQIIENSIDGSK	20		4.76 (+2)
	AVPFVIVPLEQGLHDVEIK	20		4.37 (+2)
	IEEQDGNDIYVMDVLEVIK	20, 200		5.56 (+2)
	LLRIEEQDGNDIYVMDVLEVIK	20, 80		3.20 (+3)
	YLYGEEVEGVAFVLFGVK	20,80, 100, 200		5.50 (+2)
	KLDDRVPDTEIETK	80		3.65 (+3)
	LLRIEEQDGNDIYVMDVLEVIKQGTDENPR	80		5.71 (+3)
	VVLLSYQSSFLFIQTDKGIYTPGSPVLYR	100		4.34 (+3)
	Cobrin precursor (*Naja naja*)		6006966	7.33 (+3)
	DDCDLPELCTGQSAECPTDVFQR	20		4.58 (+2)
	Cobra venom factor precursor (complement C3 homolog)		399269	5.22 (+3)
	YFTYLILNK	20		2.54 (+2)
	DGQNLVTMNLHITPDLIPSFR	20		4.55 (+3)
	Cobra venom factor precursor (*Naja kaouthia*)		40744584	
	WPHEDECQEEEFQK	80		4.87 (+3)
3. Cysteine-rich toxin	Cysteine-rich venom protein (*Naja atra*)		30172003	
	HHNVFSNCQSLAK	60		3.67 (+3)

Supplemental Table 2-continued

Group of protein (s)	Orthologous proteins	NH_4Cl (mM)	Accession no.	Top X_{corr} (charge)
3. Cysteine-rich venom	FVYGVGANPPGSVIGHYTQIVWYNSHLL GCGAAK	60, 80		5.68 (+3)
4. Cytotoxin	Chain A of cytotoxin I from *Naja oxiana*		61679811	
	MFMMSDLTIPVKR	20, 60, 80, 100,		4.31 (+2)
	Cytotoxin SP15d		41688453	
	MFMVAAPKVPVKR	60		3.84 (+2)
	MFMVAAPK	80		2.60 (+2)
	Cytotoxin SP13b		41688450	
	YVCCNTDRCN	20		3.03 (+2)
	MFMMSNKTVPVKR	20, 80, 200		3.39 (+2)
	Cytotoxin SP15a		41688451	
	MFMVATPK	20, 80, 100, 200		3.20 (+2)
	Cytotoxin homolog, Indian cobra		85972	
	LKCHNTQLPFIYK	60, 80, 100		4.30 (+3)
	Cytotoxin II		85977	
	GCIDACPK	20		2.14 (+2)
5. Kaouthiagin	Hemorrhagic metalloproteinase kaouthiagin		32469675	
	GQCVDVQTAY	0		2.26 (+2)
	TAPAFQFSSCSIR	20		3.52 (+2)
	GCFDLNMRGDDGSFCR	60		3.45 (+3)

Supplemental Table 2-continued

Group of protein (s)	Orthologous proteins	NH_4Cl (mM)	Accession no.	Top X_{corr} (charge)
	CPTLTNQCIALLGPHFTVSPK	60, 80		6.18 (+3)
	AAKHDCDLPELCTGQSAECPTDSLQR	80		6.92 (+3)
	YIEFYVIVDNR	80, 200		2.99 (+2)
	TNTPEQDRYLQAEKYIEFYVIVDNR	80, 100		4.72 (+3)
6. Mocarhagin	Mocarhagin 1 (*Naja mossambica* ssp. *mossambica*)		21435683	
	MSPGLCFMLNWNAR	60		2.69 (+2)
	AAKNDCDFPELCTGR	80		3.22 (+3)
7. Muscarinic toxin-like protein	Muscarinic toxin-like protein 1 (MTLP-1)		12230754	
	FLFSETTETCPDGQNVCFNQAHLIYPGK	20		6.43 (+3)
	EKFLFSETTETCPDGQNVCFNQAHLIYPGK	60		6.18 (+3)
	Muscarinic toxin-like protein 2 (MTLP-2)		12230755	
	DVIECCSTDKCNL	20		3.22 (+2)
	SIFGVTTEDCPDGQNLCFK	20, 80, 100		4.71 (+2)
	WHMIVPGR	60, 100		2.32 (+2)
	Muscarinic toxin-like protein 3 (MTLP-3)		12230756	
	ISLADGNDVR	20		2.57 (+2)
	GCTFTCPELRPTGIYVYCCR	20, 60		4.25 (+3)

Supplemental Table 2-continued

Group of protein (s)	Orthologous proteins	NH_4Cl (mM)	Accession no.	Top X_{corr} (charge)
8. Neurotoxin	Long neurotoxin 3 (toxin C)		128947	
	TWCDAFCSIR	20, 60, 80, 100, 200, 400		4.01 (+2)
	Toxin B		229595	
	DCPNGHVCYTK	20		2.89 (+2)
	IRCFITPDITSK	20, 60, 80, 100, 200		4.28 (+2)
	CFITPDITSK	20, 60, 80, 100, 200		2.83 (+2)
	CFITPDITSKDCPNGHVCYTK	20, 60, 80, 100, 200, 400		5.73 (+3)
	IRCFITPDITSKDCPNGHVCYTK	60, 80, 100, 200, 400		7.16 (+3)
	Long neurotoxin 1 (neurotoxin 3 or α-cobra toxin)		128930	
	TGVDIQCCSTDNCNPFPTR	20, 80, 100, 200, 400		5.59 (+3)
	Weak tryptophan-containing neurotoxin (WTX)		14195263	
	GCADTCPVGKPYEMIECCSTDK	20, 60, 80, 100, 200, 400		7.03 (+3)
	LTCLNCPEMFCGK	20, 60, 80, 100, 200, 400		4.38 (+2)

Supplemental Table 2-continued

Group of protein (s)	Orthologous proteins	NH_4Cl (mM)	Accession no.	Top X_{corr} (charge)
8. Neurotoxin	Long neurotoxin 1 (NXL1)		52001477	
	VDLGCAATCPTVK	20, 80, 100, 200, 400		4.33 (+2)
	Long neurotoxin 1, Indian cobra		69424	
	TGVDIQCCSTDDCDPFPTR	20, 80		4.65 (+3)
	Neurotoxin preprotein precursor (*Naja naja*)		6650221	
	NGIEINCCTTDRCNN	0, 20, 80, 100		5.13 (+2)
	NGIEINCCTTDR	0, 20, 80, 100, 400		3.73 (+2)
	Long neurotoxin 1 (toxin CM-5)		128929	
	CFITPDVTSQACPDGHVCYTK	80, 100, 200		3.81 (+3)
	IRCFITPDVTSQACPDGHVCYTK	100		2.85 (+3)
	Long neurotoxin 2, forest cobra		69420	
	GKRVDLGCAATCPTVK	60, 80, 100, 400		4.12 (+2)

Supplemental Table 2-continued

Group of protein (s)	Orthologous proteins	NH_4Cl (mM)	Accession no.	Top X_{corr} (charge)
8. Neurotoxin	Long neurotoxin 5 (Toxin E)		128952	
	GERVDLGCAATCPTVK	60, 80, 100, 200, 400		3.63 (+3)
	Neurotoxin-like protein (*Naja naja*)		5102575	
	LCLSDYSIFSETIEICPDGHNFCFK	60, 100		4.95 (+3)
	Cobra toxin b (CBTb) (short neurotoxin)		28380028	
	LECHNQQSSQTPTTKTCSGETNCYK	20		5.70 (+3)
	VKPGVNLNCCR	20, 60		2.64 (+2)
	Neurotoxin, NTX *(Naja naja*, ssp. *atra*)		299271	
	LECHNQQSSQTPTTTGCSGGETNCYKK	20		7.44 (+3)
	Long neurotoxin 1 (Toxin A)		128932	
	TWCDGFCSIR	20, 100, 200, 400		2.83 (+2)
	Short neurotoxin (toxin 3)		786434	

Supplemental Table 2-continued

Group of protein (s)	Orthologous proteins	NH_4Cl (mM)	Accession no.	Top X_{corr} (charge)
8. Neurotoxin	LECHDQQSSQTPTTTGCSGGETNCYKK	20		6.52 (+3)
	Short neurotoxin 1, forest cobra		69456	
	KGVKINCCTTDR	20, 80		3.11 (+2)
	Miscellaneous type neurotoxin (*Naja naja*)		232522	
	FQICRDGEKICFK	60		2.97 (+3)
9. Oxoglutarate dehydrogenase complex	2-oxoglutarate dehydrogenase complex (dehydrogenase E1) component (*Burkholderia cenocepacia* PC184)		84357573	
	KPLIVATPK	0		1.72 (+1)
10. Phospholipase	Chain B, phospholipase A2 (E.C.3.1.1.4)		443188	
	CCQVHDNCYNEAEK	20, 60		4.60 (+2)
	GGNNACAAAVCDCDR	20		3.51 (+2)
	GGSGTPVDDLDR	20, 80		3.20 (+2)

Supplemental Table 2-continued

Group of protein (s)	Orthologous proteins	NH_4Cl (mM)	Accession no.	Top X_{corr} (charge)
10. phosphor-lipase	TYSYECSQGTLTCK	20, 80, 100, 200, 400		4.23 (+2)
	NMIQCTVPSR	20, 80, 200, 400		3.25 (+2)
	TYSYECSQGTLTCKGGNNACAAAVCDCDR	20, 60, 100, 400		5.40 (+3)
	ISGCWPYFK	20, 80, 100, 400		3.47 (+2)
	LAAICFAGAPYNDNDYNINLK	20, 60, 80, 100, 200, 400		4.27 (+3)
	SWWDFADYGCYCGR	20, 60, 80, 100, 200, 400		5.65 (+2)
	GGSGTPVDDLDRCCQVHDNCYNEAEK	60, 80, 100		4.97 (+3)
	CCQVHDNCYNEAEKISGCWPYFK	60		6.94 (+3)
	GGNNACAAAVCDCDRLAAICFAGAPYNDNDYNINLK	60, 80		6.51 (+3)
	TYSYECSQGTLTCKGGNNACAAAVCDCDR	200		4.16 (+3)
	SWWDFADYGCYCGRGGSGTPVDDLDR	200, 400		4.91 (+3)
	Phospholipase A2 (EC 3.1.1.4) III		2144440	
	CCQVHDNCYDEAEK	20, 60		3.38 (+2)
	LAAICFAGAPYNNNNYNIDLK	20, 60, 80, 100, 200, 400		5.65 (+3)

Supplemental Table 2-continued

Group of protein (s)	Orthologous proteins	NH_4Cl (mM)	Accession no.	Top X_{corr} (charge)
10. phosphor-lipase	GGNNACAAAVCDCDRLAAICFAGAPYNN NNYNIDLK	20, 60, 80		7.88 (+3)
	SWWNFADYGCYCGR	20, 60, 80, 100, 200, 400		5.07 (+2)
	NMIQCTVPSRSWWNFADYGCYCGR	60		5.52 (+3)
	SWWNFADYGCYCGRGGSGTPVDDLDR	100		3.64 (+3)
	Phospholipase A2 isozyme E (phosphatidylcholine 2-acylhydrolase)		129411	
	LAAICFAGAPYNNDNYNINLK	20, 80, 100, 200, 400		5.14 (+3)
	NMIKCTVPSR	80, 100, 400		2.86 (+2)
	SWLDFANYGCYCGR	80, 100, 200		2.89 (+2)
	Phospholipase A2 isozyme 1 precursor (phosphatidylcholine 2-acylhydrolase)		24638468	
	GDNDACAAAVCDCDR	20		4.20 (+3)
	CCQVHDNCYNEAEKISR	20		5.18 (+3)
	TYSYECSQGTLTCKGDNDACAAAVCDCDR	20, 60, 80		6.28 (+3)
	CWPYFK	20		1.60 (+1)

Supplemental Table 2-continued

Group of protein (s)	Orthologous proteins	NH_4Cl (mM)	Accession no.	Top X_{corr} (charge)
10. phosphor-lipase	Acidic phospholipase A2 (*Naja sputatrix*)		8953899	
	GGNDACAAAVCDCDR	20		5.55 (+2)
	TYSYECSQGTLTCKGGNDACAAAVCDCDR	20, 80, 100, 200		5.85 (+3)
	C49 phospholipase A2, Indian cobra		31615940	4.91 (+3)
	LAAICFAGAPYNDNNYNIDLK	80		4.17 (+3)
	Phospholipase A2, Indian cobra (*Naja naja* ssp. *sagittifera*)		31615584	
	DFADYGCYCGR	20, 80, 100		3.97 (+2)
	Chain A, crystal structure of the complex formed between a group I phospholipase A2		71042391	
	LAAICFAGAPYNDDNYNIDLK	20, 60, 80, 100 400		4.96 (+2)
	Phospholipase A2, neutral B precursor (phosphatidyl- choline 2-acylhydrolase)		25453162	
	SWWHFADYGCYCGR	20, 60, 100, 200		2.73 (+2)
	GGNNACAAAVCDCDRLAAICFAGAPYND	80		6.28 (+3)
	Phospholipase A2 (EC 3.1.1.4), Malayan Spitting-cobra (fragment)		2147909	
	NM#IQCTVPNR	0, 20, 100		3.22 (+2)

Supplemental Table 2-continued

Group of protein (s)	Orthologous proteins	NH_4Cl (mM)	Accession no.	Top X_{corr} (charge)
10. phosphor-lipase	Phospholipase A2 isozyme DE-I (phosphatidylcholine 2-acylhydrolase)		129409	3.47 (+2)
	PWWHFANYGCYCGR	20, 400		2.93 (+2)
	Phospholipase A2 isozyme DE-II (phosphatidylcholine 2-acylhydrolase)		129432	
	SWWHFANYGCYCGR	20, 60, 100, 200		3.05 (+2)
	Phospholipase A2 (EC 3.1.1.4) II		67172	
	TYSYECSQGTLTCKNGNNACAAAVCDCDR	60, 80		5.42 (+3)
	GGSGTPVDDLDRCCQVHDNCYDEAEKISR	80		4.16 (+3)
	Phospholipase A2 isozyme		129444	
	PWWHFADYGCYCGR	20, 80, 200, 400		3.30 (+2)
	Phospholipase A2 from *Naja naja* ssp. *sagittifera*		46015731	
	NMIQCTVPKR	20, 60, 80, 200		2.71 (+2)
	Phospholipase A2, acidic (phosphatidylcholine 2-acylhydrolase)		129514	4.70 (+3)
	TYSYECSQGTLTCKGDNNACAASVCDCDR	60, 80, 100, 200, 400		4.70 (+3)

Supplemental Table 2-continued

Group of protein (s)	Orthologous proteins	NH_4Cl (mM)	Accession no.	Top X_{corr} (charge)
10. phosphor-lipase	Phospholipase A2, acidic C precursor (phosphatidylcholine 2-acylhydrolase)		25453163	
	CCQVHDNCYGEAEK	60		4.21 (+3)
	GGSGTPVDDLDRCCQVHDNCYGEAEK	60		4.43 (+3)
	Phospholipase A2 isoform 3 precursor (*Naja sagittifera*)		38017492	
	SNRPMPLNLYQFK	60		3.99 (+3)
	Phospholipase A2 isoform 4 precursor (*Naja sagittifera*)		38324522	
	TYTYECSQGTLTCK	20		2.41 (2+)
11. Albumin	Cobra serum albumin (*Naja naja)*		469861	
	WECISNLGPDLSFVPPTFNPK	20		3.86 (+2)
	MMPQAPTSFLIELTEK	20		2.52 (+2)
	SKPNISEEELAATILTFR	20		2.72 (+3)
	ADPDRNECVLSHK	60		2.78 (+3)
	CVASEFSDPPCTKPLGIVFLDVLCHNEEFSNK	60		4.98 (+3)
12. Weak toxin	Weak toxin CM-9a: melanoleuca-type toxin		14195693	
	GCADTCPVGYPKEMIECCSTDK	20, 80, 400		6.19 (+3)