

Annex 4 – Proteins identified by MaxQuant in the venom from *Montivipera bulgardaghica*

Accession	Description	Family
BAP39945.1	Aminopeptidase A [Protobothrops elegans]	Aminopeptidase
JAG65874.1	Xaa-Pro aminopeptidase 2 [Boiga irregularis]	Aminopeptidase
KAG8144505.1	Putative Xaa-Pro aminopeptidase 2 protein [Naja naja]	Aminopeptidase
XP_015676063.1	Xaa-Pro aminopeptidase 2 [Protobothrops mucrosquamatus]	Aminopeptidase
XP_026530513.1	Xaa-Pro aminopeptidase 2 [Notechis scutatus]	Aminopeptidase
XP_039186994.1	Xaa-Pro aminopeptidase 2 isoform X2 [Crotalus tigris]	Aminopeptidase
AAO62996.1	Cysteine-rich venom protein ophanin [Ophiophagus hannah]	CRISP
ACE73566.1	Cysteine-rich secretory protein Cv-CRP (Crotalus viridis)	CRISP
AMB36337.1	Cysteine-rich secretory protein CRISP-1 [Vipera ammodytes ammodytes]	CRISP
QHR82745.1	Cysteine-rich secretory protein 1, partial [Vipera anatolica senliki]	CRISP
B7FDI0.1	Cysteine-rich venom protein	CRISP
P0DMT4.1	Cysteine-rich venom protein	CRISP
AMB36348.1	Disintegrin Dis-1' [Vipera ammodytes ammodytes]	DIS
CAK12655.1	MLD-containing dimeric disintegrin subunit ml-G2 precursor, partial [Macrovipera lebetina transmediterranea]	DIS
P0C6A8.1	Disintegrin VLO4	DIS
P0C6B0.1	Disintegrin VLO5B	DIS
Q98995.1	Zinc metalloproteinase/disintegrin	DIS
ACF70483.1	L-amino-acid oxidase (Daboia russeli)	LAAO
JAA74732.1	LAO-Den-1 [Denisonia devisi]	LAAO
JAS04522.1	L-amino acid oxidase [Agkistrodon conanti]	LAAO
KAG5858164.1	Snake venom L-amino acid oxidase precursor [Bothrops jararaca]	LAAO
QBF53419.1	L-amino acid oxidase LAAO-II [Vipera ammodytes ammodytes]	LAAO
XP_039216948.1	L-amino-acid oxidase isoform X2 [Crotalus tigris]	LAAO
QHR82782.1	Nerve growth factor 1 [Vipera anatolica senliki]	NGF
AHJ80886.1	5'-nucleotidase, partial [Macrovipera lebetina]	Nucleotidase
KAG5858140.1	Snake venom 5' nucleotidase precursor [Bothrops jararaca]	Nucleotidase
KAG8124065.1	Putative Ecto-5'-nucleotidase 1c protein [Naja naja]	Nucleotidase
A0A2I4HXH5.1	Snake venom 5'-nucleotidase	Nucleotidase
P0DJJ5.1	Snake venom 5'-nucleotidase	Nucleotidase
AAN59983.1	Ammodytin I2 (Vipera aspis)	PLA
AEO99168.1	Phospholipase A2 [Ovophis monticola]	PLA
AJS19103.1	Phospholipase A2 precursor [Atheris nitschei]	PLA
CAE47230.1	Ammodytin I2(B) variant [Vipera aspis atra]	PLA
1RGB	Basic phospholipase A2 vipoxin B chain	PLA
2202353A	Phospholipase A2:ISOTYPE=V	PLA
A8CG87.1	Acidic phospholipase A2 Drk-a2	PLA
A8CG90.1	Basic phospholipase A2 Drk-b2	PLA
F8QN53.1	Acidic phospholipase A2 Vur-PL2B	PLA
P04084.3	Acidic phospholipase A2 homolog vipoxin A chain	PLA
P31854.2	Basic phospholipase A2 Pla2Vb	PLA
P86453.1	Basic phospholipase A2 homolog batx	PLA
XP_034280186.1	Basic phospholipase A2 trimucrotoxin-like [Pantherophis guttatus]	PLA
AXL96594.1	Phospholipase B1, partial [Borikenophis portoricensis]	PLB
BAN82155.1	Phospholipase b [Ovophis okinavensis]	PLB
ETE59578.1	Phospholipase B-like 1, partial [Ophiophagus hannah]	PLB

QB53421.1	Phospholipase B [Vipera ammodytes ammodytes]	PLB
XP_026553321.1	Phospholipase B-like 1 [Pseudonaja textilis]	PLB
AJO70723.1	C-type lectin-like protein 3B [Macrovipera lebetina]	SNACLEC
AJO70724.1	C-type lectin-like protein 4A [Macrovipera lebetina]	SNACLEC
AJO70725.1	C-type lectin-like protein 4B [Macrovipera lebetina]	SNACLEC
AJO70726.1	C-type lectin-like protein 3A [Macrovipera lebetina]	SNACLEC
AMB36338.1	C-type lectin snaclec-1 [Vipera ammodytes ammodytes]	SNACLEC
AMB36341.1	C-type lectin snaclec-4 [Vipera ammodytes ammodytes]	SNACLEC
APB93443.1	Snaclec-6 [Vipera ammodytes ammodytes]	SNACLEC
APB93444.1	Snaclec-7 [Vipera ammodytes ammodytes]	SNACLEC
JAC96617.1	C-type lectin J [Echis coloratus]	SNACLEC
JAC96618.1	C-type lectin I [Echis coloratus]	SNACLEC
JAC96625.1	C-type lectin B, partial [Echis coloratus]	SNACLEC
B4XS6.1	Snaclec A11	SNACLEC
B4XS8.1	Snaclec A13	SNACLEC
B4XS20.1	Snaclec A15	SNACLEC
B4XS23.1	Snaclec A3	SNACLEC
B4XT06.1	Snaclec B7	SNACLEC
B4XT08.1	Snaclec B9	SNACLEC
POD14.1	Snaclec VP12 subunit A	SNACLEC
Q696W1.1	Snaclec coagulation factor X-activating enzyme light chain 2	SNACLEC
XP_026579443.1	C-type lectin lectoxin-Thr1-like [Pseudonaja textilis]	SNACLEC
AAF01040.1	Metalloproteinase (Atractaspis anderssonii)	svMP
AAX38181.1	Zinc metalloproteinase-disintegrin-like VLAIP-A (Vipera lebetina)	svMP
ACV83930.1	Snake venom metalloproteinase ACLF (Agkistrodon contortrix laticinctus)	svMP
ADI47580.1	Metalloproteinase [Echis carinatus sochureki]	svMP
ADI47585.1	Metalloproteinase [Echis carinatus sochureki]	svMP
ADI47604.1	Metalloproteinase, partial [Echis carinatus sochureki]	svMP
ADI47614.1	Metalloproteinase, partial [Echis coloratus]	svMP
ADI47619.1	Metalloproteinase [Echis coloratus]	svMP
ADI47668.1	Metalloproteinase [Echis pyramidum leakeyi]	svMP
ADI47674.1	Metalloproteinase, partial [Echis pyramidum leakeyi]	svMP
ADW54345.1	Group III snake venom metalloproteinase [Echis ocellatus]	svMP
ADW54352.1	Group III snake venom metalloproteinase, partial [Echis ocellatus]	svMP
ADW54356.1	Group III snake venom metalloproteinase [Echis carinatus sochureki]	svMP
AEJ31993.1	Metalloproteinase 10, partial [Crotalus adamanteus]	svMP
AGL45259.1	H3 metalloproteinase precursor 1 [Vipera ammodytes ammodytes]	svMP
AHB62069.1	Metalloproteinase H4-A [Vipera ammodytes ammodytes]	svMP
AJC52543.1	Metalloproteinase F1 precursor [Vipera ammodytes ammodytes]	svMP
AMB36349.1	Metalloproteinase of class P-II MP11-1 [Vipera ammodytes ammodytes]	svMP
AMB36350.1	Metalloproteinase of class P-II MP11-2 [Vipera ammodytes ammodytes]	svMP
AMB36351.1	Metalloproteinase of class P-II MP11-3 [Vipera ammodytes ammodytes]	svMP
AMB36352.1	Metalloproteinase of class P-III MP11-1 [Vipera ammodytes ammodytes]	svMP
ANT80539.1	Venom metalloprotease PIII-SVMP EOC00089 [Echis ocellatus]	svMP
JAV01848.1	BATXSVMP116 [Bothrops atrox]	svMP
JAV01854.1	BATXSVMP110 [Bothrops atrox]	svMP
KAG5858176.1	Snake venom metalloprotease [Bothrops jararaca]	svMP
QB53408.1	Mpi-3 [Vipera ammodytes ammodytes]	svMP
QB53415.1	Metalloproteinase of class P-III MP11-2 [Vipera ammodytes ammodytes]	svMP
QB53416.1	Metalloproteinase-like protein of class P-III MP11-3 [Vipera ammodytes ammodytes]	svMP

QB53417.1	Metalloproteinase of class P-III MP11-4 [Vipera ammodytes ammodytes]	svMP
B8K1W0.1	Zinc metalloproteinase-disintegrin-like daborhagin-K	svMP
J3SDW8.1	Zinc metalloproteinase-disintegrin-like 8	svMP
Q2UXR0.1	Zinc metalloproteinase-disintegrin-like Eoc1	svMP
XP_013920864.1	PREDICTED: zinc finger and SCAN domain-containing protein 32-like [Thamnophis sirtalis]	svMP
XP_013929610.1	PREDICTED: zinc finger protein 622 [Thamnophis sirtalis]	svMP
XP_013930944.1	PREDICTED: zinc metalloproteinase-disintegrin-like namp [Thamnophis sirtalis]	svMP
XP_032081207.1	Zinc finger protein 639 [Thamnophis elegans]	svMP
XP_039206200.1	Zinc finger protein 160-like, partial [Crotalus tigris]	svMP
P0DQ4.1	Venom phosphodiesterase cdcpde	svPDE
W8E7D1.1	Venom phosphodiesterase	svPDE
XP_007430581.1	Ectonucleotide pyrophosphatase/phosphodiesterase family member 3, partial [Python bivittatus]	svPDE
AAC61838.1	Snake venom serine protease salmobin [Agkistrodon halys]	svSP
ADI47565.1	Serine protease, partial [Echis carinatus sochureki]	svSP
ADI47567.1	Serine protease, partial [Echis coloratus]	svSP
AMB36343.1	Serine proteinase SP-2 [Vipera ammodytes ammodytes]	svSP
AMB36344.1	Serine proteinase SP-3 [Vipera ammodytes ammodytes]	svSP
AMB36345.1	Serine proteinase SP-4 [Vipera ammodytes ammodytes]	svSP
AUS82504.1	Serine endopeptidase [Crotalus lepidus]	svSP
JAV51413.1	Serine proteinase 9 [Agkistrodon contortrix contortrix]	svSP
KAG5858162.1	Snake venom serine protease precursor [Bothrops jararaca]	svSP
QB53412.1	Serine proteinase SP-6 [Vipera ammodytes ammodytes]	svSP
QB53414.1	Serine proteinase SP-8 [Vipera ammodytes ammodytes]	svSP
QHR82809.1	Serine protease 2 [Vipera anatolica senliki]	svSP
A0A1I9KNP0.1	Vaa serine proteinase homolog 1	svSP
B0ZT25.1	Snake venom serine protease homolog	svSP
E0Y418.1	Serine protease VLSP-1	svSP
O93421.2	Snake venom serine protease pallase	svSP
Q9PT40.1	Snake venom serine protease homolog 2	svSP
XP_013917327.1	PREDICTED: serine/threonine-protein kinase Chk1 [Thamnophis sirtalis]	svSP
XP_025024784.1	Transmembrane protease serine 6 isoform X2 [Python bivittatus]	svSP
C0K3N5.1	Vascular endothelial growth factor A	VEGF
P67863.2	Snake venom vascular endothelial growth factor toxin vammin	VEGF
P82475.2	Snake venom vascular endothelial growth factor toxin ICPP	VEGF
P83942.1	Snake venom vascular endothelial growth factor toxin HF	VEGF
ABI33937.1	Hyaluronidase (Echis ocellatus)	-
ABK97627.1	Venom thrombin-like enzyme (Deinagkistrodon acutus)	-
ACU56823.1	HOXB8 (Pantherophis guttatus)	-
ADK22832.1	P31 beta subunit [Daboia siamensis]	-
ADU33212.1	Acocostatin, partial [Agkistrodon contortrix contortrix]	-
AFF84762.1	Glutamyl-peptide cyclotransferases [Daboia russelii]	-
AFP24383.1	Ubinuclein 1, partial [Xenodermus javanicus]	-
AHJ80887.1	Hyaluronidase, partial [Macrovipera lebetina]	-
AUF41653.1	RVV-X heavy chain [Daboia siamensis]	-
BAN89449.1	Glutamyl_cyclase, partial [Ovophis okinavensis]	-
P00761	Trypsin	-
P02769	Albumin	-
P04264	Keratin, type II cytoskeletal 1	-
P13645	Keratin, type I cytoskeletal 10	-
P15636	Protease 1	-

P35527	Keratin, type I cytoskeletal 9	-
P35908	Keratin, type II cytoskeletal 2 epidermal	-
Q7Z794	Keratin, type II cytoskeletal 1b	-
Q9NSB4	Keratin, type II cuticular Hb2	-
ETE56723.1	Endonuclease domain-containing 1 protein [Ophiophagus hannah]	-
ETE58102.1	Hypothetical protein L345_16178, partial [Ophiophagus hannah]	-
ETE66524.1	Nst1, partial [Ophiophagus hannah]	-
ETE70420.1	Exophilin-5, partial [Ophiophagus hannah]	-
JAA96189.1	Peroxiredoxin 4 [Crotalus horridus]	-
JAG68491.1	Calreticulin [Boiga irregularis]	-
KAG8123596.1	Putative TAF5-like RNA polymerase [Naja naja]	-
KAG8128877.1	Hypothetical protein E2320_015695 [Naja naja]	-
KAG8136626.1	Putative RNA polymerase-associated protein [Naja naja]	-
KAG8141965.1	Hypothetical protein E2320_006617 [Naja naja]	-
KAG8145547.1	Hypothetical protein E2320_012064 [Naja naja]	-
LAA19618.1	Hypothetical protein [Micrurus lemniscatus carvalhoi]	-
LAA25762.1	Hypothetical protein, partial [Micrurus lemniscatus carvalhoi]	-
LAA43750.1	Hypothetical protein, partial [Micrurus corallinus]	-
LAA56372.1	Hypothetical protein, partial [Micrurus corallinus]	-
LAA62011.1	Hypothetical protein, partial [Micrurus corallinus]	-
LAA71608.1	Hypothetical protein, partial [Micrurus lemniscatus lemniscatus]	-
LAB29196.1	Hypothetical protein, partial [Micrurus spixii]	-
LAB37760.1	Hypothetical protein, partial [Micrurus spixii]	-
LAB64500.1	Hypothetical protein [Micrurus surinamensis]	-
QHR82791.1	Dipeptidylpeptidase 1, partial [Vipera anatolica senliki]	-
QIV64919.1	MDC-6c [Crotalus scutulatus]	-
QIV64948.1	MDC-6d [Crotalus atrox]	-
C0HK18.1	Thrombin-like enzyme collinein-4	-
P82981.1	Thrombin-like enzyme contortrixobin	-
P85099.1	Cysteine-rich venom protein	-
P86530.1	Vipera russelli proteinase RVV-V homolog 1	-
Q2XXP4.1	Cysteine-rich venom protein TRI1	-
Q7ZZN9.1	Cysteine-rich venom protein	-
Q8JGT9.1	Cysteine-rich venom protein tigrin	-
Q8JI40.1	Cysteine-rich venom protein ablomin	-
XP_007422688.1	6-pyruvoyl tetrahydrobiopterin synthase-like [Python bivittatus]	-
XP_007427414.1	Hexokinase-1, partial [Python bivittatus]	-
XP_007437328.1	Glutaminyl-peptide cyclotransferase, partial [Python bivittatus]	-
XP_007440882.2	Peroxisomal sarcosine oxidase [Python bivittatus]	-
XP_013907429.1	PREDICTED: RWD domain-containing protein 4 isoform X4 [Thamnophis sirtalis]	-
XP_013912928.1	PREDICTED: protein FAM3C, partial [Thamnophis sirtalis]	-
XP_013914488.1	PREDICTED: solute carrier family 12 member 9-like [Thamnophis sirtalis]	-
XP_013918957.1	PREDICTED: sarcoplasmic/endoplasmic reticulum calcium atpase 1, partial [Thamnophis sirtalis]	-
XP_013926518.1	PREDICTED: CTD small phosphatase-like protein isoform X2 [Thamnophis sirtalis]	-
XP_013929066.1	PREDICTED: MLX-interacting protein-like [Thamnophis sirtalis]	-
XP_015665420.1	Ensconsin [Protobothrops mucrosquamatus]	-
XP_015665522.1	Mucin-16 [Protobothrops mucrosquamatus]	-
XP_015668343.1	Gap junction beta-7 protein [Protobothrops mucrosquamatus]	-
XP_015671453.1	Digestive cysteine proteinase 2-like [Protobothrops mucrosquamatus]	-
XP_015672073.1	Platelet-activating factor receptor isoform X2 [Protobothrops mucrosquamatus]	-

XP_015674826.1	Phosphatidylcholine transfer protein-like [Protobothrops mucrosquamatus]	-
XP_015680317.1	Junctional adhesion molecule A [Protobothrops mucrosquamatus]	-
XP_015680848.1	MAP7 domain-containing protein 2 isoform X3 [Protobothrops mucrosquamatus]	-
XP_015681883.1	Immunoglobulin superfamily member 21-like [Protobothrops mucrosquamatus]	-
XP_015686615.1	SWI/SNF-related matrix-associated actin-dependent regulator of chromatin subfamily A-like protein 1 [Protobothrops mucrosquamatus]	-
XP_015743212.1	Very large A-kinase anchor protein [Python bivittatus]	-
XP_025018835.1	CAP-Gly domain-containing linker protein 1 isoform X8 [Python bivittatus]	-
XP_025020032.1	Laminin subunit alpha-1 [Python bivittatus]	-
XP_025022500.1	Xylulose kinase isoform X3 [Python bivittatus]	-
XP_025023384.1	Uncharacterized protein LOC112540814 [Python bivittatus]	-
XP_025024064.1	Solute carrier family 22 member 13 isoform X2 [Python bivittatus]	-
XP_025027126.1	Golgi apparatus protein 1 [Python bivittatus]	-
XP_025030171.1	G-protein coupled receptor 39 [Python bivittatus]	-
XP_026522737.1	Sodium/hydrogen exchanger 2-like [Notechis scutatus]	-
XP_026523311.1	Alpha-N-acetylgalactosaminide alpha-2,6-sialyltransferase 1 [Notechis scutatus]	-
XP_026532445.1	Ras-responsive element-binding protein 1 isoform X2 [Notechis scutatus]	-
XP_026540811.1	Cerebral cavernous malformations 2 protein isoform X2 [Notechis scutatus]	-
XP_026541293.1	Coronin-1C [Notechis scutatus]	-
XP_026541680.1	Cholinesterase-like [Notechis scutatus]	-
XP_026546455.1	LOW QUALITY PROTEIN: migration and invasion-inhibitory protein-like, partial [Notechis scutatus]	-
XP_026550967.1	Dystonin isoform X1 [Pseudonaja textilis]	-
XP_026563934.1	Peptide-N(4)-(N-acetyl-beta-glucosaminyl)asparagine amidase isoform X2 [Pseudonaja textilis]	-
XP_026570101.1	MAP7 domain-containing protein 2 isoform X3 [Pseudonaja textilis]	-
XP_026570363.1	Probable jmjC domain-containing histone demethylation protein 2C isoform X3 [Pseudonaja textilis]	-
XP_026575361.1	Proteasome activator complex subunit 2 [Pseudonaja textilis]	-
XP_029139199.1	Synaptonemal complex protein 1 [Protobothrops mucrosquamatus]	-
XP_029140323.1	Oocyte-specific histone RNA stem-loop-binding protein 2-like [Protobothrops mucrosquamatus]	-
XP_029141667.1	Centriolin [Protobothrops mucrosquamatus]	-
XP_032067737.1	Deoxyribonuclease-2-alpha [Thamnophis elegans]	-
XP_032074299.1	Coiled-coil domain-containing protein 14 isoform X3 [Thamnophis elegans]	-
XP_032088814.1	Erythrocyte band 7 integral membrane protein-like [Thamnophis elegans]	-
XP_034262513.1	Beta,beta-carotene 9',10'-oxygenase-like [Pantherophis guttatus]	-
XP_034270024.1	Centrosome-associated protein CEP250 isoform X2 [Pantherophis guttatus]	-
XP_034272374.1	Centrosome-associated protein CEP250-like [Pantherophis guttatus]	-
XP_034279009.1	Albumin-like [Pantherophis guttatus]	-
XP_034279178.1	Protein KASH5 isoform X8 [Pantherophis guttatus]	-
XP_034284177.1	Ryanodine receptor 2 isoform X7 [Pantherophis guttatus]	-
XP_034286475.1	Transformation/transcription domain-associated protein [Pantherophis guttatus]	-
XP_039175458.1	Mesencephalic astrocyte-derived neurotrophic factor [Crotalus tigris]	-
XP_039180864.1	Deoxyribose-phosphate aldolase [Crotalus tigris]	-
XP_039185611.1	Titin homolog isoform X1 [Crotalus tigris]	-
XP_039193037.1	Potassium channel subfamily K member 5 [Crotalus tigris]	-
XP_039196843.1	Glutathione peroxidase 3 [Crotalus tigris]	-
XP_039202977.1	PHD finger protein 13-like [Crotalus tigris]	-
XP_039217459.1	Leucine-rich repeat LGI family member 2 [Crotalus tigris]	-
XP_039217465.1	Protein sel-1 homolog 3 isoform X2 [Crotalus tigris]	-
XP_039218278.1	Septin-6 isoform X3 [Crotalus tigris]	-
XP_039219335.1	Extracellular matrix protein 1 [Crotalus tigris]	-

Protein family	Count
svMP	61
svSP	35
PLA	26
SNACLEC	25
CRISP	10
Aminopeptidase	9
LAAO	8
Nucleotidase	8
svPDE	7
DIS	5
PLB	5
VEGF	3
NGF	1
-	107
TOTAL	245

svMP	Snake Venom Metalloprotease
svSP	Snake Venom Serine Protease
PLA	Phospholipase A
SNACLEC	Snake Venom Lectins
CRISP	Cysteine-rich secretory protein
LAAO	L-amino Acid Oxidase
svPDE	Snake Venom Phosphodiesterase
DIS	Disintegrin
PLB	Phospholipase B
VEGF	Snake venom vascular endothelial growth factors
NGF	Nerve growth factors