Supplemental table 1: Functional classification of tick salivary secreted proteins following RPSBlast to the TickSialoFam database with a minimum e value of 1e-4 and minimum model coverage of 67%.

Group	Total	Argasidae	Prostriate	Amblyomminae	Haemaphysalinae	Hyalomminae	Rhipicephalinae	References
Putative secreted								
Enzymes								
5'nucleotidase	65	5	25	13	0	2	20	[1-7]
Ectonucleotide pyrophosphatase/phosphodiesterase	17	3	2	1	2	1	8	
IPPase	30	3	3	8	2	1	13	[8-12]#
Serine protease	135	4	19	32	12	1	67	
Longistatin	53	5	14	13	1	2	18	[13-15]
Metalloprotease	680	30	253	129	10	26	232	[16-22]
M13_peptidase	105	3	24	32	1	9	36	
Cysteinyl_peptidase	149	7	16	37	17	6	66	
Dipeptidyl peptidase	24	0	3	7	3	2	9	[23]#
Serine carboxypeptidase	135	4	19	32	12	1	67	
Zinc carboxypeptidase	10	0	3	3	1	0	3	
Endonuclease	90	9	18	29	10	1	23	
Coesterase	70	7	12	4	13	4	30	
Lipase	40	1	8	3	8	2	18	
Lipase, pancreatic type	0	0	0	0	0	0	0	
Phospholipase	40	3	12	7	6	2	10	[24-26]#
Sphingomyelinase	22	0	2	5	4	1	10	[27]#
Peroxidase	30	1	4	2	3	0	20	[28]
Superoxide dismutase	33	0	9	7	4	1	12	
Protease inhibitors								
Cystatin	185	9	20	54	9	2	91	[29-52]
Kazal	11	1	1	4	1	0	4	
Kunitz	1,882	41	921	426	19	25	450	[53-89]
Saposin	7	1	1	1	1	0	3	
Serpin	107	10	18	28	14	3	34	[90-111]
SPARC/Kazal	23	4	2	8	1		8	[112] *
Thyropin	50	0	5	16	2	0	27	[112]*
TIL	442	11	84	133	14	7	193	[113, 114]
Carboxypeptidase_inhibitor	61	1	1	12	0	1	46	[115]
Tick -specific anti-clotting peptide	21	0	0	21	0	0	0	
Madanin	17	0	0	1	0	6	10	
Tick Hirudin	21	0	0	21	0	0	0	[72, 116-119]
Antimicrobial								
Defensin	69	8	21	21	0	2	17	[120-132]
Lysozyme	21	2	1	8	2	0	8	[133]
Microplusin	148	8	25	55	7	5	48	[134]
DAE-2	18	1	1	5	3	1	7	[135]
5.3kDa	148	0	110	34	0	1	3	[136, 137]
Immune related								
Catalytically inactive chitinase-like lectin	65	9	11	8	7	2	28	
Complement receptor	14	3	4	2	1	0	4	
Complement-binding protein	7	1	3	1	1	0	1	
Ficolin/Ixoderin	78	4	39	4	9	1	21	[138]
Malectin	11	1	3	5	1	0	1	
HVA22/Cytokine	8	0	1	3	1	0	3	
Interleukin17-like	12	1	5	3	0	0	3	
ML_domain	115	14	35	33	5	4	24	[114]*
Niemann-Pick	20	0	4	5	0	0	11	
TGF-beta propeptide	32	2	5	3	2	3	17	
Peptidoglycan_recognition_protein	47	1	25	9	0	1	11	
Toll4_associated	17	0	2	9	1	0	5	
Toll-like	159	10	33	30	18	5	63	
Ubiquitous protein families								
Antigen-5	90	1	40	5	3	3	38	
Calcitonin/calcitonin-related, adrenomedullin-a	10	10	0	0	0	0	0	[139, 140]
CalreticulinCalnexin	28	3	3	12	1	1	8	[141-143]
Cell adhesion molecule	14	2	5	1	1	0	5	
Coiled-coil domain-containing	17	1	0	10	1	0	5	
CUTA1	5	0	0	3	0	0	2	
CystineKnotToxin	12	3	3	2	1	1	2	
Down syndrome cell adhesion molecule	103	14	15	13	10	3	48	
EFh_CREC_Calumenin_like	30	2	6	11	2	0	9	
Fasciclin-1	11	0	1	2	1	1	6	
Fukutin	7	0	2	0	0	0	5	
Hematopoietic stem/progenitor cells -like	14	0	3	6	1	0	4	
Insulin_growth_factor	68	1	11	15	6	3	32	[144, 145]
Integrin	22	2	3	3	2	0	0	
Kielin/chordin-like	12	1	3	2	1	1	4	
Laminin	34	3	5	3	3	0	20	
Lipocalin	3,695	186	893	1,175	124	122	1,195	[146-164]
Low-density lipoprotein receptor	61	10	13	9	3	3	23	
MAM-domain	10	0	7	1	1	0	1	
OSTMP1	7	1	3	1	0	0	2	
Phosphatidylethanolamine binding	17	1	2	7	1	0	6	

Selenoprotein	21	2	6	5	2	0	6	
Serum amyloid A	29	5	2	11	1	1	9	
Synaptotagmin 1	14	4	2	2	1	1	4	
TMEM9	10	0	1	6	0	0	3	
Tick-specific families								
Amb-25-357	5	0	0	5	0	0	0	
Mys-25-289	5	0	2	0	0	1	2	
10kDa-WC	433	0	433	0	0	0	0	
12kDa	74	4	7	50	5	1	7	
12kDaBasic	16	1	7	4	0	0	4	
13-14kDa	91	3	75	9	0	1	3	
13kDa-Basic	20	0	3	9	2	1	5	
15kDaBasic	24	0	0	24	0	0	0	
17.7kDa	11	11	0	0	0	0	0	
18kDa	65	0	12	33	3	4	13	
19kDa	77	0	0	63	2	0	12	
23-24kDa	150	6	33	39	14	7	51	
28kDa	117	0	0	18	1	3	95	
7DB	36	36	0	0	0	0	0	
8.9kDa	614	5	111	292	6	23	177	[114]*
8kDa	12	0	0	7	0	0	5	
AlaRich	97	4	18	37	4	4	30	[114]*
Basic Proline-rich	15	0	0	15	0	0	0	
BSMAP	11	0	1	4	2	0	4	
BTSP (Basic Tail)	926	51	498	129	11	25	212	[165-168]
Cytotoxin	242	14	103	63	11	1	50	[114]*
DAP-36	150	1	50	36	5	5	53	[169-171]
Derm9kDa	11	0	0	0	0	0	11	
Evasin	361	1	34	180	4	18	124	[172-179]
GRP	623	16	132	222	12	20	221	[114]*
Hya-40-323	14	0	0	0	0	14	0	
Hyp_94	45	0	0	45	0	0	0	
Hyp2009	32	0	0	19	0	0	13	
Hyp30	21	1	16	3	1	0	0	
Hyp669	3	0	0	2	0	0	1	
Iri-30-136	12	0	12	0	0	0	0	
Iric-25-199	5	0	5	0	0	0	0	
IRIC-25-235	4	0	4	0	0	0	0	
ISAC	172	0	172	0	0	0	0	[180-183]
Ixodegrin	476	1	252	102	3	9	109	[54, 184-186]
Ixodegrin-like	17	0	2	0	1	2	12	
Met-35-461	10	0	0	0	0	0	10	
Mucin	476	9	42	263	18	15	129	[114]*
MYS-2	6	0	2	1	1	1	1	
MYS-25-271	3	1	0	0	0	1	1	
Mys-25-299	6	0	1	1	0	0	4	
Mys-25-342	5	0	0	3	0	0	2	
MYS-3	2	1	1	0	0	0	0	
Mys-30-170	19	2	4	5	1	0	7	
Mys-30-60	53	0	14	32	0	0	7	[114]*
Mys-30-94	22	0	0	11	0	4	7	
MYS-5	8	0	4	1	0	2	1	
OneOfEach	146	0	9	47	2	4	84	
Papa	25	0	0	22	0	0	3	
Prich	120	1	28	64	1	1	25	
Rapp-25-325	6	0	0	0	0	0	6	
Rapp-40-287	18	0	0	0	0	0	18	
Rhi-30-197	16	0	0	0	0	1	15	
Rhi-40-385	8	0	0	0	0	0	8	
RHIP-25-139	13	0	0	0	0	1	12	
Rpul-30-84	19	0	0	0	0	0	19	
Salp15/Ixostatin	999	1	965	17	1	1	14	
Tick-MYS1	9	0	5	3	0	0	1	
TickMys-2	7	0	3	4	0	0	0	
Transposon	74	4	33	3	1	3	30	
Vitelogenin-VWF	23	4	1	0	2	3	13	
YRP	18	0	2	15	0	0	1	
Total	16,983	658	5,952	4,534	508	447	4,872	

Enzymatic studies performed, but no demonstration of its molecular base.

* Indicates proteomic demonstration in saliva, but no functional study was completed.

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