

Mrot\ GAAAGGAAGTTGTCACGTGACGTCTGTCATATGATTCTAGTCAGGT
 Hsal\ GAAATGTACCAATCACGTGATATATATCATATGATCGCGAGAAGAT
 Lhum\ GAAGTGCATCGGCCACGTGACATGTGTCATATGATCGCGGGCAGTC
 Cflo\ GAAATGCATCGACCATGTGATCACAATCATATGATCAGGAGGTGGT
 Aech\ GAAGTGCATCGGCCACGTGATGCGAATCAGCGTCACGAGGTAATAG
 Acep\ GAAGTGCATCGGTTCACGTGATGCGAATCGGCGTCACGAGGTAACAG
 Sinv\ GAAGTGTATCGGCCACGTGACACAGAGTCGGCGTCACGACTGTCA
 Pbar\ GAAATCAGCCCGCACGTGATACGAGACGTACACGATCACGAGGG

5' / 5' UTR

Phum\ ttcctttgaacaTCATGTGcaatttacttct
 Lful\ cgattgtactgaTCACATGAttgcatgtgatg
 Dpul\ gcaccgtctgtgTCATGTGAtgaaaatttctg

Atp6ap1 gene structure comparisons:

(Click on orthologs for genomic, mRNA and protein sequence informations)

Key: UTR region, CDS region

Order	Species	Atp6ap1 orthologs	5'exon		intron	exon	intron	exon	intron	exon3'		Extended CLEAR region	Position	bps from TSS	
Diptera (Drosophilidae)	<i>Drosophila_melanogaster</i>	Dmel\VhaAC45	203	86	63	103	66	262	72	689		559	agctggtgcgcaTCACATGAccgtcataaggt	5'	-4
Diptera (Muscidae)	<i>Musca_domestica</i>	Mdom\Atp6ap1		86	69	103	343	265	63	698			atcgctctgtcaTCACATGActgattcaagat actgattcaagaTCATATGAatacgaagaat	5' 5'	>-230 >-211
Diptera (Tephritidae)	<i>Ceratitis_capitata</i>	Ccap\Atp6ap1		80	58	103	66	271	63	710		250	aattcgaatataTCACATGActgtcatgagca	5'	>-187
Diptera (Glossinidae)	<i>Glossina_morsitans</i>	Gmor\Atp6ap1	124	89	53	103	56	265	58	698		475	tatttttctaaTCACATGAcagtcatacgcg	5'	-57
Diptera (Psychodidae)	<i>Lutzomyia_longipalpis</i>	Llon\Atp6ap1	111	98	72	1087						gattcatcgcaaTCACATGAcaaacatcgaaa	5'	-4	
	<i>Phlebotomus_papatasi</i>	Ppap\Atp6ap1	48	98	55	1087					132	aaaaacatcgaaTCATATGAcacagagaatc	5'	-59	
Diptera (Culicidae)	<i>Anopheles_gambiae</i>	Agam\Atp6ap1 AGAP003879	117	101	67	1066					161	gttcgtaaacagTCAGGTGAcacaaaaagtgc gatgactttgcgTCACATGAtgcgtcatcga	5'UTR exon2	16 626	
	<i>Anopheles_arabiensis</i>	Aara\Atp6ap1		101	67	1066						gttcgtaaacagTCAGGTGAcacaaaaagtgc gatgactttgcgTCACATGAtgctctcatcga	5' exon2	>-96 >509	
	<i>Anopheles_quadriannulatus</i>	Aqan\Atp6ap1		101	67	1066						gttcgtaaacagTCAGGTGAcacaaaaagtgc gatgactttgcgTCACATGAtgctctcatcga	5' exon2	>-91 >509	
	<i>Anopheles_christyi</i>	Achr\Atp6ap1		101	85	1066						gttcgtaaacagTCAGGTGAtagaaaaaacg ggtgactttgcgTCACATGAtgcgtcatcga	5' exon2	>-96 >527	
	<i>Anopheles_epiroticus</i>	Aepi\Atp6ap1		104	111	1060						gttcgtaaacagTCAGGTGAcagagaaagggc gatgactttgcgTCACATGAcgccttgatcga	5' exon2	>-95 >556	
	<i>Anopheles_minimus</i>	Amin\Atp6ap1		104	72	1066						tacgtaccagttTCATATGAtttgtatttt tttcgtaaacagTCAGGTGAtagctagagcga	5' 5'	>-524 >-91	

											ggtgatttgcgTCACATGAcgccatcatcga	exon2	>517								
	<i>Anopheles_funestus</i>	Afun\Atp6ap1		104	74	1066					tttcgtaaacagTCAGGTGAttagcaaaagcg ggtgatttcgcgTCACATGAtgccgtcatcga	5' exon2	>-90 >519								
	<i>Anopheles_stephensi</i>	Aste\Atp6ap1	51	104	67	1063				115	tttcgtaaacagTCAGGTGAtagccacattc ggtgatttgcgTCACATGAcgccatcatcga	5' exon2	-42 586								
	<i>Anopheles_dirus</i>	Adir\Atp6ap1		101	94	1060					ttcgtaaaaagTCAGGTGAtaggaagaaaa ggtgacttgcgTCACATGAcacctcatcgg	5' exon2	>-91 >536								
	<i>Anopheles_nili</i>	Anil\Atp6ap1		101	82	1072					tgcctgaccgtgTCAGGTGAttcgtctcgcga ttcctgcaagtTCACATGAcgacgtgctcga ggtgacttgcgTCACATGAtgcgtcatcga	5' intron1 exon2	>-94 >145 >524								
	<i>Anopheles_albimanus</i>	Aalb\Atp6ap1		98	79	1093					ggcgattacgcaTCACATGAcgtctgatcga	exon2	>518								
	<i>Anopheles_darlingi</i>	Adar\Atp6ap1		98	78	1093					ggcgattacgcaTCACATGAtccctgatcga	exon2	>517								
	<i>Aedes_aegypti</i>	Aaeg\Atp6ap1 AAEL007777	164	92	127	109	324	966				139	aatcgaatcgtTCACGTGAaggaagcaagt ggcgggacgaggTCATGTGAtgtccttacgt aatgatttgcgTCACATGAtgcgtcatcga	5'UTR intron1 exon2	135 335 1054						
	<i>Culex_pipiens_qui.</i>	Cpip\Atp6ap1		110	59	1066					atcgtcattgcgTCAGTGAgtcagtacgag ggagtgaagggTCATGTGAtgtttgttttc gacgacttgcgTCACATGAcgtttgatcga	5' intron1 exon2	>-130 >144 >516								
Diptera (Cecidomyiidae)	<i>Mayetiola_destructor</i>	Mdes\Atp6ap1		1224					gcattgtcaaaaTCACTTGActttgggcccc				5'	>-110							
Lepidoptera	<i>Bombyx_mori</i>	Bmor\Atp6ap1	132	826				2037	164	955	219				99	cgtaacgtgaaTCATATGAtcactttTCACATGAccgatggctact	5'UTR?	-15			
	<i>Manduca sexta</i>	Msex\Atp6ap1	77	808				1403	161	347	219					gcgtcaagtaaTCATATGAtcattttTCACATGAccgatggttagt	5'	-24			
	<i>Danaus_plexippus</i>	Dple\Atp6ap1		817				897	167	139	219					cgtaacgtgaaTCATATGAtcactttTCACATGAccgatggctact	5'	>-101			
	<i>Heliconius_melpomene</i>	Hmel\Atp6ap1		817				522	155	323	219					gcgtcaagtaaTCATATGAtcactttTCACATGAccaatggttctt	5'	>-109			
	<i>Plutella_xylostella</i>	Pxyl\Atp6ap1	86	691				ND	138	610	128	ND	213					caagcgtaaaaTCATATGAtcattttTCACATGAcccgtgtcaaat	5'	>-111	
Coleoptera	<i>Tribolium_castaneum</i>	Tcas\Atp6ap1 LOC663029		17+156+112+50+271+49+86+51+263+53+193				45	207				273	tactcccaaaTCACGTGAtcttgtaaaagt gggcactcgaagTCATATGActtggttcagg				5' intron1	36 323		
Hymenoptera	<i>Apis_mellifera</i>	Ame\Atp6ap1 GB16678	138	273				87	351	80	549				372	gaaacaatgtaTCACGTGAcgtttgTCATATGAttctagtctagg				5'UTR	40/54
	<i>Apis_florea</i>	Aflo\Atp6ap1		273				87	351	74	558					gaaacaatgtaTCACGTGAcgtttgTCATATGAttctagtctagg				5'	>-89
	<i>Bombus_terrestris</i>	Bter\Atp6ap1 LOC100646562		267				87	357	87	573					gaaacaaagttaTCACGTGAcgtctgTCATATGAttctagcctagt				5'	>-98
	<i>Bombus_impatiens</i>	Bimp\Atp6ap1		267				87	357	87	573					gaaacaaagttaTCACGTGAcgtctgTCATATGAttctagcctagt				5'	>-98
	<i>Megachile_rotundata</i>	Mrot\Atp6ap1		270				84	360	67	552					gaaaggaagttgTCACGTGAcgtctgTCATATGAttctagtcaggt				5'	>-98
	<i>Acromyrmex_echinator</i>	Aech\Atp6ap1		276				1148	291	204	513					gaagtgcacggCCACGTGAtcggaatcagcg				5'	>-130
	<i>Atta_cephalotes</i>	Acep\Atp6ap1		285				1104	303	203	525					gaagtgcacggTCACGTGAtcggaatcggcg				5'	>-130

	<i>Solenopsis_invicta</i>	Sin\Atp6ap1		279	498	303	391	528						gaagtgtatcggCCACGTGAcacacgagtcgg	5'	>-131				
	<i>Camponotus_floridanus</i>	Cflo\Atp6ap1		282	130	306	202	534						attaaagattatTCATGTGActttataacaa atgtgactcacaTCATATGAtcagaggtggt	5' 5'	>-193 >-107				
	<i>Harpegnathos_saltator</i>	Hsal\Atp6ap1		285	414	309	217	528						gaaatgtaccaTCACGTGAtatataTCATATGAtcgcgagaagat	5'	>-100				
	<i>Pogonomyrmex_barbatus</i>	Pbar\Atp6ap1		279	493	303	102	528						gaaatcagcccGCCACGTGAtacgagacgtca	5'	>-117				
	<i>Linepithema_humile</i>	Lhum\Atp6ap1		288	345	306	120	528						gaagtgcacggCCACGTGAcattgtTCATATGAtcgcgggcagtc	5'	>-93				
	<i>Nasonia_vitripennis</i>																			
	<i>Nasonia_giraulti</i>																			
	<i>Nasonia_longicornis</i>																			
Odonata	<i>Ladona_fulva</i>	Lful\Atp6ap1		960				375	198	75	225						cgattgtactgaTCACATGAttgcattgatg	5'UTR?	>-10	
Hemiptera	<i>Acyrtosiphon_pisum</i>	Apis\Atp6ap1 LOC100169264	146	241			1030	518	60	267	ND	213						ccttgacgaTCACGTGAatcattgctt	exon3	2010
	<i>Rhodnius_prolixus</i>											210								
Phthiraptera	<i>Pediculus_humanus</i>	Phum\Atp6ap1 PHUM457150		238	95	318	76	200	74	195	114	210						ttccttgaacaTCATGTGAcaatttactct	5'	>-113
Crustacea	<i>Daphnia_pulex</i>	Dpul\Atp6ap1		104	104	106	60	265	63	86	58	176+63+153+84+288+71+169						gcaccgtctgtTCATGTGAtgaaaattctg	5'	>-79
Aracnida	<i>Ixodes_scapularis</i>																			