

Gene Cluster ID	Atp6v0c
Drosophila melanogaster gene	Vha16-1 (CG3161)
FlyBase ID	FBgn0262736
Predicted function	ATPase, H ⁺ transporting, lysosomal 16kDa, V0 subunit c
Atp6v0c CLEAR element conservation:	
Ccap\	<div>5'</div> <div>TGCTTCACGTGAGCTG</div> <div>5'</div> <div>ATTTTCATATGAATCT</div> <div>5'</div> <div>TTGGTCATATGACCAA</div> <div>intron</div> <div>CCAGTCACATGAGTAA</div> <div>intron</div> <div>CGTGTACACGTGACATT</div> <div>intron</div> <div>GAAATCACATGACTGT</div> <div>intron</div> <div>CTTGTTCATGTGATTAA</div>
Mdom\	<div>5'/5'UTR</div> <div>TAAATCATATGACTTT</div> <div>intron</div> <div>AGTTTCATGTGAAGCTC</div> <div>intron</div> <div>TTAAATCATGTGACTGA</div> <div>intron</div> <div>AGTATCATGTGACCAG</div>
Gmor\	<div>5'/5'UTR</div> <div>-----</div> <div>intron</div> <div>TAAGTCATATGACCAA</div> <div>intron</div> <div>-----</div> <div>intron</div> <div>-----</div>
Llon\	<div>5'/5'UTR</div> <div>GTTGGTCATGTGACGAA</div> <div>intron</div> <div>TCTGTTCATATGACTTC</div> <div>intron</div> <div>CGAATTCATGTGACTCC</div> <div>intron</div> <div>GAATTTCATGTGATTTT</div>
Ppap\	<div>5'/5'UTR</div> <div>ATGGTCATGTGACAGC</div> <div>intron</div> <div>TCTGTTCATATGACCTT</div> <div>intron</div> <div>GCAATTCATGTGACTCC</div> <div>intron</div> <div>AAATTTCATGTGATTTT</div>
Agam\	<div>5'/5'UTR</div> <div>CTGGTCATATGATGAT</div> <div>intron</div> <div>CGTGTTCATGTGAGCCC</div> <div>intron</div> <div>GCTGTTCACATGATCGA</div> <div>intron</div> <div>TGTGTTCATATGACCGA</div> <div>intron</div> <div>TTGATTCATGTGACGG</div> <div>intron</div> <div>ATCTTCACGTGATCGC</div> <div>intron</div> <div>GTCGTTCATGTGACCGC</div>
Aara\	<div>5'/5'UTR</div> <div>CTGGTCATATGATGGT</div> <div>intron</div> <div>CGTGTTCATGTGAGCCC</div> <div>intron</div> <div>GCTGTTCACATGATCGA</div> <div>intron</div> <div>CGTGTTCATATGACCGA</div> <div>intron</div> <div>TTGATTCATGTGACGG</div> <div>intron</div> <div>ATCTTCACGTGATCGC</div> <div>intron</div> <div>GTCGTTCATGTGACCGC</div>
Aqan\	<div>5'/5'UTR</div> <div>CTGGTCATATGATGGT</div> <div>intron</div> <div>CGTGTTCATGTGAGCCC</div> <div>intron</div> <div>GCTGTTCACATGATCGA</div> <div>intron</div> <div>TGTGTTCATATGACCGA</div> <div>intron</div> <div>TTGATTCATGTGACGG</div> <div>intron</div> <div>ATCTTCACGTGATCGC</div> <div>intron</div> <div>GTCGTTCATGTGACCGC</div>
Achr\	<div>5'/5'UTR</div> <div>CAGGTTCATATGACGGT</div> <div>intron</div> <div>CGTGTTCATGTGAGCCC</div> <div>intron</div> <div>GCTGTTCACATGATCGA</div> <div>intron</div> <div>GGAGTCATATGACCGC</div> <div>intron</div> <div>ATGATTCATGTGACGC</div> <div>intron</div> <div>ATCTTCACGTGATCGC</div> <div>intron</div> <div>GTCGTTCATGTGACCGC</div>
Aepi\	<div>5'/5'UTR</div> <div>CAGGTTCATATGATGGC</div> <div>intron</div> <div>CGTGTTCATGTGAGCCC</div> <div>intron</div> <div>GCTGTTCACATGATCGG</div> <div>intron</div> <div>GGAGTCATATGACCGC</div> <div>intron</div> <div>TTGATTCATGTGAGAAC</div> <div>intron</div> <div>ATCTTCACGTGATCGC</div> <div>intron</div> <div>GTCGTTCATGTGACTAC</div>
Amin\	<div>5'/5'UTR</div> <div>CAGGTTCATATGATGCC</div> <div>intron</div> <div>CGTGTTCATGTGAGCCC</div> <div>intron</div> <div>TCTGTTCACATGATCGG</div> <div>intron</div> <div>GGAGTCATATGACCGA</div> <div>intron</div> <div>ATGATTCATGTGACGC</div> <div>intron</div> <div>ATCTTCACGTGATCGT</div> <div>intron</div> <div>GTCGTTCATGTGACCCC</div>
Afun\	<div>5'/5'UTR</div> <div>CAGGTTCATATGATGGT</div> <div>intron</div> <div>CGTGTTCATGTGAGCCC</div> <div>intron</div> <div>TCTGTTCACATGATCGG</div> <div>intron</div> <div>TCAGTCATATGACCGA</div> <div>intron</div> <div>ATGATTCATGTGACGC</div> <div>intron</div> <div>ATCTTCACGTGATCGC</div> <div>intron</div> <div>GTCGTTCATGTGACCCC</div>
Aste\	<div>5'/5'UTR</div> <div>CAGGTTCATATGATGGT</div> <div>intron</div> <div>CGTGTTCATGTGAGCCC</div> <div>intron</div> <div>TCTGTTCACATGATCGG</div> <div>intron</div> <div>GAAGTCATATGACCGA</div> <div>intron</div> <div>ATGATTCATGTGACGC</div> <div>intron</div> <div>ATCTTCACGTGATCGC</div> <div>intron</div> <div>GTCGTTCATGTGACCCC</div>
Adir\	<div>5'/5'UTR</div> <div>CAGGTTCATATGATAGC</div> <div>intron</div> <div>GGTGTTCATGTGAGCCC</div> <div>intron</div> <div>TCTGTTCACATGATCGA</div> <div>intron</div> <div>ACCATTCATCTGACCAC</div> <div>intron</div> <div>GTGATTCATGTGACGC</div> <div>intron</div> <div>ATCTTCACGTGATCGG</div> <div>intron</div> <div>GTCGTTCATGTGACCTG</div>
Anil\	<div>5'/5'UTR</div> <div>CAGGTTCATATGATGGT</div> <div>intron</div> <div>ACTGTTCATGTGAGCGC</div> <div>intron</div> <div>TCTGTTCACATGACCCA</div> <div>intron</div> <div>AAAAATCATATGACCGA</div> <div>intron</div> <div>GATATTCATGTGACGAG</div> <div>intron</div> <div>ATCTTCACGTGATCGC</div> <div>intron</div> <div>GCCATTCATGTGACCCCT</div>
Aalb\	<div>5'/5'UTR</div> <div>CTGGTCATATGACGCT</div> <div>intron</div> <div>ATCGTTCATGTGACGCC</div> <div>intron</div> <div>TGGGTTCACATGATGAT</div> <div>intron</div> <div>ATCCTTCACGTGAGGTC</div> <div>intron</div> <div>GTGATTCATGTGACGC</div> <div>intron</div> <div>ATCTTCACGTGATACT</div> <div>intron</div> <div>ACCGTTCATGTGACACA</div>
Adar\	<div>5'/5'UTR</div> <div>-----</div> <div>intron</div> <div>ATCGTTCATGTGAGCGC</div> <div>intron</div> <div>TGGGTTCACATGATGAT</div> <div>intron</div> <div>-----</div> <div>intron</div> <div>GTGATTCATGTGACGC</div> <div>intron</div> <div>ATCTTCACGTGATACT</div> <div>intron</div> <div>ATCATTCATGTGACACA</div>
Aaeg\	<div>5'/5'UTR</div> <div>ACAGTCATGTGATTAC</div> <div>intron</div> <div>-----</div> <div>intron</div> <div>CGAATTCATGTGACGTC</div> <div>intron</div> <div>GTGTTCATGTGACATA</div> <div>intron</div> <div>GCTTTTCACATGACAA</div> <div>intron</div> <div>AGAGTCATGTGAGCGT</div> <div>intron</div> <div>-----</div>
Cqui\	<div>5'/5'UTR</div> <div>CAAGTCATGTGACAG</div> <div>intron</div> <div>AACGTTCATATGATCAC</div> <div>intron</div> <div>TCAGTCATGTGACGTC</div> <div>intron</div> <div>AAATTCACATGAGACA</div> <div>intron</div> <div>CAAGTCATATGACTTG</div> <div>intron</div> <div>CTGGTCATGTGAGAGT</div> <div>intron</div> <div>CAAGTCATGTGATACG</div>
Mdes\	<div>5'/5'UTR</div> <div>TGTGTTCATATGACCAT</div> <div>intron</div> <div>ACAAATCATATGAATGA</div> <div>intron</div> <div>AACGTTCACATGATTA</div> <div>intron</div> <div>ATGCTTCATGTGATTGA</div> <div>intron</div> <div>-----</div> <div>intron</div> <div>AGATTCATGTGATCAT</div> <div>intron</div> <div>ATATTCACGTGAGATA</div> <div>intron</div> <div>TCTGTTCATGTGAAGA</div>
Bmor\	<div>5'/5'UTR</div> <div>CAACATCTCTCGTCATATGACCCATTCTGTG</div> <div>intron</div> <div>ATTGTTCATGTGATAGA</div> <div>intron</div> <div>ATTGTTCACATGA-CAT-TACT--TGTAATCATGTGACTTG</div> <div>intron</div> <div>ataaTCATGTGAttct</div> <div>intron</div> <div>caagTCACATGAttgt</div> <div>intron</div> <div>-----</div>
Msex\	<div>5'/5'UTR</div> <div>GAACATCAATCGTCATATGACCCATTCTATCG</div> <div>intron</div> <div>GGAGTCATGTGATTGA</div> <div>intron</div> <div>TTAGTCACATGA-CAG-TACA----ATCATGTGACCAA</div> <div>intron</div> <div>taggTCACATGAtttt</div> <div>intron</div> <div>gctgTCACATGAcAAA</div> <div>intron</div> <div>tacaTCACATGAttt</div>
Hmel\	<div>5'/5'UTR</div> <div>GAACATCAATCGTCATATGACCCATTCTACCG</div> <div>intron</div> <div>TCAATCATGTGATTGA</div> <div>intron</div> <div>AAAAATCATGTGA-CT--TCAC--TTAATTCATGTGATGAA</div> <div>intron</div> <div>-----</div> <div>intron</div> <div>-----</div>
Dple\	<div>5'/5'UTR</div> <div>GAACATCAATCGTCATATGACCCATTCTATTG</div> <div>intron</div> <div>GATATTCATGTGATTGA</div> <div>intron</div> <div>ATCAATCATATGA-CTGATAAT--TTGGTCATGTGATTAA</div>

Sinv\

GCTCGTCACTCA

TCACATGA

CCCGCGCCACTG

CTTGTGCGATTG

TCATGTGA

CTGC-----CAACGTGAGAA

TCATGTGACTGCAATT

TCCA

Cflo\

GCTCGTCACTCA

TCACATGA

CCCGCGCCACCG

GGGACTTGATTG

TCATGTGA

CTGC-----CAACGTGAGAA

TCATGTGACTGCGACT

TCCA

Pbar\

ACTCGTCACTCA

TCACATGA

CCCGCGCCACTG

CTTGTACGATTG

TCATGTGACTGC-----CAACGTGAGAA

TCATGTGACTGCGATT

TACCA

Lhum\

GCTCGTCACTCA

TCACATGA

CCCGCGCCACAG

CTTGACGATTG

TCATGTGA

CTGC-----CAACGTGAGAA

TCATGTGACTGTAATT

TCCA

Hsal\

GCTCGTCACTCA

TCACATGA

CCCGTGCCCGTG

CTTGACGATTG

TCATGTGA

CTGC-----CAACGTGAGAA

TCATGTGACTGCGATC

TCCA

Ngir\

CAGCTCGGCTCG

TCACATGA

CCGCGCGCAGCC

TACATGCGATTG

TCATGTGACTCGTGAGCG

CAACGTGAGAGTCATGTGACTGGCTGT

GGGG

Nlon\

CAGCTCGGCTCG

TCACATGA

CCGCGCGCAGCC

TACATGCGATTG

TCATGTGACTCGTGAGCG

CAACGTGAGAGTCATGTGACTGGCTGT

GGGG

Nvit\

CAGCTCGGCTCG

TCACATGA

CCGCGCGCAGCC

TACATGCGATTG

TCATGTGACTCGAGAGCG

CAACGTGAGAGTCATGTGACTGGCTGT

GGGG

Lful\

AATCTTCTCACA

TCACATGA

CCCTCTCTCACA

Rpro\

gctaaccctcaa

TCACATGA

tcatatctacct

Phum\

aatttcgattca

TCACATGA

ccctctgtact

Dpul\

agggtccttcgg

TCACGTGA

accacgagtcacg

Isca\

aaaacgctccca

TCACGTGA

tataaaaataaa

cgggtcgtgcaa

TCATGTGA

ctgagattccgc

aatggggtgttt

TCACATGA

cgtcgatctgcc

Atpv0c gene structure comparisons:

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

Key: UTR region, CDS region

Order	Species	Atp6v0c orthologs	5' exon	intron	exon	intron	exon	intron	exon3'	Extended CLEAR region	Position	bps from TSS
Diptera (Drosophilidae)	<i>Drosophila_melanogaster</i>	Dmel\Vha16-1	134		2985	4105	190	57	2052228	ttagatttctaaTCACGTGAgtgaaaagcag (8 CLEAR elements)	exon/int intron1	130
Diptera (Muscidae)	<i>Musca_domestica</i>	Mdom\Atp6v0c			76	2950	190	102	205	atatgacttaaTCATATGActtgactgcaa (4 CLEAR elements)	5' intron1	>-1056
Diptera (Tephritidae)	<i>Ceratitis_capitata</i>	Ccap\Atp6v0c	99	1115	4382	6761	190	125	205278	tacaacctgctTCACGTGAgtgtcaataaa (7 CLEAR elements)	5' intron	-681
Diptera (Glossinidae)	<i>Glossina_morsitans</i>	Gmor\Atp6v0c	94	750	12482	1722	190	68	205180	aacttttgaagTCATATGAccaaatgaaaaa	5'	-168
Diptera (Psychodidae)	<i>Lutzomyia_longipalpis</i>	Llon\Atp6v0c			79	8538	190	88	205180	ctgtttttctgTCATATGActtgtaaaatt (7 CLEAR elements)	5'	>-289
	<i>Phlebotomus_papatasi</i>	Ppap\Atp6v0c			79	5505?	190	ND	205	ctgagctttctgTCATATGAccctgtccaag (5 CLEAR elements)	5'	>-296
Diptera (Culicidae)	<i>Anopheles_gambiae</i>	Agam\atp6v0c AGAP028154			19579	4335	190	1143	205470	accgttcgctggTCATATGAtgataaccgcta (7 CLEAR elemnts)	5' intron1	1080
	<i>Anopheles_arabiensis</i>	Aara\Atp6v0c			79	4377	190	1167	205	accgttcgctggTCATATGAtgtaaccgcta (7 CLEAR elemnts)	5' intron1	>-1273
	<i>Anopheles_quadriannulatus</i>	Aqan\Atp6v0c			79	4346	190	1144	205	accgttcgctggTCATATGAtgtaaccgcta (7 CLEAR elemnts)	5' intron1	>-1272
	<i>Anopheles_christyi</i>	Achr\Atp6v0c			79	3957?	190	>483	205	acaatttcaggTCATATGAcggtagccgcta (7 CLEAR elemnts)	5' intron1	>-1127
	<i>Anopheles_epirocticus</i>	Aepi\Atp6v0c			79	3936	190	740	205	caaacacgaggTCATATGAtggccagcaaac (7 CLEAR elemnts)	5' intron1	>-1267
	<i>Anopheles_minimus</i>	Amin\Atp6v0c			79	3587	190	572	205	acaatttcaggTCATATGAtgccaagctaa (8 CLEAR elemnts)	5' intron1	>-1052
	<i>Anopheles_funestus</i>	Afun\Atp6v0c			79	3832	190	575	205	acaatttcaggTCATATGAtgtaaaagctaa (7 CLEAR elemnts)	5' intron1	>-1114

	<i>Anopheles_stephensi</i>	Aste\Atp6v0c				79	3944	190	673	205		gcgatacgcaggTCATATGAtggtgaggctag (9 CLEAR elemnts)	5' intron1	>-1269	
	<i>Anopheles_dirus</i>	Adir\Atp6v0c				79	4584	190	901	205		gtgctgagcaggTCATGTGAtagcggtgcaaa (6 CLEAR elemnts)	5' intron1	>-1081	
	<i>Anopheles_nili</i>	Anil\Atp6v0c				79	3459	190	843	205		tcggtacgcaggTCATATGAtggtaaagctaa (7 CLEAR elemnts)	5' intron1	>-1422	
	<i>Anopheles_albimanus</i>	Aalb\Atp6v0c				79	3308	190	444	205		ggacaggggctggTCATATGAcgtagctactg (7 CLEAR elemnts)	intron1	>-956	
	<i>Anopheles_darlingi</i>	Adar\Atp6v0c				79	3187	190	480	205	421	aaatcgTCATGTGAaatcgTCATGTGAgcgcaa (7 CLEAR elemnts)	intron1	>-270	
	<i>Aedes_aegypti</i>	Aaeg\Atp6v0c AAEL000291				176	79	14503	7422	205	421	tttgccagacagTCATGTGAttacattcgtgt (5 CLEAR elements)	5'	-260	
	<i>Culex_pipiens_qui.</i>	Cqui\Atp6v0c CPIJ011018				139	79	9830	190	3506	205	100	ccacacgcaagTCATGTGAaccgaactcgtg (7 CLEAR elemnts)	5' intron1	-164 370
Diptera (Cecidomyiidae)	<i>Mayetiola_destructor</i>	Mdes\Atp6v0c				88	4932	190	79	205		catagccgtgtgTCATATGAaccattttatac (7 CLEAR elements)	5' intron1	>-471	
Lepidoptera	<i>Bombyx_mori</i>	Bmor\Atp6v0c				73	1501	190	1221	205	275	caacattcttgTCATATGAaccattctgttg (4 CLEAR elements)	5' intron1	>-130	
	<i>Manduca sexta</i>	Msex\Atp6v0c				70	2514	187	1163	208		gaacatcaatcgTCATATGAaccattctatcg (6 CLEAR elements)	5' intron1	>-129	
	<i>Danaus_plexippus</i>	Dple\Atp6v0c				73	1511	190	221	211		gaacatcaatcgTCATATGAaccattctattg (5 CLEAR elements)	5' intron1	>-130	
	<i>Heliconius_melpomene</i>	Hmel\Atp6v0c				73	1931	190	991	211		gaacatcaatcgTCATATGAaccattctaccg (7 CLEAR elements)	5' intron1	>-135	
	<i>Plutella_xylostella</i>	Pxy\Atp6v0c				66	73	1933	779	208	255	gaacatcaatcgTCATATGAaccattctaccg (5 CLEAR elements)	5' intron1	>-135	
Strepsiptera	<i>Mengenilla_moldrzyki</i>	Mmol\Atp6v0c				477						ND			
Coleoptera	<i>Tribolium_castaneum</i>	Tcas\Atp6v0c LOC656327				99	82	2459	193	ND	205	273	aatttctaategTCATATGAaccattctgct (8 CLEAR elements)	5'	-16
	<i>Dendroctonus_ponderosae</i>	Dpon\Atp6v0c				120	85	ND	193	678	208	217	attttctatcgTCATATGAaccattctgct (7 CLEAR elements)	5'	-4
Hymenoptera	<i>Apis_mellifera</i>	Ame\Atp6v0c GB19405				58	76	1840	190	556	205	53	actcgtcaactgTCACATGAaccgcactcctg (3 CLEAR elements)	5' intron1	-91
	<i>Apis_florea</i>	Aflo\Atp6v0c					76	1810	190	588	205		actcgtcaactgTCACATGAaccgcactcctg (3 CLEAR elements)	5' intron1	>-149
	<i>Bombus_terrestris</i>	Bter\Atp6v0c					85	2086	190	539	205		actcgtcaactgTCACATGAaccgcactcctg (3 CLEAR elements)	5' intron1	>-150
	<i>Bombus_impatiens</i>	Bimp\Atp6v0c					85	2091	190	538	205		actcgtcaactgTCACATGAaccgcactcctg (3 CLEAR elements)	5' intron1	>-150
	<i>Megachile_rotundata</i>	Mrot\Atp6v0c					76	2472	190	787	205		ggcctgcaactgTCACATGAaccgcactcctg (3 CLEAR elements)	5' intron1	>-150
	<i>Acromyrmex_echinatior</i>	Aech\Atp6a0c					79	3543	190	186	205		gctcgtcaactcaTCACATGAaccgcgcactg (3 CLEAR elements)	5' intron1	>-180
	<i>Atta_cephalotes</i>	Acep\Atp6v0c					76	3488	190	182	205		gctcgtcaactcaTCACATGAaccgcgcactg (3 CLEAR elements)	5' intron1	>-182

	<i>Solenopsis_invicta</i>	Sinv\Atp6v0c				79	3010	190	191	205		gctcgtcactcaTCACATGAccecgccactg (3 CLEAR elements)	5' intron1	>-177
	<i>Pogonomyrmex_barbatus</i>	Pbar\Atp6v0c				76	2937	187	256	208		actcgtcactcaTCACATGAccecgccactg (3 CLEAR elements)	5' intron1	>-173
	<i>Camponotus_floridanus</i>	Cflo\Atp6v0c				82	2659	190	224	205		gctcgtcactcaTCACATGAccecgccaccg (3 CLEAR elements)	5' intron1	>-176
	<i>Linepithema_humile</i>	Lhum\Atp6v0c				79	2561	190	166	205		gctcgtcactcaTCACATGAccecgccacag (3 CLEAR elements)	5' intron1	>-173
	<i>Harpegnathos_saltator</i>	Hsal\Atp6v0c				82	2639	187	446	205		gctcgtcactcaTCACATGAccegtgccctg (3 CLEAR elements)	5' intron1	>-174
	<i>Nasonia_vitripennis</i>	Nvit\Atp6v0c			254	88	2051	190	88	211	447	cagctcggctcgTCACATGAccecgccagcc (3 CLEAR elements)	5' intron1	-64
	<i>Nasonia_giraulti</i>	Ngir\Atp6v0c				88	ND	190	88	211		cagctcggctcgTCACATGAccecgccagcc (3 CLEAR elements)	5' intron1	>-334
	<i>Nasonia_longicornis</i>	Nlon\Atp6v0c				88	ND	190	88	211		cagctcggctcgTCACATGAccecgccagcc (3 CLEAR elements)	5' intron1	>-331
Hemiptera	<i>Acyrtosiphon_pisum</i>	Apis\Atp6v0c			376	82	2440	190	109	205		ND		
	<i>Rhodnius_prolixus</i>	Rpro\Atp6a0c				79	2505	190	1608	205		getaaccctcaaTCACATGAtcatatcact	5'	>-152
Phthiraptera	<i>Pediculus_humanus</i>	Phum\Atp6a0c				ND	ND	184	105	205		aatttcgattcaTCACATGAcctctgctact	5'	>-139
Odonata	<i>Ladona_fulva</i>	Lful\Atp6v0c				82	372	190	1279	205		aatctctcacaTCACATGAcctctctcaca	5'	>-116
Crustacea	<i>Daphnia_pulex</i>	Dpu\Atp6a0c			72	91	332	190	59	205	181	agggtccttcggTCACGTGAcccaggtcacg	5'	-79
Ixodida	<i>Ixodes_scapularis</i>	Isca\Atp6v0c-1 ISCW018346			152	76	2174	184	1782	208	1126	aaaacgtccccaTCACGTGAtataaaaaataa (3 CLEAR elements)	5' intron1	-26
		Isca\Atp6v0c-2 ISCW012283				471						ND		
	<i>Homo_sapiens</i>	ATP6V0C			234	79	5035	184	139	205	478	gcggggccccaggTCATGTGAcggcgccgcggc	5'UTR	53
Cnidaria	<i>Nematostella_vectensis</i>	v1g162114			92	76	74	159	1262	25	612	211	826	ND
Placozoa	<i>Trichoplax_adhaerens</i>	Tadh\Atp6v0c			98	79	211	159	141	28	904	211	47	ND