Gene Cluster ID	Atp6ap1
Drosophila melanogaster gene	**VhaAC45 (CG8029)**
FlyBase ID	FBgn0262515
Predicted function	**ATPase, H+ transporting, lysosomal accessory protein 1**
Protein size	379 amino acids
Cytogenetic map	2R:45B4-45B4
Gene sequence location	2R:5095067..5097169[+]
Dmel CLEAR sequence	**TCACATGA**
CLEAR sequence location	2R:5095055..5095062

FlyBase VhaAC45 (CG8029) gene model & CLEAR element (red) position:

Dmel\	AGCTGGTGCGCA**TCACATGA**CCGTCATAAGGT
Dsim\	AGCTGGTGCGCA**TCACATGA**CCGTCATAAGGT
Dsec\	AGCTGGTGCGCA**TCACATGA**CCGTCATAAGGT
Dyak\	AGCTGGTGCGCA**TCACATGA**CCGTCATAAGGT
Dere\	AGCTGGTCCGCA**TCACATGA**CCGTCATAAGGT
Dbia\	AGCTGGTGCGCA**TCACATGA**CCGTCATAAGGT
Dsuz\	AGCTGGTGCGCA**TCACATGA**CCGTCATAAGGT
Dtak\	AGCTGGTGCGCA**TCACATGA**CCGTCATAAGGT
Deug\	AGCTGGTGTACA**TCACATGA**CCGTCATAAGGT
Dele\	AGCTGGTGCGCA**TCACATGA**CCGTCATAAGGT
Drho\	AGCTGGTGCGCA**TCACATGA**CCGTCATAAGGT
Dfic\	AGCTGGTGCGCA**TCACATGA**CCGTCATAAGGT
Dkik\	AGCTGCTGCGCA**TCACATGA**CCGTCACAAGTT
Dbip\	GCTGGTCGTCCA**TCACATGA**CCGTCATAAGGT
Dana\	GCTGGTCGTCCA**TCACATGA**CCGTCATAAGGT
Dpse\	GCGGCCACACGA**TCACATGA**TTTGGTCGGTCA
Dper\	GCGGCCACACGA**TCACATGA**TTTGGTCGGTCA
Dmir\	GCGGTCACACGA**TCACATGA**TTTAGTCGGTCA
Dwil\	TGCCACCTCTAA**TCACATGA**CCGTACCGTCAT
Dmoj\	GCTGCTTGGCCA**TCACATGA**CCTGTCATATGA
Dvir\	GCTGGTCGCCCA**TCACATGA**CCTGTCATATGA
Dgri\	GCTGGTCGGCCA**TCACATGA**CATGTCATATGA

VhaAC45 (CG8029) gene structure comparison in Drosophila species:

Key: UTR region, CDS region

Species	VhaAC45 Atp6ap1 orthologs	5'exon	intron	exon	intron	exon	intron	exon3'		Extended CLEAR region	Position	bps from TSS
Drosophila_melanogaster	Dmel\VhaAC45	203	86	63	103	66	262	72	689	559	agctggtgcgcaTCACATGAccgtcataaggt	5'	-4
Drosophila_simulans	Dsim\GD10644		86	63	103	65	262	73	689		agctggtgcgcaTCACATGAccgtcataaggt	5'	>-206
Drosophila_sechellia	Dsec\GM21109		86	63	103	65	262	73	689		agctggtgcgcaTCACATGAccgtcataaggt	5'	>-206

Species	Gene										Sequence		
Drosophila_yakuba	Dyak\GE19265		86	63	103	63	262	73	689		agctggtgcgcaTCACATGAccgtcataaggt	5'	>-206
Drosophila_erecta	Dere\GG23426		86	62	103	63	262	62	689		agctggtccgcaTCACATGAccgtcataaggt	5'	>-206
Drosophila_biarmipes	Dbia\VhaAC45		86	62	103	63	262	61	695		agctggtgcgcaTCACATGAccgtcataaggt	5'	>-208
Drosophila_suzukii	Dsuz\VhaAC45		86	71	103	71	262	74	695		agctggtgcgcaTCACATGAccgtcataaggt	5'	>-208
Drosophila_takahashii	Dtak\VhaAC45		86	61	103	80	262	71	695		agctggtgcgcaTCACATGAccgtcataaggt	5'	>-202
Drosophila_ficusphila	Dfic\VhaAC45		86	63	103	66	262	64	695		agctggtgcgcaTCACATGAccgtcataaggt	5'	>-205
Drosophila_eugracilis	Deug\VhaAC45		86	72	103	82	262	64	677		agctggtgtacaTCACATGAccgtcataaggt	5'	>-203
Drosophila_elegans	Dele\VhaAC45		86	74	103	71	262	71	695		agctggtgcgcaTCACATGAccgtcataaggt	5'	>-205
Drosophila_rhopaloa	Drho\VhaAC45		86	68	103	68	262	63	695		agctggtgcgcaTCACATGAccgtcataaggt	5'	>-203
Drosophila_kikkawai	Dkik\VhaAC45		86	68	103	63	262	67	695		agctgctgcgcaTCACATGAccgtcacaagtt	5'	>-189
Drosophila_bipectinata	Dbip\VhaAC45		86	64	103	55	262	65	686		gctggtcgtccaTCACATGAccgtcataaggt	5'	>-207
Drosophila_ananassae	Dana\GF11814		86	67	103	55	262	65	686		gctggtcgtccaTCACATGAccgtcataaggt	5'	>-207
Drosophila_pseudoobscura	Dpse\GA20777		86	62	103	67	262	62	701		gcggccacacgaTCACATGAtttggtcggtca	5'	>-197
Drosophila_persimilis	Dper\GL17578		86	62	103	67	262	62	701		gcggccacacgaTCACATGAtttggtcggtca	5'	>-197
Drosophila_miranda	Dmir\VhaAC45		86	62	103	67	262	62	701		gcggtcacacgaTCACATGAtttagtcggtca	5'	>-237
Drosophila_willistoni	Dwil\GK17837		89	74	103	376	274	55	704		tgccacctctaaTCACATGAccgtaccgtcat	5'	>-223
Drosophila_albomicans													
Drosophila_mojavensis	Dmoj\GI20366		86	71	103	69	262	70	713		gctgcttggccaTCACATGAcctgtcatatga	5'	>-212
Drosophila_virilis	Dvir\GJ22093		86	58	103	66	262	66	719		gctggtcgcccaTCACATGAcctgtcatatga	5'	>-216
Drosophila_grimshawi	Dgri\GH21865		86	68	103	132	265	436	695		gctggtcggccaTCACATGAcatgtcatatga	5'	>-216