

## **Patatin-like domain (PLD)**

The figure displays a multiple sequence alignment of two conserved protein domains: GCGFLG (top) and GASAG (bottom). The alignment is performed across several insect species, with each species listed on the left. The GCGFLG domain is highly conserved, showing identical or very similar sequences across all species. The GASAG domain shows more variation, particularly in the second half of the sequence. Amino acid residues are represented by different colors: black for hydrophobic, grey for polar, and white for hydrophilic. Conserved positions are highlighted with a light grey background.

	GCGFLG conserved domain	GASAG conserved domain	
<i>Glossina morsitans morsitans</i>	M-----NLSFAGCGFLGIYHGVAVCFKKYAPHLLL	K-IGGASAGALAACCLLCDLPLGSMTSDFFRVVNEARRHSLGPFSFNIQTCLFEGLQF	
<i>Drosophila melanogaster</i>	M-----NLSFAGCGFLGIYHGVAVCFKKYAPHLLL	K-IGGASAGSLAACCLLCDLPLGSMTSDFFRVVNEARRYSLGPFSFNIQTCLLEGLOF	
<i>Culex quinquefasciatus</i>	M-----NLSFAGCGFLGIYHGVAVCFKKYAPHLLL	R-IGGASAGSLAACCLCDMPLGEMTSDFFRVVNEARSHSLGPFSPRFNIQTCLLEGLOF	
<i>Aedes aegypti</i>	M-----NLSFAGCGFLGIYHGVAVCFKKYAPHLLL	R-IGGASAGSLAACCLCDMPLGEMTSDFFRVVNEARSHSLGPFSPRFNIQTCLLEGLOF	
<i>Anopheles gambiae</i>	MA--TKM-NLSFAGCGFLGIYHGVAVCFKKYAPHLLL	R-IGGASAGALAACCLCDMPLGEMTSDFFRVVNEARSHSLGPFSPRFNIQTCLLEGLOF	
<i>Glossina morsitans morsitans</i>	HLPEDAHKRVSGRLHISMTRVYDGKNIVSEFNSRDELLQALLCACFIPGFGSILPPRF	GVRYMDGAFSDNLPILD-ENTITVSPFCGESDICPRDQSS	
<i>Drosophila melanogaster</i>	HLPPDAHKRVNGRLHISLTRVYDGKNVI	ISEFESREEVLQALLCACFIPGFGSILPPRF	GVRYMDGAFSDNLPILD-ENTITVSPFCGESDICPRDQSS
<i>Culex quinquefasciatus</i>	FLPPDAHERVNGKLHISLTRVYDGKNIVSQFNSREDLLQALLCACFIPVFSGL	LLPPRFHGVRYMDGAFSDNLPTLD-ENTVTVSPFCGGSDICPRDNSS	
<i>Aedes aegypti</i>	FLPPDAHERVNGKLHISLTRVYDGKNIVSQFNSREDLLQALLCACFIPVFSGL	LLPPRFHGVRYMDGAFSDNLPTLD-ENTVTVSPFCGESDICPRDNSS	
<i>Anopheles gambiae</i>	FLPADAHERVNGKLHISLTRVYDGKNIVSQFHSREDLLQALLCACFIPVFSGL	LLPPRFHGVRYMDGAFSDNLPTLD-ENTVTVSPFCGESDICPRDNSS	
<i>Glossina morsitans morsitans</i>	QLF--HLNWANTSIEISRQNINRFVRILFPPRPEELSKECQQGFDDALQFLHRNNLINCR	R-CVAVQSTFVVSE---TVAQP--Q-DEDPECRECK---	
<i>Drosophila melanogaster</i>	QLF--HLNWANTSIEISRQNINRFVRILFPPRPEELSKECQQGFDDALQFLHRNNLINCR	R-CVAVQSTFVVSE---TVAQP--Q-DEDPECRECK-	
<i>Culex quinquefasciatus</i>	QMF--HVNWANTSIELSKQNMRGRILFPPRPEILSSFCQQGFDDALNFLHRNNLISCTR	CLS-VQSTFSLADQPT-QLEDQLLE-EYDPECSECKE	
<i>Aedes aegypti</i>	QMF--HVNWANTSIELSKENINRFGRILFPPKPEILSSFCQQGFDDALNFLHRNNLISCTR	CLAVQSTFVVVAEQPSSSLEEKILE-EYDPECSECQECT	
<i>Anopheles gambiae</i>	QMF--HVNWANTSIELSKQNMRGRILFPPRPEILSSFCQQGFDDALNFLHRNNLISCTR	CLS-VQSTFCVSEQPK-QLEEQLLE-EYDPECSECKDCN	
<i>Glossina morsitans morsitans</i>	KHRKDALSSN-MP--QTVLDVIQDYIEQANKGLANWLFKHREGIKLL--SLPATVPMDFLMATVN		
<i>Drosophila melanogaster</i>	KHRKDALSSN-MP--QTVLDVIQDYIEQANKGLANWLFKHREGIKLL--SLPATVPMDFLLATIS		
<i>Culex quinquefasciatus</i>	EHRONALDGS-MP--DTVLTVFQTYIEEANKGLMNWVFRHRGARLLKALSLPATLPADIMVATL		
<i>Aedes aegypti</i>	QHRKNALVGS-MP--DNVLTVFQTYIEQANKGLINWVFRHGGKLLTALSLPATLPADIVCATL		
<i>Anopheles gambiae</i>	EHRONALDGS-MP--DTVLTVFQTAVDQANKGLMNWVFKHRGARLLKALSLPATLPADIVCATLTNGVGTDIERRQFQYKVLGNIICPATSSSTEPMNPS		
<i>Glossina morsitans morsitans</i>	-----KVTTVTPRLTKQMRRLVVEELINQFNNRVQVHLFNKFTICDPPHFDTTGLLHSKRLYG		
<i>Drosophila melanogaster</i>	-----KISALTPKLTQARVMVEDLILQLNHAMRIRLLNKFTLYDQPHFDATGLLHSSSRLY		
<i>Culex quinquefasciatus</i>	-----SK		
<i>Aedes aegypti</i>	-----TK		
<i>Anopheles gambiae</i>	-----CQKCLARRRLRALSSSGSGTVQIRLNDQEARELVPMRSLETRLKRLMVA	PTIGSGLWSVSFKALKTLNAMLIRVRRGQQ-----	
<i>Glossina morsitans morsitans</i>	PRVSILV-----	DEC GAPP LEDDV DHYEH VLKVTT	
<i>Drosophila melanogaster</i>	PRVSILV-----	DEC GATPLE DDVD NFEH VLKM TT	
<i>Culex quinquefasciatus</i>	-----		
<i>Aedes aegypti</i>	-----IAAKIQCTMAYTEYTTGQGGAQLVSR--RVSTRAAGGSLLDVRVD-NGSDLVAV	-----VTHGEHD-----RNRG-----EGGED-HPDYDTEFDNVLQATS	
<i>Anopheles gambiae</i>	-----HNDALYAYYYTDD-H-TNKVKVTEIFD-----	-----MTE NI ELATDLKQYEGSIEDHPNPHQ-HHHNA	
<i>Glossina morsitans morsitans</i>	HNDALYAYYYTDS-N-TNKVKVTEIFDFDE-----	-----ITEHDKLATDLQIYEGSVEDHPNPHQ-HSHNT	
<i>Drosophila melanogaster</i>	-----		
<i>Culex quinquefasciatus</i>	-----HHD SMYAYFYMD--D-NQKVKVTEIFDM TDDGNPALQTAQERE L NQOLEFDNDDWESTATT QPDFLYADS YHSGGDEMIDL DELIADPC LYLN SNHQNF		
<i>Aedes aegypti</i>	-----		
<i>Anopheles gambiae</i>	-----VLSEWNGIESDF FIDRQTATSTAHS LTD SKISHTVSTVYTTYKIEPDSRTAPSSEEDNC PFD SEADH YYNESDRNE I PRHH HYKHD LT LVSTQ QDSII		
<i>Glossina morsitans morsitans</i>	VVSEWNGVES-----	-----VQVMPTT-----PE-----L-----H	
<i>Drosophila melanogaster</i>	-----		
<i>Culex quinquefasciatus</i>	-----		
<i>Aedes aegypti</i>	-----HYHQQQFRHHHHHQQLTDGCLQTHHHHVQIEELPAD--DAYLQ	-----PEADQQQALLSEAARLLGKA	
<i>Anopheles gambiae</i>	-----PNECIDIE-----		
<i>Glossina morsitans morsitans</i>	-----DVAF-----		
<i>Drosophila melanogaster</i>	-----		
<i>Culex quinquefasciatus</i>	-----		
<i>Aedes aegypti</i>	-----		
<i>Anopheles gambiae</i>	-----PASAYSIVEM		

# Conserved region