

GEPHE SUMMARY

	Gephebase Gene		GepheID
fibrinogen-related protein 30 (FBN30) (<a +fibrinogen-related+protein+30+(fbn30)+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=">https://www.gephebase.org/search-criteria?/and+Gene+Gephebase="+fibrinogen-related+protein+30+(FBN30)+"#gephebase-summary-title)		GP00001464	
	Entry Status	Prigent	Main curator
Published			

PHENOTYPIC CHANGE

	Trait Category		
Physiology (<a +physiology+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Trait+Category=">https://www.gephebase.org/search-criteria?/and+Trait+Category="+Physiology+"#gephebase-summary-title)		Trait	
Pathogen resistance (parasite) (<a +pathogen+resistance+(parasite)+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Trait=">https://www.gephebase.org/search-criteria?/and+Trait="+Pathogen+resistance+(parasite)+"#gephebase-summary-title)		Trait State in Taxon A	
Anopheles gambiae susceptible to Plasmodium falciparum infection		Trait State in Taxon B	
Anopheles gambiae resistant to Plasmodium falciparum infection		Ancestral State	
Taxon A		Taxonomic Status	
Intraspecific (<a +intraspecific+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=">https://www.gephebase.org/search-criteria?/and+Taxonomic+Status="+Intraspecific+"#gephebase-summary-title)			
	Taxon A		Taxon B
	Latin Name		Latin Name
Anopheles gambiae (<a +anopheles+gambiae+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms="+Anopheles+gambiae+"#gephebase-summary-title)		Anopheles gambiae (<a +anopheles+gambiae+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms="+Anopheles+gambiae+"#gephebase-summary-title)	
	Common Name		Common Name
African malaria mosquito		African malaria mosquito	
	Synonyms		Synonyms
Anopheles gambiae S; African malaria mosquito; Anopheles gambiae Giles, 1902; Anopheles gambia		Anopheles gambiae S; African malaria mosquito; Anopheles gambiae Giles, 1902; Anopheles gambia	
	Rank		Rank
species		species	
	Lineage		Lineage
cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Protostomia; Ecdysozoa; Panarthropoda; Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Holometabola; Diptera; Nematocera; Culicomorpha; Culicoidea; Culicidae; Anophelinae; Anopheles; Cellia; Pyretophorus; gambiae species complex		cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Protostomia; Ecdysozoa; Panarthropoda; Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Holometabola; Diptera; Nematocera; Culicomorpha; Culicoidea; Culicidae; Anophelinae; Anopheles; Cellia; Pyretophorus; gambiae species complex	
	Parent		Parent
gambiae species complex () - (Rank: no rank) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=44542)		gambiae species complex () - (Rank: no rank) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=44542)	
	NCBI Taxonomy ID		NCBI Taxonomy ID
7165 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=7165)		7165 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=7165)	
	is Taxon A an Infrappecies?		is Taxon B an Infrappecies?
No		No	

GENOTYPIC CHANGE

	Generic Gene Name		UniProtKB Anopheles gambiae
1270165		Q7QIK0 (http://www.uniprot.org/uniprot/Q7QIK0)	
	Synonyms		GenebankID or UniProtKB
AgaP_AGAP006914		XM_308841 (https://www.ncbi.nlm.nih.gov/nucore/XM_308841)	
	String		
7165.AGAP006914-PA (http://string-db.org/newstring.cgi/show_network_section.pl?identifier=7165.AGAP006914-PA)			
	Sequence Similarities		
-			
	GO - Molecular Function		
-			
	GO - Biological Process		
-			
	GO - Cellular Component		

-

No (<https://www.gephebase.org/search-criteria?/and+Presumptive Null=~No^#gephebase-summary-title>)

Coding (<https://www.gephebase.org/search-criteria?/and+Molecular Type=~Coding^#gephebase-summary-title>)

SNP (<https://www.gephebase.org/search-criteria?/and+Aberration Type=~SNP^#gephebase-summary-title>)

Nonsynonymous

c.T28C p.F10L

Association Mapping (<https://www.gephebase.org/search-criteria?/and+Experimental Evidence=~Association Mapping^#gephebase-summary-title>)

Presumptive Null

Molecular Type

Aberration Type

SNP Coding Change

Molecular Details of the Mutation

Experimental Evidence

	Taxon A	Taxon B	Position
Codon	-	-	-
Amino-acid	-	-	-

Genome-block expression-assisted association studies discover malaria resistance genes in *Anopheles gambiae*. (2013) (<https://pubmed.ncbi.nlm.nih.gov/24297936>)

Li J; Wang X; Zhang G; Githure JI; Yan G; James AA

The malaria parasite-resistance island (PRI) of the African mosquito vector, *Anopheles gambiae*, was mapped to five genomic regions containing 80 genes, using coexpression patterns of genomic blocks. High-throughput sequencing identified 347 nonsynonymous single-nucleotide polymorphisms within these genes in mosquitoes from malaria-endemic areas in Kenya. Direct association studies between nonsynonymous single-nucleotide polymorphisms and *Plasmodium falciparum* infection identified three naturally occurring genetic variations in each of three genes (*An. gambiae* adenosine deaminase, fibrinogen-related protein 30, and fibrinogen-related protein 1) that were associated significantly with parasite infection. A role for these genes in the resistance phenotype was confirmed by RNA interference knockdown assays. Silencing fibrinogen-related protein 30 increased parasite infection significantly, whereas ablation of fibrinogen-related protein 1 transcripts resulted in mosquitoes nearly free of parasites. The discovered genes and single-nucleotide polymorphisms are anticipated to be useful in the development of tools for malaria control in endemic areas in Africa.

Main Reference

Authors

Abstract

Additional References

RELATED GEPHE

4 (adenosine deaminase (AgADA), APL1 cluster, fibrinogen-related protein 1 (FREP1), thioester-containing protein 1) (<https://www.gephebase.org/search-criteria?/or+Taxon ID=~7165^/and+Trait=Pathogen resistance/and+groupHaplotypes=true#gephebase-summary-title>)

No matches found.

Related Genes

Related Haplotypes

EXTERNAL LINKS

COMMENTS

the role of the gene is confirmed by RNA interference knockdown assays. Silencing of the gene increased parasite infection by *P. berghei*