

GEPHE SUMMARY

	Gephebase Gene		GepheID
plg-1 (<a +plg-1+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=">https://www.gephebase.org/search-criteria?/and+Gene+Gephebase="+plg-1+"#gephebase-summary-title)		GP00000898	
Published	Entry Status	Martin	Main curator

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		
Copulatory plug (<a +copulatory+plug+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Trait=">https://www.gephebase.org/search-criteria?/and+Trait="+Copulatory+plug+"#gephebase-summary-title)			
	Trait State in Taxon A		
C. elegans - copulatory plug			
	Trait State in Taxon B		
C. elegans - no copulatory plug			
	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
Caenorhabditis elegans (<a +caenorhabditis+elegans+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms="+Caenorhabditis+elegans+"#gephebase-summary-title)		Caenorhabditis elegans (<a +caenorhabditis+elegans+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms="+Caenorhabditis+elegans+"#gephebase-summary-title)	
	Common Name		Common Name
-		-	
	Synonyms		Synonyms
roundworm; Rhabditis elegans; Caenorhabditis elegans (Maupas, 1900); Rhabditis elegans Maupas, 1900		roundworm; Rhabditis elegans; Caenorhabditis elegans (Maupas, 1900); Rhabditis elegans Maupas, 1900	
	Rank		Rank
species		species	
	Lineage		Lineage
cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Protostomia; Ecdysozoa; Nematoda; Chromadorea; Rhabditida; Rhabditina; Rhabditomorpha; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis		cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Protostomia; Ecdysozoa; Nematoda; Chromadorea; Rhabditida; Rhabditina; Rhabditomorpha; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis	
	Parent		Parent
Caenorhabditis () - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=6237)		Caenorhabditis () - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=6237)	
	NCBI Taxonomy ID		NCBI Taxonomy ID
6239 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=6239)		6239 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=6239)	
	is Taxon A an Intraspecies?		is Taxon B an Intraspecies?
Yes		Yes	
	Taxon A Description		Taxon B Description
C. elegans - several wild isolates		C. elegans - N2	

GENOTYPIC CHANGE

	Generic Gene Name		UniProtKB
-		0	
	Synonyms		GenebankID or UniProtKB
-		0	
	String		
-			
	Sequence Similarities		
-			
	GO - Molecular Function		
-			
	GO - Biological Process		
-			
	GO - Cellular Component		
-			
			Presumptive Null
Yes (<a +yes+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Presumptive+Null=">https://www.gephebase.org/search-criteria?/and+Presumptive+Null="+Yes+"#gephebase-summary-title)			

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

Molecular Type

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

Aberration Type

1-10 kb

Insertion Size

insertion of transposable element in an exon

Molecular Details of the Mutation

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

Experimental Evidence

Molecular basis of the copulatory plug polymorphism in *Caenorhabditis elegans*. (2008) (<https://pubmed.ncbi.nlm.nih.gov/18633349>)

Main Reference

Palopoli MF; Rockman MV; TinMaung A; Ramsay C; Curwen S; Aduna A; Laurita J; Kruglyak L

Authors

Heritable variation is the raw material for evolutionary change, and understanding its genetic basis is one of the central problems in modern biology. We investigated the genetic basis of a classic phenotypic dimorphism in the nematode *Caenorhabditis elegans*. Males from many natural isolates deposit a copulatory plug after mating, whereas males from other natural isolates? including the standard wild-type strain (N2 Bristol) that is used in most research laboratories?do not deposit plugs. The copulatory plug is a gelatinous mass that covers the hermaphrodite vulva, and its deposition decreases the mating success of subsequent males. We show that the plugging polymorphism results from the insertion of a retrotransposon into an exon of a novel mucin-like gene, *plg-1*, whose product is a major structural component of the copulatory plug. The gene is expressed in a subset of secretory cells of the male somatic gonad, and its loss has no evident effects beyond the loss of male mate-guarding. Although *C. elegans* descends from an obligate-outcrossing, male?female ancestor, it occurs primarily as self-fertilizing hermaphrodites. The reduced selection on male?male competition associated with the origin of hermaphroditism may have permitted the global spread of a loss-of-function mutation with restricted pleiotropy.

Abstract

Additional References

RELATED GEPHE

No matches found.

Related Genes

No matches found.

Related Haplotypes

EXTERNAL LINKS

COMMENTS

@TE; WormBase ID: WBGene00004041