

## GEPHE SUMMARY

Nup160 ( <a href="https://www.gephebase.org/search-criteria?/and+Gene">https://www.gephebase.org/search-criteria?/and+Gene</a> Gephebase="Nup160">#gephebase-summary-title)	Gephebase Gene	GP00000742	GephelD
	Entry Status	Martin	Main curator
Published			

## PHENOTYPIC CHANGE

	Trait Category
Physiology ( <a href="https://www.gephebase.org/search-criteria?/and+Trait">https://www.gephebase.org/search-criteria?/and+Trait</a> Category="Physiology">#gephebase-summary-title)	Trait
Hybrid incompatibility (F1 male sterility) ( <a href="https://www.gephebase.org/search-criteria?/and+Trait=^Hybrid+incompatibility+(F1+male+sterility)^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Trait=^Hybrid+incompatibility+(F1+male+sterility)^#gephebase-summary-title</a> )	Trait State in Taxon A
Drosophila melanogaster	Trait State in Taxon B
Drosophila simulans	Ancestral State
Data not curated	Taxonomic Status
Interspecific ( <a href="https://www.gephebase.org/search-criteria?/and+Taxonomic">https://www.gephebase.org/search-criteria?/and+Taxonomic</a> Status="Interspecific">#gephebase-summary-title)	

Taxon A	Latin Name	Taxon B	Latin Name
Drosophila melanogaster ( <a href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Drosophila+melanogaster^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Drosophila+melanogaster^#gephebase-summary-title</a> )		Drosophila simulans ( <a href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Drosophila+simulans^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Drosophila+simulans^#gephebase-summary-title</a> )	
fruit fly	Common Name	-	Common Name
Sophophora melanogaster; fruit fly; Drosophila melanogaster Meigen, 1830; Sophophora melanogaster (Meigen, 1830); Drosophila melangaster	Synonyms	-	Synonyms
species	Rank	species	Rank
cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Protostomia; Ecdysozoa; Panarthropoda; Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Holometabola; Diptera; Brachycera; Muscomorpha; Eremoneura; Cyclorrhapha; Schizophora; Acalyptratae; Ephydroidea; Drosophilidae; Drosophilinae; Drosophilini; Drosophila; Sophophora; melanogaster group; melanogaster subgroup	Lineage	cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Protostomia; Ecdysozoa; Panarthropoda; Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Holometabola; Diptera; Brachycera; Muscomorpha; Eremoneura; Cyclorrhapha; Schizophora; Acalyptratae; Ephydroidea; Drosophilidae; Drosophilinae; Drosophilini; Drosophila; Sophophora; melanogaster group; melanogaster subgroup	Lineage
melanogaster subgroup () - (Rank: species subgroup) ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=32351">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=32351</a> )	Parent	melanogaster subgroup () - (Rank: species subgroup) ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=32351">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=32351</a> )	Parent
7227 ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=7227">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=7227</a> )	NCBI Taxonomy ID	7240 ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=7240">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=7240</a> )	NCBI Taxonomy ID
	is Taxon A an Infraspecies?	No	is Taxon B an Infraspecies?
No			

## GENOTYPIC CHANGE

	Generic Gene Name	UniProtKB Drosophila melanogaster
Nup160	Synonyms	Q9VKJ3 ( <a href="http://www.uniprot.org/uniprot/Q9VKJ3">http://www.uniprot.org/uniprot/Q9VKJ3</a> )
CG4738; Dmel\CG4738; l(2)SH2 2055; l(2)SH2055; Nup; nup160; Nup160[mel]	String	GenebankID or UniProtKB KMY89705 ( <a href="https://www.ncbi.nlm.nih.gov/nuccore/KMY89705">https://www.ncbi.nlm.nih.gov/nuccore/KMY89705</a> )
7227.FBpp0079788 ( <a href="http://string-db.org/newstring_cgi/show_network_section.pl?identifier=7227.FBpp0079788">http://string-db.org/newstring_cgi/show_network_section.pl?identifier=7227.FBpp0079788</a> )	Sequence Similarities	
-		
GO:0017056 : structural constituent of nuclear pore ( <a href="https://www.ebi.ac.uk/QuickGO/term/GO:0017056">https://www.ebi.ac.uk/QuickGO/term/GO:0017056</a> )	GO - Molecular Function	
GO:0000724 : double-strand break repair via homologous recombination	GO - Biological Process	

(<https://www.ebi.ac.uk/QuickGO/term/GO:0000724>)  
GO:0006406 : mRNA export from nucleus  
(<https://www.ebi.ac.uk/QuickGO/term/GO:0006406>)  
GO:0006606 : protein import into nucleus  
(<https://www.ebi.ac.uk/QuickGO/term/GO:0006606>)

#### GO - Cellular Component

GO:0005643 : nuclear pore (<https://www.ebi.ac.uk/QuickGO/term/GO:0005643>)  
GO:0031080 : nuclear pore outer ring  
(<https://www.ebi.ac.uk/QuickGO/term/GO:0031080>)

Presumptive Null

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

Molecular Type

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

Aberration Type

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

Molecular Details of the Mutation

Coding divergence

Experimental Evidence

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

Main Reference

Evolution of the Drosophila nuclear pore complex results in multiple hybrid incompatibilities. (2009) (<https://pubmed.ncbi.nlm.nih.gov/19197064>)

Authors

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Abstract

Speciation often involves the evolution of incompatible gene interactions that cause sterility or lethality in hybrids between populations. These so-called hybrid incompatibilities occur between two or more functionally divergent loci. We show that the nucleoporin 160kDa (Nup160) gene of the fruitfly *Drosophila simulans* is incompatible with one or more factors on the *D. melanogaster* X chromosome, causing hybrid lethality. Nup160 encodes a nuclear pore complex protein and shows evidence of adaptive evolution. Furthermore, the protein encoded by Nup160 directly interacts with that of another hybrid lethality gene, Nup96, indicating that at least two lethal hybrid incompatibility genes have evolved as byproducts of divergent coevolution among interacting components of the *Drosophila* nuclear pore complex.

Additional References

## RELATED GEPHE

Related Genes

6 (gfzf, Hybrid male rescue, JYalpha, Lethal Hybrid rescue, Nup96, tyrosyl-tRNA synthetase (mt-TyrRS)) (<https://www.gephebase.org/search-criteria?/or+TaxonID=^7227^/and+Trait=Hybrid+incompatibility/or+TaxonID=^7240^/and+Trait=Hybrid+incompatibility/and+groupHaplotypes=true#gephebase-summary-title>)

Related Haplotypes

No matches found.

## EXTERNAL LINKS

## COMMENTS