

GEPHE SUMMARY

opsin - (SWS1) (<a +opsin+(sws1)+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=">https://www.gephebase.org/search-criteria?/and+Gene Gephebase=^opsin - (SWS1)^#gephebase-summary-title)		Gephebase Gene	GP00000768	GepheID
Published	Entry Status	Martin		Main curator

PHENOTYPIC CHANGE

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 Category		
Color vision (violet-shift) (<a +color+vision+(violet-shift)+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Trait=">https://www.gephebase.org/search-criteria?/and+Trait=^Color vision (violet-shift)^#gephebase-summary-title)		Trait		
Other rodents	Trait State in Taxon A			
Sciurus carolinensis	Trait State in Taxon B			
Data not curated	Ancestral State			
Intergenic or Higher (<a +intergenic+or+higher+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=">https://www.gephebase.org/search-criteria?/and+Taxonomic Status=^Intergenic or Higher^#gephebase-summary-title)		Taxonomic Status		
	Taxon A		Taxon B	
Rodentia	Latin Name	Sciurus carolinensis	Latin Name	
(<a +rodentia+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=^Sciurus carolinensis^#gephebase-summary-title)	Common Name	(<a +sciurus+carolinensis+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=^Sciurus carolinensis^#gephebase-summary-title)	Common Name	
rodent	Synonyms	gray squirrel	Synonyms	
rodent	Rank	gray squirrel; eastern gray squirrel; Sciurus carolinensis Gmelin, 1788; Sciurus carolinensis	Rank	
order	Lineage	species	Rank	
cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Deuterostomia; Chordata; Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Boreoeutheria; Euarchontoglires; Glires	Parent	cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Deuterostomia; Chordata; Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Boreoeutheria; Euarchontoglires; Glires; Rodentia; Sciuromorpha; Sciuridae; Sciurinae; Sciurini; Sciurus	Lineage	
Glires (Rodents and rabbits) - (Rank: no rank)	NCBI Taxonomy ID	Sciurus () - (Rank: genus)	Parent	
(https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=314147)	9989	(https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=10001)	NCBI Taxonomy ID	
	(https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9989)	30640	NCBI Taxonomy ID	
	is Taxon A an Intraspecies?	(https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=30640)		
No		No	is Taxon B an Intraspecies?	

GENOTYPIC CHANGE

OPN1SW	Generic Gene Name	P03999 (http://www.uniprot.org/uniprot/P03999)	UniProtKB Homo sapiens
BCP; BOP; CBT	Synonyms	ABC26410 (https://www.ncbi.nlm.nih.gov/nuccore/ABC26410)	GenebankID or UniProtKB
9606.ENSPP00000249389	String		
(http://string-db.org/newstring.cgi/show_network_section.pl?identifier=9606.ENSPP00000249389)	Sequence Similarities		
Belongs to the G-protein coupled receptor 1 family. Opsin subfamily.	GO - Molecular Function		
GO:0038023 : signaling receptor activity			
(https://www.ebi.ac.uk/QuickGO/term/GO:0038023)			
GO:0008020 : G protein-coupled photoreceptor activity			
(https://www.ebi.ac.uk/QuickGO/term/GO:0008020)			
	GO - Biological Process		
GO:0007165 : signal transduction (https://www.ebi.ac.uk/QuickGO/term/GO:0007165)			
GO:0007186 : G protein-coupled receptor signaling pathway			

(<https://www.ebi.ac.uk/QuickGO/term/GO:0007186>)
 GO:0001523 : retinoid metabolic process
 (<https://www.ebi.ac.uk/QuickGO/term/GO:0001523>)
 GO:0018298 : protein-chromophore linkage
 (<https://www.ebi.ac.uk/QuickGO/term/GO:0018298>)
 GO:0007601 : visual perception (<https://www.ebi.ac.uk/QuickGO/term/GO:0007601>)
 GO:0071482 : cellular response to light stimulus
 (<https://www.ebi.ac.uk/QuickGO/term/GO:0071482>)
 GO:0007602 : phototransduction (<https://www.ebi.ac.uk/QuickGO/term/GO:0007602>)
 GO - Cellular Component

GO:0005887 : integral component of plasma membrane
 (<https://www.ebi.ac.uk/QuickGO/term/GO:0005887>)
 GO:0001750 : photoreceptor outer segment
 (<https://www.ebi.ac.uk/QuickGO/term/GO:0001750>)
 GO:0097381 : photoreceptor disc membrane
 (<https://www.ebi.ac.uk/QuickGO/term/GO:0097381>)

Presumptive Null

No ([https://www.gephebase.org/search-criteria?/and+Presumptive Null=~No^#gephebase-summary-title](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](https://www.gephebase.org/search-criteria?/and+Molecular+Type=~Coding^#gephebase-summary-title))

Aberration Type

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

SNP Coding Change

Nonsynonymous

Molecular Details of the Mutation

F86Y

Experimental Evidence

Candidate Gene ([https://www.gephebase.org/search-criteria?/and+Experimental Evidence=~Candidate Gene^#gephebase-summary-title](https://www.gephebase.org/search-criteria?/and+Experimental+Evidence=~Candidate+Gene^#gephebase-summary-title))

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

Main Reference

Shortwave visual sensitivity in tree and flying squirrels reflects changes in lifestyle. (2006) (<https://pubmed.ncbi.nlm.nih.gov/16461266>)

Authors

Carvalho Ldos S; Cowing JA; Wilkie SE; Bowmaker JK; Hunt DM

Abstract

-

Additional References

RELATED GEPHE

Related Genes

No matches found.

Related Haplotypes

3 ([https://www.gephebase.org/search-criteria?/or+Gene Gephebase=~opsin - \(SWS1\)^/and+Taxon ID=~9989^/or+Gene Gephebase=~opsin - \(SWS1\)^/and+Taxon ID=~30640^#gephebase-summary-title](https://www.gephebase.org/search-criteria?/or+Gene+Gephebase=~opsin-(SWS1)^/and+Taxon+ID=~9989^/or+Gene+Gephebase=~opsin-(SWS1)^/and+Taxon+ID=~30640^#gephebase-summary-title))

EXTERNAL LINKS

COMMENTS