

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	GP00000758	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 (loss of violet-range sensitivity) (<a +color+vision+(loss+of+violet-range+sensitivity)+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Trait=">https://www.gephebase.org/search-criteria?/and+Trait=^Color vision (loss of violet-range sensitivity)^#gephebase-summary-title)	Trait		
Sciurus carolinensis; diurnal	Trait State in Taxon A		
Glaucomys sabrinus; nocturnal	Trait State in Taxon B		
Taxon A	Ancestral State		
Intergeneric or Higher (<a +intergeneric+or+higher+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=">https://www.gephebase.org/search-criteria?/and+Taxonomic Status=^Intergeneric or Higher^#gephebase-summary-title)	Taxonomic Status		
	Taxon A		Taxon B
Sciurus carolinensis (<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)	Latin Name	Sciurus carolinensis (<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)	Latin Name
gray squirrel	Common Name	gray squirrel	Common Name
gray squirrel; eastern gray squirrel; Sciurus carolinensis Gmelin, 1788; Sciurus carolinensis species	Synonyms	gray squirrel; eastern gray squirrel; Sciurus carolinensis Gmelin, 1788; Sciurus carolinensis species	Synonyms
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	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; Rodentia; Sciuromorpha; Sciuridae; Sciurinae; Sciurini; Sciurus	Rank
Sciurus () - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=10001)	Lineage	Sciurus () - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=10001)	Lineage
30640 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=30640)	Parent	30640 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=30640)	Parent
	NCBI Taxonomy ID		NCBI Taxonomy ID
	is Taxon A an Intraspecies?		is Taxon B an Intraspecies?
No		No	

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.ENSPO0000249389 (http://string-db.org/newstring.cgi/show_network_section.pl?identifier=9606.ENSPO0000249389)	String		
Belongs to the G-protein coupled receptor 1 family. Opsin subfamily.	Sequence Similarities		
GO:0038023 : signaling receptor activity (https://www.ebi.ac.uk/QuickGO/term/GO:0038023)	GO - Molecular Function		
GO:0008020 : G protein-coupled photoreceptor activity (https://www.ebi.ac.uk/QuickGO/term/GO:0008020)			
GO:0007165 : signal transduction (https://www.ebi.ac.uk/QuickGO/term/GO:0007165)	GO - Biological Process		

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)

Yes (https://www.gephebase.org/search-criteria?/and+Presumptive Null=^Yes^#gephebase-summary-title)	Presumptive Null
Coding (https://www.gephebase.org/search-criteria?/and+Molecular Type=^Coding^#gephebase-summary-title)	Molecular Type
Deletion (https://www.gephebase.org/search-criteria?/and+Aberration Type=^Deletion^#gephebase-summary-title)	Aberration Type
1-9 bp	Deletion Size
6bp deletion (residues 77-78) + 1bp frameshift deletion	Molecular Details of the Mutation
Candidate Gene (https://www.gephebase.org/search-criteria?/and+Experimental Evidence=^Candidate Gene^#gephebase-summary-title)	Experimental Evidence
Shortwave visual sensitivity in tree and flying squirrels reflects changes in lifestyle. (2006) (https://pubmed.ncbi.nlm.nih.gov/16461266)	Main Reference
Carvalho Ldos S; Cowing JA; Wilkie SE; Bowmaker JK; Hunt DM	Authors
-	Abstract
	Additional References

RELATED GEPHE

No matches found.	Related Genes
2 (https://www.gephebase.org/search-criteria?/or+Gene Gephebase=^opsin - (SWS1)^/and+Taxon ID=^30640^/or+Gene Gephebase=^opsin - (SWS1)^/and+Taxon ID=^30640^#gephebase-summary-title)	Related Haplotypes

EXTERNAL LINKS

COMMENTS