

GEPHE SUMMARY

	Gephebase Gene		GepheID
tyrosinase (TYR) (https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=^tyrosinase+(TYR)^#gephebase-summary-title)		GP00002317	
	Entry Status	Martin	Main curator
Published			

PHENOTYPIC CHANGE

	Trait Category	
Morphology (https://www.gephebase.org/search-criteria?/and+Trait+Category=^Morphology^#gephebase-summary-title)		
	Trait	
Coloration (coat) (https://www.gephebase.org/search-criteria?/and+Trait=^Coloration+(coat)^#gephebase-summary-title)		
	Trait State in Taxon A	
WT		
	Trait State in Taxon B	
Complete albinism		
	Ancestral State	
Taxon A		
	Taxonomic Status	
Domesticated (https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=^Domesticated^#gephebase-summary-title)		

Taxon A	Latin Name	Taxon B	Latin Name
Cavia porcellus (https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Cavia+porcellus^#gephebase-summary-title)		Cavia porcellus (https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Cavia+porcellus^#gephebase-summary-title)	
	Common Name		Common Name
domestic guinea pig		domestic guinea pig	
	Synonyms		Synonyms
Cavia aperea porcellus; Cavia cobaya; domestic guinea pig; guinea pig; Cavia cobya		Cavia aperea porcellus; Cavia cobaya; domestic guinea pig; guinea pig; Cavia cobya	
	Rank		Rank
species		species	
	Lineage		Lineage
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; Hystricomorpha; Caviidae; Cavia		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; Hystricomorpha; Caviidae; Cavia	
	Parent		Parent
Cavia (guinea pigs) - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=10140)		Cavia (guinea pigs) - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=10140)	
	NCBI Taxonomy ID		NCBI Taxonomy ID
10141 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=10141)		10141 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=10141)	
	is Taxon A an Intraspecies?		is Taxon B an Intraspecies?
No		No	

GENOTYPIC CHANGE

	Generic Gene Name		UniProtKB Mus musculus
Tyr		P11344 (http://www.uniprot.org/uniprot/P11344)	
	Synonyms		GenebankID or UniProtKB
c; Oca1; skc35; albino		0	
	String		
10090.ENSMUSP00000004770 (http://string-db.org/newstring.cgi/show_network_section.pl?identifier=10090.ENSMUSP00000004770)			
	Sequence Similarities		
Belongs to the tyrosinase family.			
	GO - Molecular Function		
GO:0042803 : protein homodimerization activity (https://www.ebi.ac.uk/QuickGO/term/GO:0042803)			
GO:0046982 : protein heterodimerization activity (https://www.ebi.ac.uk/QuickGO/term/GO:0046982)			
GO:0005507 : copper ion binding (https://www.ebi.ac.uk/QuickGO/term/GO:0005507)			
GO:0004503 : monophenol monooxygenase activity (https://www.ebi.ac.uk/QuickGO/term/GO:0004503)			

GO:0042438 : melanin biosynthetic process
 (https://www.ebi.ac.uk/QuickGO/term/GO:0042438)
 GO:0043473 : pigmentation (https://www.ebi.ac.uk/QuickGO/term/GO:0043473)
 GO:0008283 : cell proliferation (https://www.ebi.ac.uk/QuickGO/term/GO:0008283)
 GO:0033280 : response to vitamin D (https://www.ebi.ac.uk/QuickGO/term/GO:0033280)
 GO:0051591 : response to cAMP (https://www.ebi.ac.uk/QuickGO/term/GO:0051591)
 GO:0009411 : response to UV (https://www.ebi.ac.uk/QuickGO/term/GO:0009411)
 GO:0048538 : thymus development (https://www.ebi.ac.uk/QuickGO/term/GO:0048538)

GO - Cellular Component

GO:0016021 : integral component of membrane
 (https://www.ebi.ac.uk/QuickGO/term/GO:0016021)
 GO:0005737 : cytoplasm (https://www.ebi.ac.uk/QuickGO/term/GO:0005737)
 GO:0005829 : cytosol (https://www.ebi.ac.uk/QuickGO/term/GO:0005829)
 GO:0005634 : nucleus (https://www.ebi.ac.uk/QuickGO/term/GO:0005634)
 GO:0043231 : intracellular membrane-bounded organelle
 (https://www.ebi.ac.uk/QuickGO/term/GO:0043231)
 GO:0048471 : perinuclear region of cytoplasm
 (https://www.ebi.ac.uk/QuickGO/term/GO:0048471)
 GO:0042470 : melanosome (https://www.ebi.ac.uk/QuickGO/term/GO:0042470)
 GO:0033162 : melanosome membrane
 (https://www.ebi.ac.uk/QuickGO/term/GO:0033162)

No (https://www.gephebase.org/search-criteria?/and+Presumptive Null=^No^#gephebase-summary-title) Presumptive Null
 Coding (https://www.gephebase.org/search-criteria?/and+Molecular Type=^Coding^#gephebase-summary-title) Molecular Type
 SNP (https://www.gephebase.org/search-criteria?/and+Aberration Type=^SNP^#gephebase-summary-title) Aberration Type
 Nonsynonymous SNP Coding Change
 c.710A>G p.Asp237Gly Molecular Details of the Mutation
 Candidate Gene (https://www.gephebase.org/search-criteria?/and+Experimental Evidence=^Candidate Gene^#gephebase-summary-title) Experimental Evidence

	Taxon A	Taxon B	Position
Codon	-	-	-
Amino-acid	Asp	Gly	237

Conserved aspartate-to-glycine mutation in tyrosinase is associated with albino phenotype in domestic guinea pigs (*Cavia porcellus*). (2018) (https://pubmed.ncbi.nlm.nih.gov/29947431) Main Reference
 Yu F; Jiao S; Lai W; Liu Z; Zhu M; Zhu W; Bai C; Zhang Y; Zhang J; Yan S Authors
 - Abstract
 - Additional References

RELATED GEPHE

1 (MC1R) (https://www.gephebase.org/search-criteria?/or+Taxon ID=^10141^/and+Trait=Coloration/and+groupHaplotypes=true#gephebase-summary-title) Related Genes
 No matches found. Related Haplotypes

EXTERNAL LINKS

COMMENTS

@Parallelism https://omia.org/OMIA000202/10141/

