

## GEPHE SUMMARY

tyrosinase-related protein 1 (TYRP1) ([https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=^tyrosinase-related+protein+1+\(TYRP1\)^#gephebase-summary-title](https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=^tyrosinase-related+protein+1+(TYRP1)^#gephebase-summary-title))

Gephebase Gene: GP00002285

Entry Status: Published

GepheID: Main curator

Martin

## PHENOTYPIC CHANGE

Morphology (<https://www.gephebase.org/search-criteria?/and+Trait+Category=^Morphology^#gephebase-summary-title>)

Trait Category

Coloration (feathers) ([https://www.gephebase.org/search-criteria?/and+Trait=^Coloration+\(feathers\)^#gephebase-summary-title](https://www.gephebase.org/search-criteria?/and+Trait=^Coloration+(feathers)^#gephebase-summary-title))

Trait

WT

Trait State in Taxon A

Light brown

Trait State in Taxon B

Taxon A

Ancestral State

Intraspecific (<https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=^Intraspecific^#gephebase-summary-title>)

Taxonomic Status

Taxon A	Taxon B
Falco cherrug ( <a href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Falco+cherrug^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Falco+cherrug^#gephebase-summary-title</a> )	Falco cherrug ( <a href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Falco+cherrug^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Falco+cherrug^#gephebase-summary-title</a> )
Saker falcon	Saker falcon
Saker falcon; Falco cherrug Gray, JE, 1834	Saker falcon; Falco cherrug Gray, JE, 1834
species	species
cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Deuterostomia; Chordata; Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Sauropsida; Sauria; Archelosauria; Archosauria; Dinosauria; Saurischia; Theropoda; Coelurosauria; Aves; Neognathae; Falconiformes; Falconidae; Falco	cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Deuterostomia; Chordata; Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Sauropsida; Sauria; Archelosauria; Archosauria; Dinosauria; Saurischia; Theropoda; Coelurosauria; Aves; Neognathae; Falconiformes; Falconidae; Falco
Falco (falcons) - (Rank: genus) ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=8952">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=8952</a> )	Falco (falcons) - (Rank: genus) ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=8952">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=8952</a> )
345164 ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=345164">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=345164</a> )	345164 ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=345164">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=345164</a> )
is Taxon A an Intraspecies?	is Taxon B an Intraspecies?
No	No

## GENOTYPIC CHANGE

Tyrp1

Generic Gene Name: P07147 (<http://www.uniprot.org/uniprot/P07147>)

Synonyms: 0

GenebankID or UniProtKB: UniProtKB Mus musculus

String: 10090.ENSMUSP00000006151  
([http://string-db.org/newstring.cgi/show\\_network\\_section.pl?identifier=10090.ENSMUSP00000006151](http://string-db.org/newstring.cgi/show_network_section.pl?identifier=10090.ENSMUSP00000006151))

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:0046872 : metal ion binding (<https://www.ebi.ac.uk/QuickGO/term/GO:0046872>)

GO:0004497 : monooxygenase activity  
(<https://www.ebi.ac.uk/QuickGO/term/GO:0004497>)

GO - Biological Process

GO:0032438 : melanosome organization  
(<https://www.ebi.ac.uk/QuickGO/term/GO:0032438>)  
GO:0043473 : pigmentation (<https://www.ebi.ac.uk/QuickGO/term/GO:0043473>)  
GO:0048023 : positive regulation of melanin biosynthetic process  
(<https://www.ebi.ac.uk/QuickGO/term/GO:0048023>)  
GO:0006583 : melanin biosynthetic process from tyrosine  
(<https://www.ebi.ac.uk/QuickGO/term/GO:0006583>)  
GO:0030318 : melanocyte differentiation  
(<https://www.ebi.ac.uk/QuickGO/term/GO:0030318>)  
GO:0043438 : acetoacetic acid metabolic process  
(<https://www.ebi.ac.uk/QuickGO/term/GO:0043438>)  
GO:0006582 : melanin metabolic process  
(<https://www.ebi.ac.uk/QuickGO/term/GO:0006582>)

GO - Cellular Component

GO:0016021 : integral component of membrane  
(<https://www.ebi.ac.uk/QuickGO/term/GO:0016021>)  
GO:0030669 : clathrin-coated endocytic vesicle membrane  
(<https://www.ebi.ac.uk/QuickGO/term/GO:0030669>)  
GO:0010008 : endosome membrane  
(<https://www.ebi.ac.uk/QuickGO/term/GO:0010008>)  
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>)

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

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

Aberration Type

1-9 bp

Insertion Size

c.79\_80insT in exon 1 resulting in a frameshift change and a premature stop codon at position 81 of the deduced protein sequence ; which in the wild-type form contains 536 amino acids

Molecular Details of the Mutation

Experimental Evidence

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

Main Reference

Involvement of tyrosinase-related protein 1 gene in the light brown plumage phenotype of Falco cherrug. (2017) (<https://pubmed.ncbi.nlm.nih.gov/27611661>)

Authors

Cortimiglia C; Castiglioni B; Pizzi F; Stella A; Capra E

Abstract

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Additional References

RELATED GEPHE

No matches found.

Related Genes

No matches found.

Related Haplotypes

EXTERNAL LINKS

COMMENTS

@Parallelism <https://omia.org/OMIA002061/345164/>