GEPHE SUMMARY

Gephebase Gene

FGF5 (https://www.gephebase.org/search-criteria?/and+Gene Gephebase=^FGF5^#gephebase-summary-title)

GepheID

GP00002178

Entry Status

Published

Main curator

Martin

PHENOTYPIC CHANGE

Trait Category

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

Trait

Hair length (https://www.gephebase.org/search-criteria?/and+Trait=^Hair length^#gephebase-summary-title)

Trait State in Taxon A

domestic guinea pig with WT hair

Trait State in Taxon B

domestic guinea pig with long (angora) hair ; recessive

Ancestral State

Taxon A

Taxonomic Status

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

Taxon A

Latin Name

Cavia porcellus (https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=^Cavia porcellus^#gephebase-summary-title)

Common Name

domestic guinea pig

Synonyms

Cavia aperea porcellus; Cavia cobaya; domestic guinea pig; guinea pig; Cavia cobya

Rank

species

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

Parent

Cavia (guinea pigs) - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 10140)

NCBI Taxonomy ID

10141 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 10141)

is Taxon A an Infraspecies?

No

Taxon B

Latin Name

Cavia porcellus (https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=^Cavia porcellus^#gephebase-summary-title)

Common Name

domestic guinea pig

Synonyms

Cavia aperea porcellus; Cavia cobaya; domestic guinea pig; guinea pig; Cavia cobya

Rank

species

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

Parent

Cavia (guinea pigs) - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 10140)

NCBI Taxonomy ID

10141 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 10141)

is Taxon B an Infraspecies?

No

GENOTYPIC CHANGE

Generic Gene Name

Fgf5

Synonyms

go; Fgf-5; HBGF-5; angora

String

10090.ENSMUSP00000031280 (http://string-db.org/newstring_cgi/show_network_section.pl?identifier= 10090.ENSMUSP00000031280)

Sequence Similarities

Belongs to the heparin-binding growth factors family.

GO - Molecular Function

GO:0008083 : growth factor activity (https://www.ebi.ac.uk/QuickGO/term/GO:0008083)
GO:0005104 : fibroblast growth factor receptor binding (https://www.ebi.ac.uk/QuickGO/term/GO:0005104)

GO - Biological Process

GO:0008283 : cell proliferation (https://www.ebi.ac.uk/QuickGO/term/GO:0008283)
GO:0008284 : positive regulation of cell proliferation (https://www.ebi.ac.uk/QuickGO/term/GO:0008284)

UniProtKB Mus musculus

P15656 (http://www.uniprot.org/uniprot/P15656)

GenebankID or UniProtKB

ABB87177 (https://www.ncbi.nlm.nih.gov/nuccore/ABB87177)

GO:0051781 : positive regulation of cell division
(https://www.ebi.ac.uk/QuickGO/term/GO:0051781)
GO:0008543 : fibroblast growth factor receptor signaling pathway
(https://www.ebi.ac.uk/QuickGO/term/GO:0008543)
GO:0010001 : glial cell differentiation
(https://www.ebi.ac.uk/QuickGO/term/GO:0010001)
GO:0023019 : signal transduction involved in regulation of gene expression
(https://www.ebi.ac.uk/QuickGO/term/GO:0023019)

GO - Cellular Component

GO:0005576 : extracellular region (https://www.ebi.ac.uk/QuickGO/term/GO:0005576)

Presumptive Null

Yes (https://www.gephebase.org/search-criteria?/and+Presumptive Null=^Yes^#gephebase-summary-title)

Molecular Type

Coding (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)

SNP Coding Change

Nonsense

Molecular Details of the Mutation

c.403C>T p.Arg135*

Experimental Evidence

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

	Taxon A	Taxon B	Position
Codon	-	-	-
Amino-acid	Arg	STP	135

Main Reference

A nonsense mutation in the FGF5 gene is associated with the long-haired phenotype in domestic guinea pigs (Cavia porcellus). (2018) (https://pubmed.ncbi.nlm.nih.gov/29603294)

Authors

Yu F; Liu Z; Jiao S; Zhang X; Bai C; Zhang J; Yan S

Abstract

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Additional References

RELATED GEPHE

Related Genes

No matches found.

Related Haplotypes

No matches found.

EXTERNAL LINKS

COMMENTS

https://omia.org/OMIA000439/10141/