

GEPHE SUMMARY

<p>RNASE1B (https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=^RNASE1B^#gephebase-summary-title)</p> <p>Published</p>	<p>Gephebase Gene</p> <p>Entry Status</p>	<p>GP00001412</p> <p>Prigent</p>	<p>GepheID</p> <p>Main curator</p>
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PHENOTYPIC CHANGE

<p>Physiology (https://www.gephebase.org/search-criteria?/and+Trait+Category=^Physiology^#gephebase-summary-title)</p> <p>Folivory (digestion of bacteria at low pH) (https://www.gephebase.org/search-criteria?/and+Trait=^Folivory+(digestion+of+bacteria+at+low+pH)^#gephebase-summary-title)</p> <p>ancestral colobine monkey with RNASE1B similar to RNASE1A</p> <p>african colobine monkeys (C. guereza & P. badius) with adapted RNASE1B to low pH</p> <p>Intergeneric or Higher (https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=^Intergeneric+or+Higher^#gephebase-summary-title)</p>	<p>Trait Category</p> <p>Trait</p> <p>Trait State in Taxon A</p> <p>Trait State in Taxon B</p> <p>Ancestral State</p> <p>Taxonomic Status</p>
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Taxon A	Latin Name
Macaca mulatta (https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Macaca+mulatta^#gephebase-summary-title)	
Common Name	
Rhesus monkey	
Synonyms	
Rhesus monkey; rhesus macaque; rhesus macaques; rhesus monkeys; Macaca mulatta (Zimmermann, 1780)	
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; Primates; Haplorrhini; Simiiformes; Catarrhini; Cercopithecoidea; Cercopithecidae; Cercopithecinae; Macaca	
Parent	
Macaca (macaques) - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9539)	
NCBI Taxonomy ID	
9544 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9544)	
is Taxon A an Intraspecies?	
No	

Taxon B #1	Latin Name
Colobus guereza (https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Colobus+guereza^#gephebase-summary-title)	
Common Name	
mantled guereza	
Synonyms	
Colobus abyssinicus; mantled guereza; eastern black-and -white colobus; guereza; Colobus abyssinicus (Oken, 1816); Colobus guereza Rueppell, 1835	
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; Primates; Haplorrhini; Simiiformes; Catarrhini; Cercopithecoidea; Cercopithecidae; Colobinae; Colobus	
Parent	
Colobus (black-and-white colobus monkeys) - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9570)	
NCBI Taxonomy ID	
33548 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=33548)	
is Taxon B an Intraspecies?	
No	

Taxon B #2	Latin Name
Piliocolobus badius (https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Piliocolobus+badius^#gephebase-summary-title)	
Common Name	
western red colobus	
Synonyms	
Colobus badius; Procolobus badius; Simia badius; western red colobus; red colobus; Procolobus badius (Kerr, 1792); Simia badius Kerr, 1792	
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; Primates; Haplorrhini; Simiiformes; Catarrhini; Cercopithecoidea; Cercopithecidae; Colobinae; Piliocolobus	
Parent	
Piliocolobus () - (Rank: genus)	

(<https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=591932>)

NCBI Taxonomy ID

164648

(<https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=164648>)

is Taxon B an Intraspecies?

No

GENOTYPIC CHANGE

RNASE1B	Generic Gene Name	Q8SPN3 (http://www.uniprot.org/uniprot/Q8SPN3)	UniProtKB Pygathrix nemaeus
-	Synonyms	DQ516064 (https://www.ncbi.nlm.nih.gov/nucore/DQ516064)	GenebankID or UniProtKB
-	String		
	Sequence Similarities		
Belongs to the pancreatic ribonuclease family.			
	GO - Molecular Function		
GO:0003676 : nucleic acid binding (https://www.ebi.ac.uk/QuickGO/term/GO:0003676)			
GO:0004522 : ribonuclease A activity (https://www.ebi.ac.uk/QuickGO/term/GO:0004522)			
	GO - Biological Process		
-			
	GO - Cellular Component		
GO:0005576 : extracellular region (https://www.ebi.ac.uk/QuickGO/term/GO:0005576)			
No (#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Presumptive Null="No">#gephebase-summary-title)			Presumptive Null
Coding (<a coding"="" href="https://www.gephebase.org/search-criteria?/and+Molecular Type=">#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Molecular Type="Coding">#gephebase-summary-title)			Molecular Type
SNP (#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Aberration Type="SNP">#gephebase-summary-title)			Aberration Type
Nonsynonymous			SNP Coding Change
p.Arg39Trp			Molecular Details of the Mutation
Candidate Gene (#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Experimental Evidence="Candidate Gene">#gephebase-summary-title)			Experimental Evidence

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

Whole-genome sequencing of the snub-nosed monkey provides insights into folivory and evolutionary history. (2014) (https://pubmed.ncbi.nlm.nih.gov/25362486)	Main Reference
Zhou X; Wang B; Pan Q; Zhang J; Kumar S; Sun X; Liu Z; Pan H; Lin Y; Liu G; Zhan W; Li M; Ren B; Ma X; Ruan H; Cheng C; Wang D; Shi F; Hui Y; Tao Y; Zhang C; Zhu P; Xiang Z; Jiang W; Chang J; Wang H; Cao Z; Jiang Z; Li B; Yang G; Roos C; Garber PA; Bruford MW; Li R; Li M	Authors
Colobines are a unique group of Old World monkeys that principally eat leaves and seeds rather than fruits and insects. We report the sequencing at 146× coverage, de novo assembly and analyses of the genome of a male golden snub-nosed monkey (<i>Rhinopithecus roxellana</i>) and resequencing at 30× coverage of three related species (<i>Rhinopithecus bieti</i> , <i>Rhinopithecus brelichi</i> and <i>Rhinopithecus strykeri</i>). Comparative analyses showed that Asian colobines have an enhanced ability to derive energy from fatty acids and to degrade xenobiotics. We found evidence for functional evolution in the colobine RNASE1 gene, encoding a key secretory RNase that digests the high concentrations of bacterial RNA derived from symbiotic microflora. Demographic reconstructions indicated that the profile of ancient effective population sizes for <i>R. roxellana</i> more closely resembles that of giant panda rather than its congeners. These findings offer new insights into the dietary adaptations and evolutionary history of colobine primates.	Abstract
	Additional References

RELATED GEPHE

No matches found.	Related Genes
No matches found.	Related Haplotypes

EXTERNAL LINKS

