

## GEPHE SUMMARY

<p>KRT27 (<a href="https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=^KRT27^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=^KRT27^#gephebase-summary-title</a>)</p> <p>Published</p>	<p>Gephebase Gene</p> <p>Entry Status</p>	<p>GP00002026</p> <p>Courtier</p>	<p>GepheID</p> <p>Main curator</p>
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## PHENOTYPIC CHANGE

<p>Morphology (<a href="https://www.gephebase.org/search-criteria?/and+Trait+Category=^Morphology^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Trait+Category=^Morphology^#gephebase-summary-title</a>)</p> <p>Hair type (curly) (<a href="https://www.gephebase.org/search-criteria?/and+Trait=^Hair type (curly)^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Trait=^Hair type (curly)^#gephebase-summary-title</a>)</p> <p>cattle - wild hair</p> <p>cattle - curly hair karakul-type</p> <p>Breeds: Ayrshire; Fleckvieh; German Angus; Montbeliarde</p> <p>Taxon A</p> <p>Domesticated (<a href="https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=^Domesticated^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=^Domesticated^#gephebase-summary-title</a>)</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>	<p>Taxon A</p> <p>Latin Name</p> <p>Bos taurus</p> <p>(<a href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Bos+taurus^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Bos+taurus^#gephebase-summary-title</a>)</p> <p>Common Name</p> <p>cattle</p> <p>Synonyms</p> <p>Bos bovis; Bos primigenius taurus; cattle; bovine; cow; dairy cow; domestic cattle; domestic cow; Bos taurus Linnaeus, 1758; Bos Taurus</p> <p>Rank</p> <p>species</p> <p>Lineage</p> <p>cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Deuterostomia; Chordata; Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Boreoeutheria; Laurasiatheria; Artiodactyla; Ruminantia; Pecora; Bovidae; Bovinae; Bos</p> <p>Parent</p> <p>Bos (oxen, cattle) - (Rank: genus)</p> <p>(<a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9903">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9903</a>)</p> <p>NCBI Taxonomy ID</p> <p>9913</p> <p>(<a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9913">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9913</a>)</p> <p>is Taxon A an Intraspecies?</p> <p>No</p>	<p>Taxon B</p> <p>Latin Name</p> <p>Bos taurus</p> <p>(<a href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Bos+taurus^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Bos+taurus^#gephebase-summary-title</a>)</p> <p>Common Name</p> <p>cattle</p> <p>Synonyms</p> <p>Bos bovis; Bos primigenius taurus; cattle; bovine; cow; dairy cow; domestic cattle; domestic cow; Bos taurus Linnaeus, 1758; Bos Taurus</p> <p>Rank</p> <p>species</p> <p>Lineage</p> <p>cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Deuterostomia; Chordata; Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Boreoeutheria; Laurasiatheria; Artiodactyla; Ruminantia; Pecora; Bovidae; Bovinae; Bos</p> <p>Parent</p> <p>Bos (oxen, cattle) - (Rank: genus)</p> <p>(<a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9903">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9903</a>)</p> <p>NCBI Taxonomy ID</p> <p>9913</p> <p>(<a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9913">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9913</a>)</p> <p>is Taxon B an Intraspecies?</p> <p>Yes</p> <p>Taxon B Description</p> <p>Breeds: Ayrshire; Fleckvieh; German Angus; Montbeliarde</p>
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## GENOTYPIC CHANGE

<p>KRT27</p> <p>K27; CK-27</p> <p>9913.ENSBTAP00000040718</p> <p>(<a href="http://string-db.org/newstring.cgi/show_network_section.pl?identifier=9913.ENSBTAP00000040718">http://string-db.org/newstring.cgi/show_network_section.pl?identifier=9913.ENSBTAP00000040718</a>)</p> <p>Belongs to the intermediate filament family.</p> <p>GO:0005198 : structural molecule activity</p> <p>(<a href="https://www.ebi.ac.uk/QuickGO/term/GO:0005198">https://www.ebi.ac.uk/QuickGO/term/GO:0005198</a>)</p>	<p>Generic Gene Name</p> <p>Synonyms</p> <p>String</p> <p>Sequence Similarities</p> <p>GO - Molecular Function</p> <p>GO - Biological Process</p>	<p>UniProtKB Bos taurus</p> <p>Q0P5J6 (<a href="http://www.uniprot.org/uniprot/Q0P5J6">http://www.uniprot.org/uniprot/Q0P5J6</a>)</p> <p>GenebankID or UniProtKB</p> <p>0</p>
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GO:0031069 : hair follicle morphogenesis  
(<https://www.ebi.ac.uk/QuickGO/term/GO:0031069>)

GO - Cellular Component

GO:0005737 : cytoplasm (<https://www.ebi.ac.uk/QuickGO/term/GO:0005737>)

GO:0005882 : intermediate filament (<https://www.ebi.ac.uk/QuickGO/term/GO:0005882>)

Presumptive Null

Unknown (<https://www.gephebase.org/search-criteria?/and+Presumptive Null=^Unknown^#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

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Molecular Details of the Mutation

g.41636961C>G c.276C>G p.Asn92Lys

Experimental Evidence

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

	Taxon A	Taxon B	Position
Codon	AAC	AAG	41636961
Amino-acid	Asn	Lys	92

Main Reference

Whole-genome sequencing of 234 bulls facilitates mapping of monogenic and complex traits in cattle. (2014) (<https://pubmed.ncbi.nlm.nih.gov/25017103/>)

Authors

Daetwyler HD; Capitan A; Pausch H; Stothard P; van Binsbergen R; Brøndum RF; Liao X; Djari A; Rodriguez SC; Grohs C; Esquerra D; Bouchez O; Rossignol MN; Klopp C; Rocha D; Fritz S; Eggen A; Bowman PJ; Coote D; Chamberlain AJ; Anderson C; VanTassell CP; Hulsege I; Goddard ME; Gulbrandsen B; Lund MS; Veerkamp RF; Boichard DA; Fries R; Hayes BJ

Abstract

The 1000 bull genomes project supports the goal of accelerating the rates of genetic gain in domestic cattle while at the same time considering animal health and welfare by providing the annotated sequence variants and genotypes of key ancestor bulls. In the first phase of the 1000 bull genomes project, we sequenced the whole genomes of 234 cattle to an average of 8.3-fold coverage. This sequencing includes data for 129 individuals from the global Holstein-Friesian population, 43 individuals from the Fleckvieh breed and 15 individuals from the Jersey breed. We identified a total of 28.3 million variants, with an average of 1.44 heterozygous sites per kilobase for each individual. We demonstrate the use of this database in identifying a recessive mutation underlying embryonic death and a dominant mutation underlying lethal chondrodysplasia. We also performed genome-wide association studies for milk production and curly coat, using imputed sequence variants, and identified variants associated with these traits in cattle.

Additional References

## RELATED GEPHE

Related Genes

1 (KRT71) (<https://www.gephebase.org/search-criteria?/or+Taxon ID=^9913^/and+Trait=Hair type/and+groupHaplotypes=true#gephebase-summary-title>)

Related Haplotypes

No matches found.

## EXTERNAL LINKS

## COMMENTS

<https://omia.org/OMIA000246/9913/>