

## GEPHE SUMMARY

RNF212 ( <a href="https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=RNF212#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=RNF212#gephebase-summary-title</a> )	Gephebase Gene	GP00001639	GepheID
Published	Entry Status	Prigent	Main curator

## PHENOTYPIC CHANGE

Physiology ( <a href="https://www.gephebase.org/search-criteria?/and+Trait+Category=Physiology#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Trait+Category=Physiology#gephebase-summary-title</a> )	Trait Category		
Recombination rate (male) ( <a href="https://www.gephebase.org/search-criteria?/and+Trait=Recombination+rate+(male)#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Trait=Recombination+rate+(male)#gephebase-summary-title</a> )	Trait		
Sperm Crossing-over Rate 1	Trait State in Taxon A		
Sperm Crossing-over Rate 2	Trait State in Taxon B		
Unknown	Ancestral State		
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> )	Taxonomic Status		
	Taxon A		Taxon B
	Latin Name		Latin Name
Bos taurus ( <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> )	Bos taurus		Bos taurus ( <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> )
cattle	Common Name		cattle
Bos bovis; Bos primigenius taurus; cattle; bovine; cow; dairy cow; domestic cattle; domestic cow; Bos taurus Linnaeus, 1758; Bos Taurus	Synonyms		Bos bovis; Bos primigenius taurus; cattle; bovine; cow; dairy cow; domestic cattle; domestic cow; Bos taurus Linnaeus, 1758; Bos Taurus
species	Rank		species
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	Lineage		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
Bos (oxen, cattle) - (Rank: genus) ( <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> )	Parent		Bos (oxen, cattle) - (Rank: genus) ( <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> )
9913 ( <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> )	NCBI Taxonomy ID		9913 ( <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> )
Yes	is Taxon A an Intraspecies?		Yes
Bulls from the Netherlands and New-Zealand	Taxon A Description		Bulls from the Netherlands and New-Zealand

## GENOTYPIC CHANGE

RNF212	Generic Gene Name	Q495C1 ( <a href="http://www.uniprot.org/uniprot/Q495C1">http://www.uniprot.org/uniprot/Q495C1</a> )	UniProtKB Homo sapiens
ZHP3	Synonyms	0	GenebankID or UniProtKB
9606.ENSPO0000389709 ( <a href="http://string-db.org/newstring.cgi/show_network_section.pl?identifier=9606.ENSPO0000389709">http://string-db.org/newstring.cgi/show_network_section.pl?identifier=9606.ENSPO0000389709</a> )	String		
-	Sequence Similarities		
GO:0046872 : metal ion binding ( <a href="https://www.ebi.ac.uk/QuickGO/term/GO:0046872">https://www.ebi.ac.uk/QuickGO/term/GO:0046872</a> )	GO - Molecular Function		
GO:0019789 : SUMO transferase activity ( <a href="https://www.ebi.ac.uk/QuickGO/term/GO:0019789">https://www.ebi.ac.uk/QuickGO/term/GO:0019789</a> )	GO - Biological Process		

GO:0016925 : protein sumoylation (<https://www.ebi.ac.uk/QuickGO/term/GO:0016925>)

GO:0006311 : meiotic gene conversion

(<https://www.ebi.ac.uk/QuickGO/term/GO:0006311>)

GO:0051026 : chiasma assembly (<https://www.ebi.ac.uk/QuickGO/term/GO:0051026>)

GO:0007131 : reciprocal meiotic recombination

(<https://www.ebi.ac.uk/QuickGO/term/GO:0007131>)

GO:0007129 : synapsis (<https://www.ebi.ac.uk/QuickGO/term/GO:0007129>)

GO - Cellular Component

GO:0000795 : synaptonemal complex

(<https://www.ebi.ac.uk/QuickGO/term/GO:0000795>)

Presumptive Null

No ([https://www.gephebase.org/search-criteria?/and+Presumptive Null=~No^#gephebase-summary-title](https://www.gephebase.org/search-criteria?/and+Presumptive+Null=~No^#gephebase-summary-title))

Molecular Type

Coding ([https://www.gephebase.org/search-criteria?/and+Molecular Type=~Coding^#gephebase-summary-title](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](https://www.gephebase.org/search-criteria?/and+Aberration+Type=~SNP^#gephebase-summary-title))

SNP Coding Change

Nonsynonymous

Molecular Details of the Mutation

T>C p.P259S in exon 12 with reduction in Genome-wide recombination rate

Experimental Evidence

Linkage Mapping ([https://www.gephebase.org/search-criteria?/and+Experimental Evidence=~Linkage Mapping^#gephebase-summary-title](https://www.gephebase.org/search-criteria?/and+Experimental+Evidence=~Linkage+Mapping^#gephebase-summary-title))

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

Main Reference

Genetic variants in REC8, RNF212, and PRDM9 influence male recombination in cattle. (2012) (<https://pubmed.ncbi.nlm.nih.gov/22844258>)

Authors

Sandor C; Li W; Coppieters W; Druet T; Charlier C; Georges M

Abstract

We use >250,000 cross-over events identified in >10,000 bovine sperm cells to perform an extensive characterization of meiotic recombination in male cattle. We map Quantitative Trait Loci (QTL) influencing genome-wide recombination rate, genome-wide hotspot usage, and locus-specific recombination rate. We fine-map three QTL and present strong evidence that genetic variants in REC8 and RNF212 influence genome-wide recombination rate, while genetic variants in PRDM9 influence genome-wide hotspot usage.

Additional References

## RELATED GEPHE

Related Genes

11 (CEP55, CPLX1, FMN1, GCLM, MSH4, NEK9, PABPN1, PRDM9, REC114, REC8, SMC3) ([https://www.gephebase.org/search-criteria?/or+Taxon ID=~9913^/and+Trait=Recombination rate/and+groupHaplotypes=true#gephebase-summary-title](https://www.gephebase.org/search-criteria?/or+TaxonID=~9913^/and+Trait=Recombination+rate/and+groupHaplotypes=true#gephebase-summary-title))

Related Haplotypes

No matches found.

## EXTERNAL LINKS

## COMMENTS