

GEPHE SUMMARY

REC8 (https://www.gephebase.org/search-criteria?/and+Gene+Gephebase+REC8+Gephebase-summary-title)	Gephebase Gene	GP00001638	GepheID
Published	Entry Status	Prigent	Main curator

PHENOTYPIC CHANGE

Physiology (https://www.gephebase.org/search-criteria?/and+Trait+Category+Physiology+Gephebase-summary-title)	Trait Category		
Recombination rate (male) (https://www.gephebase.org/search-criteria?/and+Trait+Recombination+rate+(male)+Gephebase-summary-title)	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 (https://www.gephebase.org/search-criteria?/and+Taxonomic+Status+Domesticated+Gephebase-summary-title)	Taxonomic Status		
	Taxon A		Taxon B
	Latin Name		Latin Name
Bos taurus (https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms+Bos+taurus+Gephebase-summary-title)	Bos taurus (https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms+Bos+taurus+Gephebase-summary-title)		Bos taurus (https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms+Bos+taurus+Gephebase-summary-title)
cattle	Common Name		cattle Common Name
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 Synonyms
species	Rank		species Rank
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 Lineage
Bos (oxen, cattle) - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9903)	Parent		Bos (oxen, cattle) - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9903)
9913 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9913)	NCBI Taxonomy ID		9913 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9913)
Yes	is Taxon A an Intraspecies?		Yes is Taxon B an Intraspecies?
Bulls from the Netherlands and New-Zealand	Taxon A Description		Bulls from the Netherlands and New-Zealand Taxon B Description

GENOTYPIC CHANGE

REC8	Generic Gene Name	E1BL69 (http://www.uniprot.org/uniprot/E1BL69)	UniProtKB Bos taurus
-	Synonyms	0	GenebankID or UniProtKB
9913.ENSBTAP00000003504 (http://string-db.org/newstring.cgi/show_network_section.pl?identifier=9913.ENSBTAP00000003504)	String		
-	Sequence Similarities		
GO:0003682 : chromatin binding (https://www.ebi.ac.uk/QuickGO/term/GO:0003682)	GO - Molecular Function		
GO:0072520 : seminiferous tubule development (https://www.ebi.ac.uk/QuickGO/term/GO:0072520)	GO - Biological Process		

GO:0051321 : meiotic cell cycle (<https://www.ebi.ac.uk/QuickGO/term/GO:0051321>)
 GO:0007286 : spermatid development (<https://www.ebi.ac.uk/QuickGO/term/GO:0007286>)
 GO:0000724 : double-strand break repair via homologous recombination (<https://www.ebi.ac.uk/QuickGO/term/GO:0000724>)
 GO:0006302 : double-strand break repair (<https://www.ebi.ac.uk/QuickGO/term/GO:0006302>)
 GO:0001556 : oocyte maturation (<https://www.ebi.ac.uk/QuickGO/term/GO:0001556>)
 GO:0007062 : sister chromatid cohesion (<https://www.ebi.ac.uk/QuickGO/term/GO:0007062>)
 GO:0009566 : fertilization (<https://www.ebi.ac.uk/QuickGO/term/GO:0009566>)
 GO:0007141 : male meiosis I (<https://www.ebi.ac.uk/QuickGO/term/GO:0007141>)
 GO:0007130 : synaptonemal complex assembly (<https://www.ebi.ac.uk/QuickGO/term/GO:0007130>)

GO - Cellular Component

GO:0000778 : condensed nuclear chromosome kinetochore (<https://www.ebi.ac.uk/QuickGO/term/GO:0000778>)
 GO:0000800 : lateral element (<https://www.ebi.ac.uk/QuickGO/term/GO:0000800>)
 GO:0001673 : male germ cell nucleus (<https://www.ebi.ac.uk/QuickGO/term/GO:0001673>)
 GO:0030893 : meiotic cohesin complex (<https://www.ebi.ac.uk/QuickGO/term/GO:0030893>)
 GO:0034991 : nuclear meiotic cohesin complex (<https://www.ebi.ac.uk/QuickGO/term/GO:0034991>)

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

Cis-regulatory (<https://www.gephebase.org/search-criteria?/and+Molecular Type=^Cis-regulatory^#gephebase-summary-title>)

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

A>G in intron 12 with reduction in Genome-wide recombination rate

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

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

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

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.

Presumptive Null

Molecular Type

Aberration Type

Molecular Details of the Mutation

Experimental Evidence

Main Reference

Authors

Abstract

Additional References

RELATED GEPHE

11 (CEP55, CPLX1, FMN1, GCLM, MSH4, NEK9, PABPN1, PRDM9, REC114, RNF212, SMC3) (<https://www.gephebase.org/search-criteria?/or+Taxon ID=^9913^/and+Trait=Recombination rate/and+groupHaplotypes=true#gephebase-summary-title>)

No matches found.

Related Genes

Related Haplotypes

EXTERNAL LINKS

COMMENTS