

## GEPHE SUMMARY

<p>Vertnin (VRTN) [possibly a pseudo-replicate of other Pig entry]  <a href="https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=^Vertnin+(VRTN)+[possibly+a+pseudo-replicate+of+other+Pig+entry]^#gephebase-summary-title">[https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=^Vertnin (VRTN)  [possibly a pseudo-replicate of other Pig entry]^#gephebase-summary-title]</a></p> <p>Published</p>	<p>Gephebase Gene</p> <p>Entry Status</p>	<p>GP00001166</p> <p>Martin</p>	<p>GepheID</p> <p>Main curator</p>
---	---	---------------------------------	------------------------------------

## 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>Vertebrae number (<a href="https://www.gephebase.org/search-criteria?/and+Trait=^Vertebrae+number^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Trait=^Vertebrae number^#gephebase-summary-title</a>)</p> <p>Sus scrofa - White Duroc</p> <p>Sus scrofa- Erhualian</p> <p>Data not curated</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>Sus scrofa  <a href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Sus+scrofa^#gephebase-summary-title">[https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=^Sus scrofa^#gephebase-summary-title]</a></p> <p>pig  <a href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Sus+scrofa+Linnaeus,+1758;+Sus+scrofuscus^#gephebase-summary-title">[https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=^Sus scrofa Linnaeus, 1758; Sus scrofuscus^#gephebase-summary-title]</a></p> <p>species</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; Cetartiodactyla; Suina; Suidae; Sus</p> <p>Sus () - (Rank: genus)  <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9822">[https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9822]</a></p> <p>9823  <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9823">[https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9823]</a></p> <p>No</p>	<p>Latin Name</p> <p>Common Name</p> <p>Synonyms</p> <p>Rank</p> <p>Lineage</p> <p>Parent</p> <p>NCBI Taxonomy ID</p> <p>is Taxon A an Intraspecies?</p>	<p>Taxon B</p> <p>Sus scrofa domesticus  <a href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Sus+scrofa+domesticus^#gephebase-summary-title">[https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=^Sus scrofa domesticus^#gephebase-summary-title]</a></p> <p>domestic pig  <a href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Sus+scrofa+domesticus;+Sus+domesticus;+Sus+scrofa+domestica;+domestic+pig^#gephebase-summary-title">[https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=^Sus scrofa domesticus; Sus domesticus; Sus scrofa domestica; domestic pig^#gephebase-summary-title]</a></p> <p>subspecies</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; Cetartiodactyla; Suina; Suidae; Sus; Sus scrofa</p> <p>Sus scrofa (pig) - (Rank: species)  <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9823">[https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9823]</a></p> <p>9825  <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9825">[https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9825]</a></p> <p>Yes</p> <p>Sus scrofa- Erhualian</p>	<p>Latin Name</p> <p>Common Name</p> <p>Synonyms</p> <p>Rank</p> <p>Lineage</p> <p>Parent</p> <p>NCBI Taxonomy ID</p> <p>is Taxon B an Intraspecies?</p> <p>Taxon B Description</p>
--	---	---	--	--	---

## GENOTYPIC CHANGE

<p>Vrtn</p> <p>7420416P09Rik</p> <p>10090.ENSMUSP00000093207  <a href="http://string-db.org/newstring.cgi/show_network_section.pl?identifier=10090.ENSMUSP00000093207">[http://string-db.org/newstring.cgi/show_network_section.pl?identifier=10090.ENSMUSP00000093207]</a></p> <p>Belongs to the vertnin family.</p> <p>-</p> <p>-</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>GO - Cellular Component</p>	<p>Q35YK4 (<a href="http://www.uniprot.org/uniprot/Q35YK4">http://www.uniprot.org/uniprot/Q35YK4</a>)</p> <p>BAJ11938 (<a href="https://www.ncbi.nlm.nih.gov/nucleotide/BAJ11938">https://www.ncbi.nlm.nih.gov/nucleotide/BAJ11938</a>)</p> <p>UniProtKB Mus musculus</p> <p>GenebankID or UniProtKB</p>
---	--	--

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

Presumptive Null

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

Molecular Type

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

Aberration Type

unknown

Molecular Details of the Mutation

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

Experimental Evidence

Mapping and fine mapping of quantitative trait loci for the number of vertebrae in a White Duroc × Chinese Erhualian intercross resource population. (2012) (<https://pubmed.ncbi.nlm.nih.gov/22497517>)

Main Reference

Ren DR; Ren J; Ruan GF; Guo YM; Wu LH; Yang GC; Zhou LH; Li L; Zhang ZY; Huang LS

Authors

Abstract

The number of vertebrae is associated with body size and meat production in pigs. To identify quantitative trait loci (QTL) for the number of vertebrae, phenotypic values were measured in 1029 individuals from a White Duroc × Chinese Erhualian intercross F(2) population. A whole genome scan was performed with 194 microsatellite markers in the F(2) population. Four genome-wide significant QTL and eight chromosome-wide significant QTL for the number of vertebrae were identified on pig chromosomes (SSC) 1, 2, 6, 7, 10 and 12. The most significant QTL was detected on SSC7 with a confidence interval of 1 cM, explaining 42.32% of the phenotypic variance in the thoracic vertebral number. The significant QTL on SSC1, 2 and 7 confirmed previous reports. A panel of 276 animals representing seven Western and Chinese breeds was genotyped with 34 microsatellite markers in the SSC7 QTL region. No obvious selective sweep effect was observed in the tested breeds, indicating that intensive selection for enlarged body size in Western commercial breeds did not wipe out the genetic variability in the QTL region. The Q alleles for increased vertebral number originated from both Chinese Erhualian and White Duroc founder animals. A haplotype block of approximately 900 kb was found to be shared by all Q-bearing chromosomes of F(1) sires except for one distinct Q chromosome. The critical region harbours the newly reported VRTN gene associated with vertebral number. Further investigations are required to confirm whether VRTN or two other positional candidate genes, PROX2 and FOS, cause the QTL effect.

© 2012 The Authors. Animal Genetics © 2012 Stichting International Foundation for Animal Genetics.

Additional References

## RELATED GEPHE

2 (GCNF (NR6A1), Vertnin (VRTN)) (<https://www.gephebase.org/search-criteria?/or+Taxon ID=^9823^/and+Trait=Vertebrae number/or+Taxon ID=^9825^/and+Trait=Vertebrae number/and+groupHaplotypes=true#gephebase-summary-title>)

Related Genes

No matches found.

Related Haplotypes

## EXTERNAL LINKS

## COMMENTS